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ISTI/FMP Series No. 1

DEBT SECURITIES ACTION PLAN

FINANCIAL MARKETS PROJECT, SRI LANKA
(USAID Contract No. 383-0100-C-00-3063-00)

By
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September 1993

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Financial Markets Project (FMP), funded by the United States Agency for International Development, is designec improve the reliability of capital market information, increase the availability of financial instruments and assist development of new forms of financial intermediation in Sri Lanka. It began activities in the field and will continue the end of 1995. The project will assist in the development of the Securities and Exchange Commission (SEC), Colon Stock Exchange (CSE), Institute of Chartered Accountants, the Central Bank and emerging financial institutions and \ institute the Chartered Financial Analysts training program and assist with the development of a secondary debt mar for government and corporate obligations.

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This is an implementation plan to create a market-driven debt securities market in Sri Lanka. It builds upon previous reports on the Sri Lankan capital markets, particularly the World Bank's *Sri Lanka Financial Institutions Study* (February 28, 1991) (Financial Institutions Study), and C. Lucas, *Final Report: Project to Modernize the Sri Lanka Treasury Securities Market* (January 18-29, 1993), by the World Bank and the Government of Sri Lanka (Lucas Report). These we found invaluable as background for our two series of meetings in Colombo, March 25-April 5, 1993/June 14-July 3, 1993. They also included some very sensible recommendations, most of which we have incorporated herein.

We have also studied the World Bank's *Staff Appraisal Report: Sri Lanka Private Finance Development Project* (March 19, 1993) (PFDP Report). It details the terms for disbursement over 5 years (ending June 1998) of US $60 million from the International Development Association (IDA) for completion of the Private Finance Development Project (PFDP). It also outlines the purposes of US $7 million from USAID for parallel technical assistance over 3 years (ending December 1996) of which this report is a part. The PFDP is something of a compendium of work on Sri Lanka's financial markets to be carried out by both the World Bank and USAID, and describes the way in which these parallel efforts complement each other.

The PFDP Report represents agreement between the World Bank and the Government of Sri Lanka (GOSL), under the terms of which the former commits to provide specified financial and technical assistance in exchange for the GOSL's commitment to accomplish specific reforms. Those commitments that bear upon the creation of a viable debt securities market are as follows:

- To lengthen the maturity structure of competitively priced Treasury securities; specifically, to auction at least Rs. 4 billion of long term (> 1 year maturity) Treasuries by July 1994.[1]

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[1] World Bank, *Staff Appraisal Report: Sri Lanka Private Finance Development Project* (March 19, 1993) [hereinafter, PFDP Report] pp. 14, 24, 39, 46.

- To undertake a series of administrative and regulatory reforms necessary to strengthen the primary and secondary markets for Treasury securities, including automation of clearing and transfer; specifically, to develop a detailed timetable for implementation of these reforms by January 1994.[2]

- To review and amend the present system of collecting withholding taxes on financial instruments to mitigate its adverse effects on secondary trading in financial instruments.[3]

- To develop investment guidelines for the "captive investors"[4] that provide for gradual diversification of their investment portfolios, including investment in non-government securities; specifically, to have the Employee's Provident Fund (EPF) and the Employee's Trust Fund (ETF) invest at least 5% of their inflow in non-government securities in 1993, increasing to at least 10% by June 1995.[5]

- To build portfolio management capability in the captive investors in order to achieve complete autonomy in investment decisions by July 1998.[6]

This action plan is designed to accomplish the specific GOSL commitments within the required timeframes, including particularly the substantial amount of reform required to strengthen the primary and secondary market for Treasury securities. The expectations for such reform are further clarified in the PFDP's *Terms of Reference for the Modernization of Sri Lanka's Treasury Securities Market.*[7] The Lucas Report was undertaken under these terms of reference and provided a comprehensive list of the specific changes that need to be made. This plan is largely based upon the Lucas Report and attempts to provide a methodology for implementation. The actions recommended herein should therefore be carried out in close coordination with the World Bank, with a continuing joint review of resource allocation. They will require the combined resources of USAID, the World Bank, and the Central Bank of Sri Lanka (Central Bank), as well as investment by the private dealer community.

We have grouped the necessary actions into nine tasks and the body of the report is taken up in describing these. A Gantt chart in Appendix A provides a context for timing and sequence. Appendix B is a list of the people in Colombo and London who were interviewed by one or both of the authors in the course of preparing this report.

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[2]Id. pp. 14,23,39,40, 46.
[3]Id. p. 46
[4]"Captive investors" refers to the Employee's Provident Fund, the Employees' Trust Fund, the National Savings Bank, and the Insurance Corporation of Sri Lanka, all of which the *PFDP Report* refers to as "contractual savings institutions".
[5]PFDP Report pp. 16, 24, 47
[6]Id. pp. 17, 40
[7]Id., Annex 13, pp. 97-100

MISSION

To create an efficient, market-driven debt securities market serving both the public and private sectors of the Sri Lankan economy.

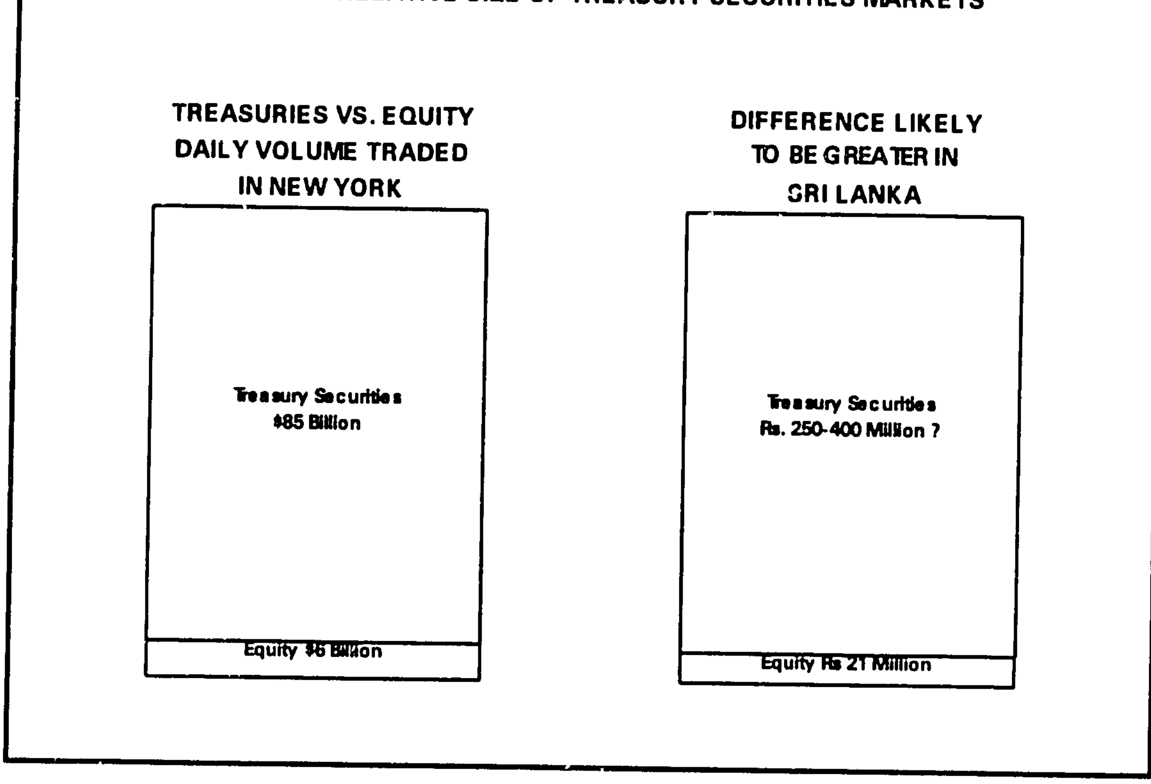
RATIONALE

Treasury securities play three critical roles in a financial system: (i) Fiscal policy: they provide financing for both short and long term government budget deficits. (ii) Monetary policy: they are a means by which the monetary authority can stabilize liquidity on a daily basis and regulate the growth of money supply over a period of months and years.[8] (iii) Yield curve; they act as the foundation for interest rates in the economy by establishing a risk free yield curve off which private securities can be priced.

The importance of government securities to a developed financial system is suggested by Exhibit 1. It shows the daily trading volume of Treasury debt securities in New York, which is many times larger than that of equity securities. In Sri Lanka, we would expect the differential to be even larger.[9] This cannot happen unless and until government

[8]The effect of the Treasury bill market on Sri Lanka's call money rate was discussed by the authors with Hannan Ezekiel of the International Science and Technology Institute (ISTI). Evidence that lifting government controls on T-bills and other money market instruments contributes to more stable (and even lower) call rates in developing Asian economies is found in Kuo. "Liberalization of the Financial Market in Taiwan" in Rhee and Chang, *Pacific-Basin Capital Markets Research* pp. 7-26 (1990).
[9]For example, daily trading volume in Treasury securities by primary dealers, excluding financing transactions, averaged $85 billion per day in September 1991, during which time the average volume of equities traded on the New York Stock Exchange was $6 billion. Department of the Treasury, Securities and Exchange Commission, Board of Governors of the Federal Reserve System, *Joint Report on the Government Securities Market*, p. A-7 (January 1992) [hereinafter *Joint Report*] The average daily turnover on the Colombo Stock Exchange, January-May, 1993 was Rs. 2,1761,350. Colombo Stock Exchange, *Monthly Market Report*, p. 2 (May 1993).

EXHIBIT 1: RELATIVE SIZE OF TREASURY SECURITIES MARKETS



securities are freed of their present constraints. Until then, the Government will be crippled in its ability to carry out both monetary and fiscal policies and private business will be deprived of one of its most critical tools for capital development.

More specifically, the actions recommended herein will:

1. Lower and stabilize the cost of government debt. Currently, the GOSL pays a higher rate on its T-bills than corporate borrowers do on their bank debt.[10] One reason for this anomaly is the undeveloped state of the Treasury market. The Central Bank can lower its relative cost of borrowing by increasing the amount and accuracy of statistical information it publicizes, regularizing the periodic issuance of Treasuries over a range of maturities, and encouraging greater liquidity in the secondary market.[11]

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[10] It is difficult to predict what level of interest rate is appropriate or likely for government debt in a developing country. Significant differences occur even among developed countries with highly liquid Treasury markets; e.g., real returns on long Treasury bonds 1926-1988 averaged .3% in the U.K. and 1.2% in the U.S. P. Wann, *Inside the US Treasury Market*, p. 18 (1989). Sri Lankan rates seem quite high. Inflation in 1991 was 11% with T-bill rates at 18% (secondary market), resulting in real rates of around 7%. This may be the result of strong inflationary expectations. The GOSL has brought inflation down from 22% in 1990. If it can meet its targets of 8% in 1993 and 6% by 1995, this would likely reduce both nominal and real interest rates substantially. See *PFDP Report*, pp. 2,6,12, and Annex 3, p. 49.

[11] Stable macroeconomic conditions will boost investor confidence and create market conditions that are more conducive to selling debt, thus reducing its cost. GOSL's borrowing procedures and techniques will have a major impact on the general structure

2. Increase the ability of the government to conduct monetary policy. By encouraging the establishment of a strong system of private dealers, improving its debt management and trading skills, and developing an active secondary market, the Central Bank can create the tools it needs, both to stabilize daily liquidity in the financial system and achieve its targets for monetary growth over time.

3. Safeguard the integrity of government-controlled pension funds and insurance companies. The ETF, the EPF, the Insurance Company of Sri Lanka (ICOSL), and the National Savings Bank (NSB), are "captive investors." They invest largely in government securities which they hold to maturity. To a large extent these securities are forced upon the captive investors, sometimes at below-market rates. This constitutes a hidden tax on beneficiaries such as the nation's current and future pensioners. The broad constituencies involved--particularly in the provident funds--cause these taxes to fall heavily upon persons of moderate means.[12] Removing these constraints and allowing such institutions to manage their assets in a rational manner will maintain the integrity of these funds, strengthen the secondary market for debt securities, and lower the cost of capital for both the Treasury and private issuers.

4. Provide more efficient intermediation of private capital. The Financial Institutions Study detailed a number of inefficiencies and anomalies in Sri Lanka's credit markets. Among these are the large spreads taken by banks, whose interest margins (400-500 basis points) and administrative costs are far above those of neighboring countries such as Indonesia and Bangladesh.[13] These are combined, somewhat paradoxically, with an artificially low cost of bank debt.[14] This is possible because of the extremely low (even negative) rates being paid on deposits and because the banks can hide their operating losses.[15] Development of a debt

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of the financial system and financial markets. An efficient institutional framework for managing government debt is likely to encourage efficient private financial institutions and markets, and a more competitive structure of interest rates. Promoting secondary markets in government debt increases its liquidity and reduces its cost.

World Bank, *Financial Institutions Study, Vol. III* (February 28, 1991) p. 7 (hereinafter *Study*)

[12] *Lucas Report*, p.4.

[13] Administrative costs of Sri Lanka's commercial banks were found to be an extremely high 4.1% of assets, compared with 2.6% for Indonesia's state banks and 2.4% for Bangladesh's state banks. The cost of this inefficiency was being passed on to borrowers through increasingly high margins. During 1984-89, net interest margins rose to 4.2%, with gross margins (after adding back imputed suspended interest) roughly 5.9%. *Study, Vol. I*, p. 4.

[14] "Fundamental distortions and regulatory weaknesses constrain the capital market's role in providing finance for productive projects. *The biggest constraint is the artificially low cost of bank debt...*" (italics supplied) *Study, Vol. I*, p.6

[15] The *Study* found that in December 1990, commercial bank six-month term deposits paid a real rate of *negative* 5%. *Study, Vol. III*, p. 3. It also found that "BOC/PB financial statements substantially overstate their financial condition and performance because they do not account appropriately for bad debt. Indeed, with appropriate accounting for bad debt, they would make large losses and have large negative net worth."

securities market will gradually place competitive pressure on the banks and force them to become more efficient.[16] The result will be higher returns for investors and a more efficient allocation of capital to credit-worthy borrowers.

5. Increase the level of savings and investment in the economy. The level of savings within a developing country is directly correlated with its rate of growth.[17] Sri Lanka's savings rate has ranged between 12% and 15% of GDP since the mid-1980's, compared with rates of 20% to 30% for other Asian countries.[18] The absence of attractive vehicles for fixed-income investment may be in part responsible for this. Interest rates on bank savings accounts and CDs are quite unresponsive to variations in inflation and have been negative for substantial

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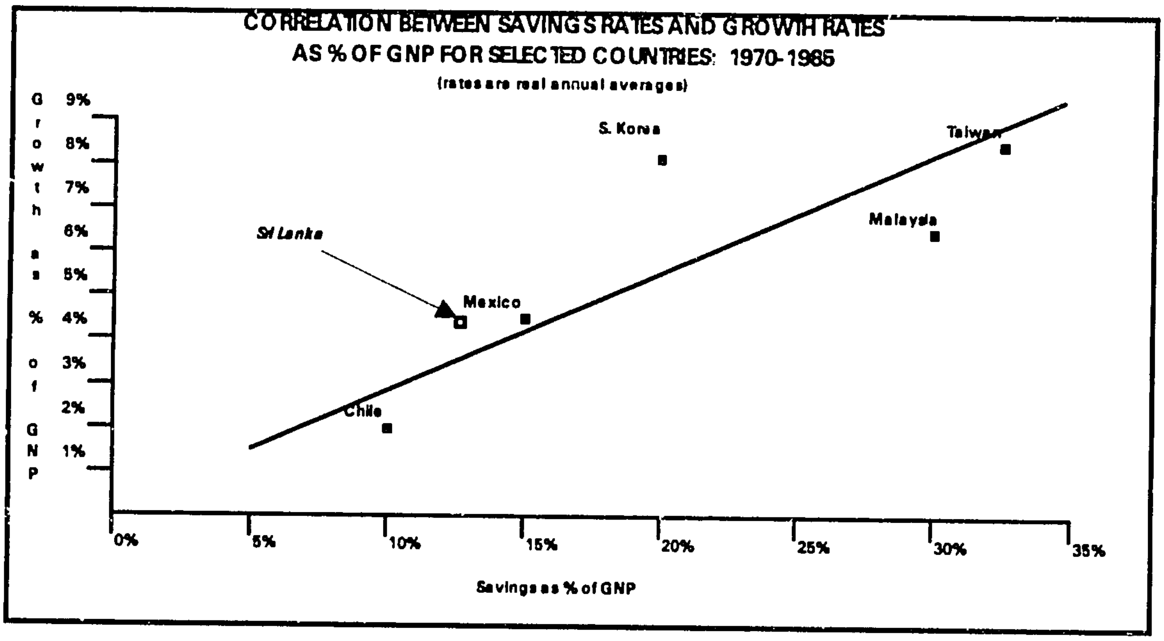
Study, Vol. I, p. 6. In 1993 the state-owned banks were recapitalized to conform to international standards (the Basel accord).

[16]For a discussion of the rate and order of reform measures in a developing debt market and evidence that bank operating efficiency increases see Kuo, "Liberalization of the Financial Market in Taiwan" in Rhee and Chang, *Pacific-Basin Capital Markets Research* pp. 7-26 (1990).

[17]The following chart plots the rate of growth against the rate of savings, both as a % of GNP. These countries were selected because they differ substantially in the composition of their financing and in economic performance. The correlation is quite marked across the entire range.



The chart was prepared by MorBanc from figures in Studien, *Debt versus Equity Finance in Developing Countries* p. 42 (1989). The figures for Taiwan are for 1971-1986. Kuo, "Liberalization of the Financial Market in Taiwan in the 1980's" in Rhee and Chang, *Pacific-Basin Capital Markets Research* p. 8 (1990). "*Sri Lanka*" is in italics because the figures used were not comparable, being the average of years 1982 and 1986-1991. Central Bank of Sri Lanka, *Annual Report: 1991*, Tables 3 and 11 (1992).

[18]In addition to Taiwan and Malaysia shown on the chart in the previous footnote, these include India and Thailand. Id. at p. 2 and Annex 6.1. The *Study* also compares the savings rate to the investment level, concluding that Sri Lanka has a low level of domestic resource mobilization with a savings gap in 1989 of 9.3%. *Study, Vol. III,* p. 1.

recent periods.[19] Creation of an active debt securities market would greatly increase the range of investment choices available to both individuals and institutions. Market-driven rates and a full range of maturities would create substantial additional incentives to invest.

WORKING PRINCIPLES

- Debt securities constitute a critical means of intermediating capital in any financial system. The foundation of a debt securities market is an effective government securities market.

- The short-term sector of the debt securities market must be developed first. That will provide a platform for gradually increasing the maturity of debt instruments sold and traded until a full yield curve is established.

- There normally exists a tension between the political pressures within a representative democracy and the monetary policies required to prevent inflation. Sound monetary policy requires some insulation of the monetary authority from direct political influence.

- Information is the lifeblood of security markets and the banking system. Development of an efficient debt securities market will take place only in the context of a legislative, regulatory, and technical infrastructure that maximizes the availability of information.

- Change cannot be imposed successfully from the outside of any organization. Those individuals who will be responsible for administering the organization must be actively involved in the process of change.

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[19] *See* Central Bank of Sri Lanka, *Annual Report: 1992*, p. 161 and Tables 3 and 88; *Study, Vol. III*, page 18 and Annex 6.10.

WHAT NEEDS TO BE DONE

This Final Report was preceded by a draft of 5/12/93 which received wide circulation. This revision incorporates a number of changes that reflect comments received during our meetings in Colombo, June 14-July 3, 1993, many of which were with persons in the Central Bank. In addition, we were able to broaden our perspective through meetings in London with the Bank of England and a number of private dealers, July 5-6, 1993. These changes reflect our growing conviction that the foundation of a successful reform effort will be a core of properly trained personnel and a sound working relationship between the Central Bank and a relatively small group of well-capitalized private dealers who are committed to making a market in government securities.

Task 1: Establish Training Programs for Central Bank and Treasury Personnel in Trading, Debt Management, Monetary Policy, and Portfolio Management

Task 2: Establish a Working Relationship Between the Central Bank and a Select Group of Private Market Makers

Task 3: Design and Install Adequate Systems in the Central Bank and Treasury for Communications, Trading, and Rapid Clearing/Transfer of Securities

Task 4: Remove Tax, Legislative, Regulatory, and Administrative Constraints on the Sale, Trading, and Investment in Treasury Securities

Task 5: Improve the Primary T-Bill Market and Encourage Active Secondary Trading

Task 6: Begin Professional Management of the Captive Investor Portfolios

Task 7: Commence Proactive Open Market Operations in the Central Bank

Task 8: Begin Issuing/Trading Long Term Treasury Securities

Task 9: Promote the Issuance and Trading of Private Debt Securities

The remainder of this action plan provides a detailed description of these nine tasks, along with specific action recommendations. Each of these recommendations is included in the Gantt Chart in Appendix A.

Task 1: Establish Training Programs for Central Bank and Treasury Personnel Debt Management, Monetary Policy, Trading, and Portfolio Management

A smoothly functioning debt securities market is not possible without a stable monetary system. Monetary stability requires a responsible political environment, combined with expert day-to-day management of fiscal and monetary operations. In ou conversations in Colombo, we found concern within both the Central Bank and the Treasury that their technical capabilities for implementing fiscal and monetary policy need to be strengthened. The Central Bank also expressed interest in increasing its knowledge of investment portfolio management in order to begin actively managing th EPF, for which it is responsible.[20] Filling this recognized need for professional training should serve as the foundation of our effort to assist in establishing a functioning debt securities market in Sri Lanka. We therefore propose the creation of training programs four key areas: debt management, monetary policy, debt securities trading, and portfoli management.

Training in debt management. We conceive of debt management in two parts. On is projecting the borrowing needs of the government of Sri Lanka (GOSL) and the othe is determining the type and timing of Treasury security sales that will best meet those needs. The Treasury has recently established a fiscal/monetary unit which includes several Treasury personnel working closely with a member of the Central Bank's resear department to improve GOSL borrowing projections and cash flow management. This team should receive training support by which it could review the methodologies used i other developing countries for making such projections, and observe the cash management programs used elsewhere for extracting maximum benefit from idle funds. As it develops increasingly useful projections, the fiscal/monetary unit needs to communicate closely and continually with the Public Debt Department of the Central Bank. The latter, with better information about future borrowing requirements, should become increasingly pro-active in developing the most effective strategies for raising these funds, in terms of amount, timing, and maturity of Treasury issuance. This will involve, among other things, long-term targets with respect to average maturity of outstanding Treasury debt, as well as day-to-day assessment of market conditions throu close contact with the private dealers. We believe that the Public Debt Department coul benefit greatly from a concentrated exposure to the activities of at least one, and preferably two, other central banks which have developed sophisticated strategies for marketing government debt.

Training in the development and execution of monetary policy. Monetary policy may be functionally divided into three parts: (i) the setting of appropriate targets for monetary growth, (ii) the execution of transactions designed to achieve the monetary targets, and (iii) day-to-day market intervention to stabilize short-term liquidity within th banking system. We understand that Sri Lanka's monetary targets are currently set in

[20]Employees" Provident Fund Act, No. 15 of 1958, Section 5(1)

consultation with the International Monetary Fund (IMF) and the World Bank. We assume that the objective is for Sri Lanka gradually to assume complete responsibility fc these targets. Its confidence in setting targets, as well as achieving them, could be increased by having personnel at the Treasury and the Central Bank spend an extended period of time consulting with at least one other central bank which has a demonstrated record of monetary control. Our impression is that the Monetary Operations Unit of the Central Bank currently has a good grasp of those economic sectors that are principally responsible for major shifts in day-to-day liquidity. If this knowledge is combined with an active and competent secondary market desk within the Central Bank (see below) we believe that substantial efficiencies in the system could be achieved through stabilizing liquidity and therefore call money rates.

Training in debt securities trading. The efficient execution of both fiscal and monetary policy requires an intimate and immediate knowledge of the market for debt securities along with the ability to intervene directly and continuously in that market. Such knowledge and intervention demand a high level of trading skill and intimate familiarity with all aspects of the Sri Lankan money markets. Some thought has been given to the design of a trading desk to be located within the Chief Accountants office. That process should continue. Even more critical, however, than the hardware and software which this facility will require is a formal, methodical training program for thos who will use that desk. This program should include extensive testing of the trainees, both against computerized trading programs, and perhaps against each other as well. The program should also incorporate visits to central bank trading facilities in other Asian countries and include personnel from the private dealers training alongside individuals from the Central Bank (see Task 2, below).

Training in portfolio management. An important responsibility currently borne by the Central Bank is the management of the EPF portfolio. To date that responsibility has been carried out in a largely passive manner. There has been discussion within the Central Bank and elsewhere suggesting that responsibility for EPF funds be moved out of the Central Bank, perhaps into an independent authority. When or whether that will take place is uncertain and there is growing recognition in the Central Bank of the responsibility for investing these funds in a professional manner. Currently there are no professional portfolio managers within the Central Bank, which means that it must begin training such managers in-house, consider retaining independent managers, or utilize some combination of internal and external expertise. Whichever option is ultimately chosen, it is important to have several individuals in the EPF Department who have portfolio management training. Even if outside managers are eventually used, there must be sufficient expertise within the Central Bank to intelligently select the most appropriate managers. Fortunately, an excellent portfolio management training program began this spring in Colombo under the sponsorship of USAID's Financial Markets Project. The core of the program is based upon the courses and examination series sponsored by the Association of Investment Management and Research (AIMR), which leads to membership in the Institute of Chartered Financial Analysts (CFA). The CFA program is the most widely respected program for training portfolio managers available. Space is available in the USAID training sessions which are aimed at the first level CFA examinations to be given in Colombo next June.

In designing and implementing this training, three points are worth particular emphasis. One, financial markets provide continual reminders that a little knowledge is dangerous. A corollary is that inadequate training may be worse than none at all. These programs should therefore be designed to offer comprehensive instruction over a substantial period of time and include several levels of learning experiences. These should include a core curriculum that offers in-depth coverage of all relevant areas of the financial markets and government finance over a period of at least 18 to 24 months; intensive exposure to experienced professionals, including the opportunity to observe the application of monetary policy and trading skills in other central bank operations; actual experience on the Central Bank trading desk while under the close supervision of experienced professionals. Second, that considerable care be taken in selecting the right individuals for the training. They must be provided with sufficient time and motivation to encourage maximum commitment to the program, and assured the opportunity to utilize this training if successfully completed. If senior managers cannot be spared to actually take a full training program, a separate program should familiarize them at least with the objectives and content of the training so they are in a position to properly supervise newly trained personnel. Third, that this training should not be developed as a one-time exercise, but designed to be institutionalized in the Central Bank and conducted as an on-going part of its operations.

We therefore recommend the following:

1. That the Central Bank, the ETF, the NSB, and the ICOSL actively promote the development of portfolio management expertise within their organizations. All of these organizations should take advantage of any technical assistance under the PFDP available for this purpose, and should ensure that they have highly qualified people applying for admission to the USAID training program for the purpose of preparing for the CFA Level 1 examinations.

2. That the Central Bank establish a training program on financial markets for their middle management personnel and extend invitations for participation in that program to the banks, the ETF, the NSB, the insurance companies, and other specialized financial institutioins. That the Central Bank also conduct a program in financial markets for its senior management that will cover approximately the same areas as the middle management course and prepare management for the job of overseeing trained financial personnel.

3. That the Central Bank, together with its primary dealers, establish an intensive training program on the trading of fixed income securities (including money market instruments) and foreign exchange. This program should be restricted to a small group of individuals, taken from both the Central Bank and the primary dealers and similar in qualifications to those qualifying for the CFA program, but

who have demonstrated talent for, or particular interest in, trading. The objective of the course should be to bring these individuals to a level of expertise that they can, with proper supervision, staff the Central Bank desk and the desks of its primary dealers.

4. That the Central Bank, in cooperation with the Treasury, design and implement a training program to increase cash management and debt management expertise in the Central Bank and Treasury and to further the coordination of fiscal policy between these two agencies.

Task 2: Establish a Working Relationship Between the Central Bank and a Select Group of Private Market Makers

The current arrangement between the Central Bank and the 19 primary dealers that were approved in June 1992 does not work. This failure results from the complete lack of substance in the current arrangement. The Central Bank does not demand anything from the dealers in the way of auction participation or secondary market-making, nor does a private firm derive any special incentives from its position as a primary dealer that would induce it to undertake additional risk in order to help the Central Bank accomplish its market objectives. The Central Bank realizes that the current relationship with its private dealers is completely inadequate. Two models are being considered to replace the current system. One is the creation of a small group of discount houses, similar to those in the UK and Malaysia. To explore the practicality of this idea, several representatives from the public and private sectors in Colombo visited Kuala Lumpur in July and the Debt Securities Advisers visited London.

After interviewing the Bank of England, several discount houses, private banks, and Gilt-Edged Market Makers we arrived at three conclusions: One, discount houses are largely an historical artifact of the particular way in which the Bank of England evolved from a large private bank into a central bank over the past century. Two, nothing in the arrangement between the Bank of England and its specialized discount houses offers a uniquely effective means for a central bank to carry out its fiscal and monetary obligations. Three, there have been substantial difficulties with the discount house structure over the past several years and the UK system is now in the process of evolving toward one that looks more like the American and European systems, which utilize large, multi-purpose financial firms dealing in a wide range of domestic securities and foreign currencies. A similar evolution has occurred in Singapore, which formally established a discount market, based on the London model, in November 1972. It began with three discount houses, with S$3 million each in capital. In 1974, each of the three original houses increased their capital to S$5 million and a fourth house established with S$3 million. By 1987, however, the discount house structure was considered inadequate:

> The [Singapore] government's decision to reactivate the government securities market in 1987 was very timely and appropriate. It has helped to increase activity in short-term government securities, particularly RPs. In this regard it was also appropriate for the government to replace the discount houses with the present system. Singapore's discount house system was largely based on the British discount house system, but in the context of Singapore's financial institutions, the discount house system did not function well as a vehicle for monetary control. Worse, the system actually restrained the development of a viable government securities market.[21]

The discount houses ceased operating in May 1987 when Singapore adopted a system of approved primary dealers. Initially, a group of five APDs were approved and this was later expanded to eight.

The second alternative is to adopt the recommendations of the Lucas Report which call for a complete overhaul of the arrangement between the Central Bank and its primary dealers. This includes giving them *exclusive* access to all of the Central Bank's primary and secondary market operations. This would require even government and government-controlled entities, such as EPF and the NSB, to bid in Treasury auctions through approved dealers.[22] It would also provide approved non-bank dealers with clearing accounts at the Central Bank.[23] In exchange for these privileges, the Central Bank would impose specific standards for: (i) the minimum amounts bid in Treasury auctions (at competitive yield/price levels), (ii) the volume of secondary trading done between auctions, and (iii) the amount of useful market information provided to the Central Bank upon request. Those firms that consistently under perform these standards would have their APD status suspended or revoked.[24] The Central Bank must grant sufficient privileges to the APDs so that this status offers a profitable competitive advantage. In exchange it must require that all dealers that wish to retain their approved status provide substantial levels of support for Central Bank operations in both the primary and secondary markets.

The demands which the Lucas Report would place on approved dealers go to the root of what we term a "dealer", which is a firm that purchases securities for its own account. This is opposed to a "broker" which acts merely as an intermediary in buying or selling securities on behalf of a third-party investor. The importance of dealers that "position" securities by buying them for their own inventory is that only by having an inventory are they able to provide real liquidity to the market. Dealers are not investors. They have customer accounts and will broker securities, but their distinguishing characteristic is that they position securities with their own capital for the sole purpose of trading and are able and willing to sell or buy that product at any time with reasonable bid-asked spreads.

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[21] R. Emery, *The Money Markets of Developing East Asia*, p. 236 (1991)
[22] *Lucas Report*, p. 8.
[23] Id.
[24] *Lucas Report*, p. 6 which recommends revocation of APD status for consistent under-participation in auctions. We recommend that this sanction be used more broadly.

The extent of dealer participation required to provide a high level of liquidity to a Treasury market is suggested by Exhibit 2[25], below. On the left side of the figure we show the more than $80 billion of daily trading in Treasuries in the U.S. Note that the amount of trading among dealers is $52 billion, which is 60% of the total, with only 40% being between dealers and their customers. This inter-dealer trading is extremely important to the market's liquidity and is made possible by the large net positions held by the dealers. The right side of the figure shows the comparable trading volume and position size for Sri Lanka. This will not happen right away but is a useful target to approach over time.

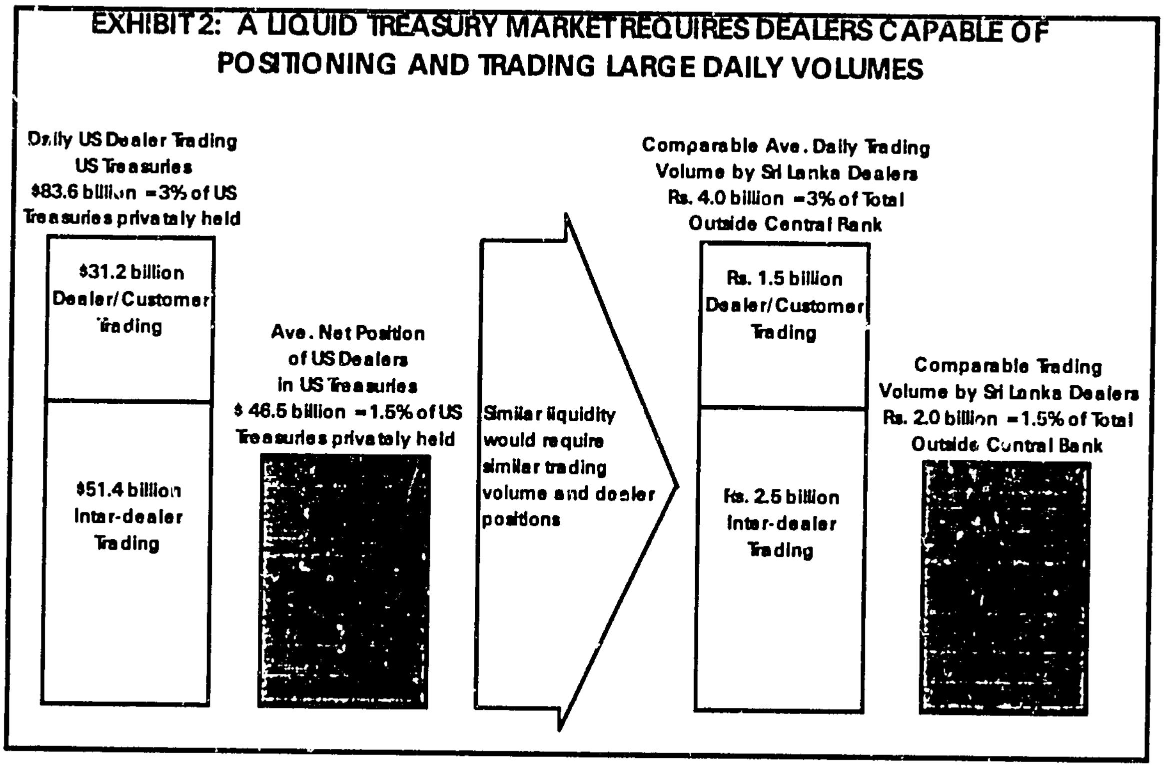

EXHIBIT 2: A LIQUID TREASURY MARKET REQUIRES DEALERS CAPABLE OF POSITIONING AND TRADING LARGE DAILY VOLUMES

A good secondary market requires dealers. From our conversations in Colombo, we believe that none of the current APDs would meet our definition of a "dealer". The current non-bank APDs are strictly brokers and the banks, although they do hold T-bills for their own account, do so as investments and not as a trading position. None of the APDs makes a market in Treasuries and therefore there is no secondary liquidity. The liquidity of a secondary market can be largely measured by the size of the bid-asked spreads; the lower the spread, the greater the liquidity. Liquidity in the U.S. Treasury market has increased substantially since the mid-1970's. Twenty years ago a typical spread on U.S. T-bills quoted by major dealers to investors buying in volumes over $1

[25]The chart was prepared by MorBanc using figures from Board of Governors of the Federal Reserve, *Federal Reserve Bulletin*, pp. A30, A31 (March 1993) and Central Bank of Sri Lanka, *Annual Report 1992*, p. 137

million was 6 basis points (6 one-hundredths of a percent); today that spread is 2 basis points. The current spreads on Sri Lanka T-bills in Colombo is as much as 300 basis points, which means that there is essentially no market at all. The result of this lack of liquidity in the market is that it is very costly for investors to sell product in the secondary. This increases the risk that purchasers undertake in buying T-bills in the first place, which raises interest rates at the weekly auctions. As the Lucas Report states:

> [M]inimizing the cost of issuance of public debt in the primary market requires an active secondary market. That is, if investors know they have no realistic alternative but to hold securities to maturity, then they will demand higher rates in primary auctions.[26]

By demanding that its approved dealers participate in every auction and position product to make tight secondary markets, the Central Bank will substantially reduce the number of dealers it approves. We would be surprised if more than four or five firms are willing to undertake the capital risk that these requirements will impose. In fact, the Central Bank should craft its demands on the dealers in such a way that its approved dealers are limited only to those dealers for whom trading can provide sufficient profits to support a highly professional and dedicated trading staff and sufficient risk capital to provide substantial market-making capability.

We see three major obstacles to overhauling the APD system. First there is a lack of trading expertise and facilities in both the Central Bank and in the APDs. In Task 1 we recommend a training program, designed and administered by the Central Bank. It is essential that the Central Bank include within that program a significant number of personnel from the private dealer community. For the Central Bank to properly carry out its role, it must have trading talent not only on its own desk but on the desks of its approved dealers as well. In Task 3, below, we discuss the establishment of the Central Bank's trading desk with adequate hardware and software facilities to intervene in the money markets on a daily basis. Second, because dealers require both risk capital and financing to hold inventory for trading, sources of both must be identified and provided the necessary incentives for a commitment to trading operations.[27] Although several of the banks have adequate capital, a strong, competitive system will require participation of non-bank traders and we are particularly concerned with providing sufficient incentives to attract to them the necessary capital and financing resources. Third, the Central Bank must provide sufficient information to its dealers to enable them to anticipate changes in

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[26]*Lucas Report*, p. 12

[27]The organizational and financial commitment required to set up and operate a government securities operation should not be minimized. One commentator describes what it takes in the U.S. market:

> Setting up a dealership in governments is time-consuming, difficult, and costly. Talented personnel, usually in scarce supply...must be hired and then welded into a team that works. Firms entering the government market normally expect to lose millions before they create an organization capable of producing profits. Stigum, *The Money Market*, p. 639.

interest levels and adjust their positions in a manner that will limit their risk. This is particularly important in the absence of hedging devices such as futures markets.

In light of these, we recommend the following:

5. That the Central Bank should use every effort to cause the establishment, by no later than March 31, 1994, of at least three well capitalized "dealers" that are willing to position treasuries for the purpose of making a secondary market. These firms should not be narrow, specialized institutions, such as discount houses, but diversified financial entities engaged in a variety of services such as underwriting and trading securities and dealing in foreign exchange. At least one, and preferably at least two, of these dealers should be non-bank firms. The Central Bank's efforts to bring about the establishment of these dealers should include substantive incentives, such as exclusive access to Central Bank primary and secondary market activities, and clearing accounts for non-banks, as recommended in 6(a) below.

6. That the Central Bank completely overhaul its current dealer relationships by adopting a code of conduct and statement of privileges and responsibilities which will limit its approved dealer status to those few bank and non-bank firms prepared to commit the trained personnel and risk capital necessary to participate in every auction and make continual secondary markets in Treasury securities. This new arrangement would include at least the following elements:

   a. Exclusive access to Central Bank primary and secondary market activities, limitation on non-competitive bids, and the provision of Central Bank clearing accounts for non-banks.[28]

   b. Specific requirements, including minimum (and maximum) levels of auction participation, as well as minimum levels of average inventory and secondary market activity.[29] These would be monitored by periodic reporting requirements.

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[28]There seems to be a difference of opinion between the *Lucas Report* and the *Study* as to whether the Central Bank should provide financing for dealer positions. The *Study* suggests that the Central Bank should provide such a service: "The CBSL should be prepared, through a dealer financing facility, to provide for very short-term liquidity to the securities through the market with indirect support from the central bank. This would typically be done through repurchase agreements on securities, at market-related rates, with access limited to a certain percentage of dealer inventories." *Study, Vol. III*, p. 14. But Lucas explicitly rejects this role for the Central Bank: "[I]t would be helpful to allow non-bank dealers to have accounts at the central bank in order to make clearing and settlement more efficient. However, such accounts should be opened without granting access to any form of central bank credit, which should continue to be regarded as an entirely separate policy issue". *Lucas Report*, p. 7.

[29]"The main responsibilities which go with [the APD's] privileges are that dealers make active secondary and financing markets, act according to a code of conduct with respect to good market practice, bid responsibly and reliably in regular auctions of Treasury securities, and make good markets to the central bank in its open market operations." *Lucas Report*, p. 7

7. That the Central Bank, with assistance from the Debt Security Advisers, explore means of encouraging the commitment of capital to the APD business, and explore potential sources of financing for dealer positions, including the development of repurchase agreements as the staple source of financing government securities.

8. That the Central Bank adopt an information policy explicitly recognizing the importance of its role in providing a range of data to the financial community as well as its responsibility in communicating with its approved dealers on a daily basis, both to obtain market intelligence and, without divulging privileged information, to ensure that its APDs are adequately prepared to participate in its financing operations.

Task 3: Design and Install Adequate Systems in the Central Bank and Treasury for Data, Communications, Trading, and Clearing/Transfer of Treasury Securities

There is an extensive need within the Central Bank and Treasury for increased systems capability. The two areas most directly concerned with Treasury securities are computerized trading facilities and an electronic clearing and transfer system. In addition, there are other areas which, though not directly related to securities, will nonetheless have considerable impact upon Treasury securities and the ability of the Central Bank and Treasury to effect fiscal and monetary policy.

For example, the EPF database currently lacks the capability to record individual beneficiaries, but instead tracks them, rather imperfectly, by numbers assigned to participating employers. This makes it impossible for EPF to communicate directly with its beneficiaries or properly monitor employer contributions and compliance. By redesigning the system based upon individual identification numbers, enforcement of mandatory contributions by both employees and employers could be substantially improved and likely result in considerably increased flows to the EPF. Given the size of the EPF contributions relative to the economy, this could have a dramatic effect on the amount of capital available for investment in debt securities and might significantly increase the overall savings rate within the country.

Increased electronic communication among departments of the Central Bank, as well as between the Treasury and Central Bank, could also have significant impact on the operations of both agencies. The Financial Institutions Study, for example, believed that computerization of bank accounts by the Sri Lanka Automated Clearing House (SLACH) could substantially improve information to the Monetary Operations Unit in the Central Bank regarding "foreign exchange cash flow, CBSL's spot and forward exchange transactions, refinance approvals and utilization, primary and secondary treasury bill outstanding, and reserve accounts of commercial banks."[30]

An overall assessment of systems needs and design is beyond the scope of this report, but suggestions made within the Central Bank that such an overview be accomplished in the near future seems very sound. A completely integrated system would meet current and projected needs will not be installed at once, but it may be u to undertake some kind of overview to ensure that as various systems are installed th they fit some kind of overall design criteria and may eventually be able to communic The discussion below is necessarily limited to the two components required to communicate trading data and provide rapid and reliable clearing of trades.

For communication of trade data there are two models. One is open public outcry, such as is used on the Colombo Stock Exchange (CSE), and the other is bilat negotiation, which occurs in private, either by telephone or through computer faciliti The CSE uses a simple but effective method of communicating trades made on the exchange floor. As trades are recorded on the chalk board, an operator keypunches t into a terminal for confirmation and transmission over network facilities to remote terminals. Bilateral negotiation most commonly takes place by dealers telephoning e other to privately negotiate a transaction. These negotiations are facilitated when the parties know the price/yield level at which other transactions have recently taken pla Keeping track of "where the market is" may be done most simply by means of a cha board at each trading firm which shows the level of its most recent trades, as well as bid/offer indications from reliable sources. A step up from this is to have price indications disseminated from a specified source by computer terminal; this is done b services such as Telerate and Reuters. More sophistication can be provided by interdealer brokers who, over proprietary terminals, post actual bids and offers that a "hit" or "lifted" by a phone call to the broker. The most automated type of system is provided by interactive terminals in which the trading is done by direct computer communication between buyers and sellers.

With respect to trading communications, we discussed various options with a nu of individuals in Colombo, making specific inquiries about the feasibility of listing a trading Treasury securities on the CSE.[31] That suggestion was greeted favorably by many, but we remain concerned with various policy and practical issues. These rang from the limitations of floor space on the CSE to the possible need for a separate clas exchange membership for equity and debt traders, to the need for, and difficulties of,

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[30]*Study, Vol. III*, pp. 12-13.

[31]CSE Rule 1.4-6 states:

> **Listing Governments** - Dealings shall also be permitted in Treasury Bills, Loans, Stock, Bills, Mortgages, and short-term securities of the Government of Sri Lanka or of any local government authority in Sri Lanka or other Securities issued or guaranteed by or on behalf of the Government of Sri Lanka or government sponsored corporations established by or under any statute.

Bishop, *Consolidated Sri Lanka Securities Regulations, Sec. 207*, p. 29 (December 1990).

Central Bank conducting its open market transactions on the exchange. Particularly given the limited number of securities involved and the small number of active traders in Colombo, we think it may be possible for a robust secondary market in Treasury securities to develop simply through bilateral negotiation among dealers by telephone. If so, we think it is likely that most money market instruments might well trade in this way as well. We envisage that the Central Bank and every dealer would maintain a chalk board on which the prices of last trades for every active security are continually recorded throughout the trading day.[32] Private debt securities could be traded on the CSE, as well as over the counter.

This system makes it essential that the Central Bank install a trading desk to be staffed by those individuals who are undergoing the kind of training described in Task 1. The Central Bank has begun planning such a facility to be located in the Chief Accountant's department. These designs might well benefit from observation of other central bank trading facilities (Malaysia, Singapore, Bombay?) as well as advice from firms that specialize in the design of such facilities.

We therefore recommend:

9. That the Central Bank and Treasury retain a systems consultant to undertake a study of information needs and computer applications and communications throughout both agencies and propose a consistent configuration for such systems.

10. That the Central Bank complete its design of a trading desk, soliciting expert advice from other central banks, as well as from firms that specialize in the design and installation of trading systems.

11. Even though management of the EPF investment portfolio may ultimately be divested from the Monetary Board, as some have suggested, in the interim the Central Bank should commence the redesign and installation of a more effective EPF data system.

12. That the Debt Securities Advisers confirm with CSE, CDS, and the SEC the feasibility of listing and trading private debt securities on the CSE.

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[32]The *Lucas Report* points out that, " the over-the-counter (OTC) character of virtually all the world's government securities markets have significantly different essential features than do equities or futures trading on organized exchanges.... [T]his model of secondary market trading for government securities can be expected to develop in Sri Lanka as well." *Lucas Report*, p. 9-10. It is worth noting that the Federal Reserve Bank of New York, which does all the open market operations for the U.S. government, still uses a chalkboard to keep track of the market, and the authors understand from Mr. Lucas that it works very well. It may be helpful for the Central Bank to publish "consensus" price indications at the end of each trading day. For example, the Federal Reserve Bank of New York makes available a list of prices on marketable issues in its *Composite Quotations for U.S. Government Securities* report. These prices are obtained from 5 securities dealers and published in papers such as *The Wall Street Journal*.

For clearing and settlement there are two models currently in use in Colombo. One is the Central Depository System (CDS), owned by the stock exchange. It was implemented in 1991, made the subject of a critical study in 1992, and is currently being improved and expanded.[33] The system performs several functions, including the computation and dissemination of market information and providing surveillance and management information for monitoring and controlling trading activity, as well as serving as a depository performing trade clearance and settlement functions. As a depository it immobilizes securities by depositing the securities it receives with the registrar of the company that issued the securities. The deposited shares are transferred on the company's books into CDS's name and CDS's books identify the beneficial owners. When a trade occurs on the floor of the CSE, it is recorded on paper and sent to the computer room for keying. During the trading day, run sheets are printed for each broker for verification. Upon verification, the brokers enter at their floor terminal the identities of the buyers and sellers for each trade. At the end of the trading day final run sheets are delivered to each broker who must complete verification by 2:00 p.m. Upon verification, CDS runs a final posting to update its ledgers and prints out confirmations in triplicate. The verified trading information is then communicated to Grindlay's Bank at which all of the brokers have clearing accounts. Grindlay's makes net transfers among these accounts by the close of business.

The second clearing system is the Automated Clearing House (SLACH), which was implemented at the Central Bank on March 2, 1988 to clear checks among all Sri Lankan banks. This system is being expanded to become an electronic funds transfer system (EFT) which moves funds from one account to another without requiring paper confirmation of such transfer. The project is to be implemented in three stages:

Stage I: Off-line system: Commenced operation on June 30, 1993
Stage II: On-line system: To be studied after implementation of Stage I
Stage III: International link: To be studied after implementation of Stage II

Stage I computerizes the following types of transactions:

Direct bank to bank payments
- call money transactions
- foreign exchange settlements
- sales and purchases of government securities
- sending and settlement of refinance facilities

[33]A 1992 review of the CDS noted that it was "a good, apparently robust system and an excellent platform for the expansion of the Sri Lanka equity market. Few exchanges have accomplished as much with such modest expenditures". It also stated that, "Notwithstanding these good marks, the CDS has a number of exposures which must be addressed." Gorman, *A System Review of the Colombo Stock Exchange's Central Depository System* (June 22, 1992) One of the principal exposures was the lack of a backup system which has since been designed and is expected to be installed by the fall of 1993. The exact configuration of the system enhancements has not been determined as of this writing, but a review of the alternatives was made in a presentation for the USAID Financial Markets Project Team Planning Meeting, dated March 31, 1993.

- other type of transactions

Interbank transaction involving customer accounts
- standing orders
- insurance payments
- other types of transactions

Interbank transactions carried out by institutions and customers
- payroll
- utility bills
- pension payments
- Employees Provident Fund
- other types of transactions

The off-line system requires all banks to create a single magnetic tape or diskette each day on which all transactions in the above categories have been made by all branches. Upon receipt, SLACH reads this information from the tapes/diskettes and make the appropriate net transfers in the accounts the banks have at the Central Bank.[34] SLACH provides next-day settlement for checks. Same day settlement is available for large sums under special arrangements, and for some money market transactions, including secondary Treasury trades.[35]

The terms of reference to which the Lucas Report responded inferred that the CDS would be expanded to incorporate government securities.[36] A substantial portion of the Lucas Report was devoted to this issue. While acknowledging that expansion of the existing CDS to handle government securities would have important practical advantages, it pointed out that such an add-on would accomplish only part of the automation infrastructure development needed to create a truly efficient government securities market. The CDS system, for example, does not contain any mechanism to accomplish settlement of cash nor does it provide for Central Bank accounts for settling member firms, nor accommodate financing transactions. The Lucas Report emphasized that "great importance should be placed on development of sound, automated, electronic mechanisms for settlement of cash amounts associated with auction and secondary market trading of government securities" and that the cash settlement mechanism should be linked to the depository. Furthermore,

[34] Conversation between the authors and S.N. Fernando, Manager/SLACH and Justin Wickremasinghe, Senior Operations Manager/SLACH on March 30, 1993. It is interesting to note that the Financial Institutions *Study* had hopes that computerization of bank accounts could provide more accurate and timely information to the Monetary Operations Unit regarding "foreign exchange cash flow, CBSL's spot and forward foreign exchange transactions, refinance approvals and utilization, primary and secondary treasury bills outstanding, and reserve account of commercial banks." *Study*, Vol. III, p. 12-13.

[35] "A next-day-settlement system for checks is used by banks in Colombo. Very large sums--around Rs 100 million--can be cleared on the same day under special arrangements. Money market transactions involving trading in secondary treasury bills or interbank funds are also settled the same day." *Study*, Vol. III, p. 17.

[36] *PFDP Report*, Annex 13, pp. 99.

> Because of the intrinsic nature of government securities, and their role in open market operations of the central bank, large amount of cash are settled between banks, private entities, and large government entities, on the one hand and, on the other, both the central bank and the government. The government also accomplishes much of its routine cash receipts and payments through the central bank acting as fiscal agent. The implication of these facts is that the central bank must be electronically connected to the payments mechanism settling government securities. In order to accomplish this objective it is necessary to ensure that automated accounts systems of the central bank have sufficient capacity and reliability to provide continuous electronic access to accounts for the government, banks, and all APDs.[37]

The report goes on then to consider the SLACH system as a second alternative, saying that: "If the decision as to precisely how to develop the government securities depository were to be made according to conventional approaches world wide, then it would be clear that preference should be given to following the second model [SLACH]..."[38]

We agree with this preference for using SLACH to clear government securities and recommend the following:

13. That the Central Bank enhance the SLACH/Central Bank systems to provide effective and efficient methods for transfer, clearing, and settlement of treasury securities. As part of this undertaking, the Central Bank should develop the systems capacity and adopt the rules and procedures necessary to issue and administer scripless treasury securities. In doing so it should retain technical assistance to advise it on systems design for this project and consider sending SLACH personnel, as well as individuals familiar with its mainframe database, to Singapore to observe and report on the way in which the Monetary Authority of Singapore (MAS) has implemented its transfer, clearing, and settlement processes and its scripless securities systems.[39]

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[37] *Lucas Report*, p. 10

[38] Id., p. 11.

[39] The desirability of scripless government securities was first suggested by the *Study*:

> Treasury bills continue to be handled (and signed) manually in the CBSL. Given the large volume of bills now outstanding, this imposes a heavy administrative burden on the CBSL staff. As treasury bills are now subject to withholding tax, there appear to be few advantages in allowing them to be transacted as physical bearer instruments rather than in an electronic book-entry form. The CBSL has a new, and as yet substantially unutilized, mainframe computer and the development of the necessary codes, documents and software to operate an electronic book-entry system would not be especially difficult. If security dealers are established, CBSL could maintain book-entry accounts for the dealers, who would, in turn, maintain book-entry accounts for their clients. *Study*, Vol. III, p. 14.

The *Lucas Report* agrees: "Integrity of the securities depository and tax compliance can be maximized if new Treasury securities are issued from the outset in scripless form". p. 2.

14. That the Debt Securities Advisers, in cooperation with the CDS, undertake a study of expanding that system to accommodate private debt securities. The report would include an estimate of cost for implementing such changes and include a proposed timetable for implementation.

15. That the Debt Securities Advisers assist the CDS, where possible, in implementing a clearing and transfer system for private debt securities.

Task 4: Remove Tax, Legislative, Regulatory, and Administrative Constraints on the Sale, Trading, and Investment in Treasury Securities

The development in Sri Lanka of efficient primary and secondary treasury markets will require changes in a number of laws, regulations and administrative practices. Some of these can be easily accomplished, while others, such as repeal of the withholding tax on debt securities, are more controversial.

Withholding Tax. Under Sri Lanka's basic tax code, the Inland Revenue Act of 1979, No. 28 of 1979, as amended (Inland Revenue Act), a withholding tax applies to the interest, including discount, paid on treasury securities.[40] For T-bills, the amount withheld is currently the lesser of 15% of the discount or a specified percentage of face, depending on original maturity.[41] The tax must be withheld at the time the interest or discount is payable to the security holder, which, in the case of T-bills, is at maturity.[42]

The Lucas Report identifies the withholding tax as a major obstacle to secondary trading in treasury securities[43] and this was confirmed by the dealers with whom we

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[40]Internal Revenue Act, Sections 113A-113J. Note that T-bills held by the Central Bank of Sri Lanka are excluded from the normal withholding tax provisions, but are taxed separately, at a higher tax rate, with the tax payable by the Central Bank at the time it first purchases the bill. See Internal Revenue Act, Section 32D.

[41]2.5% of face for a 12 month bill, 1.5% for a 6 month bill, and 0.625% for a 3 month bill. Clause 16 of an amendment to the Internal Revenue Act now pending in the Legislature (Inland Revenue (Amendment), Supplement, Part II of April 8, 1993) would revise and simplify the withholding formula, lowering the percentage of face factors to 2%, 1% and 0.5% of face for 12, 6 and 3 month bills, respectively, and eliminating the 15% of interest, if lesser, alternative.

[42]Internal Revenue Act, Section 113D.

[43] [I]t should be an objective of the Government of Sri Lanka to eliminate the withholding tax at the earliest possible occasion, since its presence distorts the market determination of interest returns on government securities, and severely limits development of secondary market trading. There simply is no practical way to establish an efficient primary or secondary market which includes both taxable and tax-exempt investors, and where taxable investors are subject to differing tax rates. Even well developed government securities markets in industrialized nations have experienced severe loss of liquidity and capital flight when such taxes were introduced, necessitating their withdrawal. I am not aware of any example in which an emerging market economy succeeded in development of active trading in government securities in the face of such a tax. *Lucas Report* p. 12.

spoke in Colombo. The difficulty arises because the last holder of the T-bill prior to maturity suffers the full amount of the withholding, regardless of how short a time he has held the bill. Even though the holder may be entitled to a refund of excess tax withheld -- whether the excess results from the holder being in a lower tax bracket than the assumed rate or tax exempt, or from holding for less than the full bill term, or from some combination of the two -- filing for a refund entails cost and delay in the use of funds, eroding the value of acquiring the security. Hindrance to secondary trading of coupon treasury securities would result from a similar effect, since the full amount of tax for the coupon period would be withheld from each coupon interest payment.[44]

In recommending the withholding tax must be removed as an impediment to secondary trading of debt securities, we are not suggesting that the interest or capital gains earned on these securities not be taxed. We believe, in fact, that the amendment to the Inland Revenue Act now pending in the Legislature, which exempts from tax any capital gains arising from the secondary sale of treasury bills is unnecessary.[45] We simply urge a change in the manner in which this tax is currently assessed and collected so that it does not inhibit secondary trading.

Elimination can be effected most directly by outright repeal of the withholding tax on debt securities.[46] We recognize that this could result in a one-time backward shift in the timing of tax collections, as well as some risk of increased tax avoidance by certain types of holders of treasury securities. However, the one-time shift could be largely dealt with, we believe, by reliance on the Inland Revenue Codes' normal provisions for quarterly installment payments of income tax.[47] The great bulk of treasury securities are, and can be expected to continue to be, held by pension funds, banks and other institutional investors, who are unlikely to cheat on their tax returns, and for whom the quarterly installment method of self-assessment can reliably be counted on to bring in the expected tax collections. In addition, improved cash flow projections and debt management by the Treasury and Central Bank, suggested elsewhere in this report, would minimize any problems created by the one-time shift in tax revenues.

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[44]The only coupon treasury securities in use in Sri Lanka at present are Rupee loans, most of which are subscribed for by the captive investors and held to maturity. Apparently there is no attempt to trade them.
[45]Inland Revenue (Amendment), Supplement, Part II of April 8, 1993, Clause 5, amending Section 14 of the Inland Revenue Act. Unnecessary in that it is an explicit loss of revenue to the Government which is not needed in order to encourage secondary trading in T-bills, and unsound in that it does not address the true barrier to trading in these bills, which is the withholding tax <u>method</u> of collecting tax on T-bills.
[46]We understand from conversations with officials of the Inland Revenue Service that the withholding tax does not generally apply to private debt securities, such as bonds or debentures issued by ordinary commercial or industrial firms. It does apply, however, if the issuer is a "bank or financial institution." See Inland Revenue Act, Section 113A(1). Bank and financial institution securities are very common in the U.S., especially in the form of commercial paper. To encourage the development of bank and financial institution securities in Sri Lanka, therefore, it will be necessary to eliminate the withholding tax for such securities as well.
[47]Inland Revenue Act, Section 97.

Conceivably, the withholding tax provisions might be amended in some way that could make them less of a hindrance to secondary trading of securities, rather than outright repeal.[48] Any such possibilities should be explored. In any event, the withholding tax constraint to the development of secondary trading in treasury securities should be removed as soon as possible. Therefore, we recommend the following:

16. That the withholding tax on debt securities, as a method of enforcing the collection of income taxes on the interest and discount payable on such securities, should be removed as soon as possible. Feasible alternatives to outright repeal should be considered, but if none can be promptly found, the tax should be repealed.

17. That, after taking into account the various categories of investors in treasury securities and the amounts held in each category, the Treasury and the Central Bank should attempt to quantify the potential one time revenue impact of repealing the withholding tax on debt securities, as well as to quantify the potential impact of tax avoidance under a non-withholding approach. In doing this, the Treasury and Central Bank should explore whether the revenue impact can be significantly decreased by the use of improved cash flow projections and better debt management, as suggested elsewhere in this report, as well as the use of the quarterly installment payment provisions of the Inland Revenue Act.

Authorize the Auctioning of Coupon Treasury Securities, Scripless Securities. T-bills are issued under the Local Treasury Bill Ordinance (LTBOrdinance). Coupon treasury securities are considered "loans" that must be issued under the Registered Stock and Securities Ordinance (RSSOrdinance). For example, Rupee loans, which are the only form of coupon treasury securities currently being issued in Sri Lanka, are issued as "registered stock" under the RSSOrdinance. Section 4 of the RSSOrdinance provides that the Finance Minister may specify the "mode" of issuing loans under the Ordinance, and Section 2 expressly enumerates three modes of doing so, with no mention of auctioning as one of the modes. Apparently, Sections 4 and 2 are read narrowly by lawyers in Sri Lanka, so that the Finance Minister is not considered authorized to specify the auctioning of coupon treasury securities. (Since the LTBOrdinance does not contain this restrictive language with respect to the "mode" of issuance, T-bills are routinely auctioned by the Central Bank on behalf of the Treasury.) The authors were told that adding the phrase "and manner" to Section 4 of the RSSOrdinance would provide the legal basis needed to authorize the auctioning of coupon treasury securities.

[48]One example, suggested to the authors by K. Shanmugalingum, Deputy Secretary to the Treasury, is to collect the tax in full up front in all cases. Arguably, with the tax fully paid up, secondary trading would not be hindered. This suggestion should be explored. One question it raises is whether the auction price of bills will be reduced by the amount necessary to cover the up front tax, so that the combined auction proceeds plus withholding tax yields the Treasury no net additional revenue (on a present value basis).

It is essential that such auction authority be obtained.[49] Without it, no meaningful primary market for coupon treasuries can be launched. Once it is obtained, the Central Bank can start experimenting with the limited issue of two year coupon Treasury notes, testing the market interest for longer term treasuries and beginning the establishment of a yield curve. (The GOSL has in fact committed to issue at least Rs. 4 billion of Treasury securities on a competitive basis, with maturities longer than one year, by July 1994, increasing this to Rs. 10 billion by January 1996.)[50] The required legislative change, which seems very simple and non-controversial, should be done as soon as possible.

Other provisions of the Ordinances, and perhaps other applicable Sri Lankan laws, impose certain procedural requirements on the issuing of treasury securities that are needlessly burdensome, such as manual signature of certificates. Further, these laws say nothing about, or are inconsistent with, the issue and use of book entry or scripless Government securities. Removing these needless burdens, and authorizing scripless securities, is clearly desirable, and also seems non-controversial. Accordingly, it seems advisable to package all this legislation related to the issuance of treasury securities into one legislative initiative, and ask the Legislature all at one time to authorize the auctioning of coupon treasury securities, remove any burdensome procedural requirements, and authorize the issue and use of scripless securities. (Note, however, that the convenience of packaging and passing all this related legislation at once should not be allowed to unduly delay the prompt passage of the important but simple change needed to authorize the auctioning of coupon treasuries.)

It is therefore recommended that:

18. The legislation necessary to authorize the auctioning of coupon treasury securities should be sought immediately. If it would not delay preparation or passage, this legislation should also include provisions that eliminate any needlessly burdensome procedural requirements on issuing treasuries and would permit the issuance and trading of scripless or book entry securities.

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[49]The *PFDP Report* states, "During November 1992, the GOSL modified the legislation governing the issue of Rupee Securities to allow for the issue of coupon-bearing Treasury securities through competitive procedures ...." *PFDP Report*, p. 13. The GOSL's letter to the World Bank, dated March 5, 1993 and attached as Annex 2 to the *PFDP Report*, also stated "...[the] Rupee Securities Ordinance is being amended to allow issuance of Rupee Securities (Treasury debt instruments with interest coupon) at market determined rates." *PFDP Report*, Annex 2, p.46. Based on the authors' discussions with CBSL legal staff as of the end of June 1993, however, the necessary legislation authorizing the auctioning of coupon Treasury securities had not yet been submitted to the Sri Lankan legislature.

[50]During negotiations, agreement was reached with the GOSL on its commitment to increasing the maturity structure of its competitively priced debt instruments (both Treasury bills and Rupee Securities) in a manner that will result in at least four billion Rupees worth of these securities (competitively priced and with maturity longer than a year) to be issued within one year of Project effectiveness. This volume will then be increased to at least Rupees ten billion within thirty months of Project effectiveness. *PFDP Report*, p. 14.

Task 5: Improve the Primary Market for T-Bills and Encourage Active Secondary Trading

Pre-auction procedures. The Central Bank has recently begun to reform its T-bill auctions to make them more truly reflect competitive market conditions. These changes have corrected some of the problems addressed by the Financial Institutions Study,[51]but there remain a number of changes that would further improve the efficiency of the primary market and result in lower borrowing costs for the government. Fundamental to such changes is the establishment of a true business relationship with a small group of active primary dealers as described in Task 2. Once that foundation is laid, the Central Bank will be able to respond to the Lucas Report's recommendation that it begin consultations with APDs a week before the announcement of each auction to obtain estimates of the amount of each maturity that can be sold at various rate levels[52] and that it maintain close communication with the dealers up to the business day prior to the announcement.[53] In the context of weekly T-bill auctions, the effect of these recommendations would be to have the Central Bank in daily communication with the dealer community.

Close communication with the dealer community will allow the Central Bank to accurately assess the demand for Treasury securities of specific maturities. It must then match this demand with estimates of treasury financing needs provided by the Treasury. Cash needs of the government may be expected to fluctuate substantially. It is important to anticipate these changes as far in advance as possible so that financing can be smoothed over time to avoid straining the market during times of heavy cash needs and paying the premium interest rates that such strain provokes. This is particularly important in Sri Lanka where government borrowing so dominates the market for funds that it creates a serious crowding out effect.[54] In Task 1 we recommended that the Central Bank's Public Debt Department and the Treasury's fiscal/monetary unit design and implement a training program in which their personnel could learn more advanced techniques for cash management and projection of financing requirements. Both agencies would then be in a position to implement the Lucas Report's recommendation to establish

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[51]For example, the *Study* criticized the purchase of T-bills by the Central Bank at artificially low rates and then including these purchases in calculating the publicized weighted average rates after the auction. *Study, Vol. III*, p. 13-14. We have been assured by the Central Bank that all non-competitive bids, including all bills purchased by the Central Bank are now awarded at the competitive weighted average bid.

[52]*Lucas Report*, p. 4.

[53] Id., p. 6.

[54]*See Study, Vol. II*, p 64-65. "Domestic financing of the budget deficit averaged 44 percent of gross national savings in the last five years [1984-1989].... The domestic financing of government fiscal deficits tends either to raise real interest rates, thereby crowding out private sector borrowing or, if financed through money creation, increase inflation." *Study, Vol. III.*, p. 9. In 1992, domestic financing of the deficit was Rs. 31,512 million or 49% of the Rs. 64,650 in domestic savings. Central Bank, *Annual Report: 1992*, Tables 11 and 58.

a coordinated project between the Treasury and the Central Bank to improve and coordinate cash flow and debt management planning, with detailed cash flow projections prepared in the Treasury for at least a quarter into the future.[55] This would facilitate a smoother pattern of borrowing over the year and the use of longer term Treasury bonds to fund long term deficit financing. Perhaps the Treasury could also take steps to smooth the inflow of its revenues by appropriate changes in tax collections to better match the pattern of its liability payments. These changes should provide the MOU with sufficient information to implement the Lucas Report recommendation that auction announcements specify the exact amounts of Treasury securities to be sold of each maturity.[56]

Changes in auction procedures. The Lucas Report recommends limiting non-competitive auction tenders to Rs. 1 million, with any bidder limited to a single non-competitive bid.[57] Because a large portion of T-bill auctions are now taken down by captive investors making non-competitive bids, this action is dependent upon completion of Task 6, below, which would free the captive investors to make competitive bids and provide them with the expertise to make those bids intelligently. The Public Debt Department has a separate concern with the administrative cost and inconvenience in handling small bids, whether competitive or non-competitive.[58] We do not believe large numbers of small bids are likely so long as bidding is restricted to approved dealers (Recommendation 6a, above).

Changes in post-auction procedures. Currently, the only information released to the public following an auction is the weighted average bid price and yield for each maturity. For example, the announcement of the T-bill auction for the week ending June 25, 1993, gave the following information on the June 18 auction:

Maturity Period	Weighted Ave. Bid Price for Rs. 100	Weighted Ave. Yield (% p.a.)
Three months	95.30	19.72
Six Months	90.72	20.46
Twelve Months	82.23	21.61

In Task 2 we recommend that the Central Bank adopt an information policy that explicitly recognizes the importance of providing its dealers and the securities market with adequate information to participate intelligently in the Central Bank's financing operations (Recommendation 8). Under this policy, more information on the results of the auctions should be provided.[59] There seems to be no reason, in fact, for the Central

[55] *Lucas Report*, p. 13.
[56] *Lucas Report*, p. 6
[57] Id., p. 8.
[58] Conversation between John Biasucci and T.S.N. Fernando on June 21, 1993
[59] An example of the level of information considered important to the financial community is the weekly summary of Monday's U.S. T-bill auctioned published in the *Wall Street Journal* each Tuesday:

Bank not to immediately institute a practice of announcing detailed auction results by the close of business on auction day. This practice could be easily accomplished, and would be early evidence to the private dealer community that the Central Bank appreciates this community's needs and is genuinely interested in working closely with it.

We have some concern about the current use of the secondary market window. Currently it is not being used to smooth day-to-day liquidity.[60] A consistent pattern of net sales, together with a rather passive pricing policy suggests that it is being used to reduce Central Bank holdings of T-bills. Such reduction may be an important element in a strategy to constrain money supply, but we are concerned that it may be hurting the weekly auctions. Potential bidders know that if their bids are too high (in yield) to win at the auction they can obtain product from the secondary window at only slightly below the weighted average auction yield. This may cause them to be less aggressive bidders. [61]

Encouraging Secondary Trading. Development of secondary trading in T-bills is critical to the efficiency of the T-bill market and to the Central Bank's effectiveness in conducting monetary policy. Key prerequisites to such trading have been already covered: the amendment or repeal of the withholding tax on Treasury securities (Task 4; Recommendations 16 and 17) and the establishment of a strong system of approved dealers (Task 2; Recommendations 5-7). That system must include non-banks, whose

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Here are the details of the April 12, 1993 auction by the Treasury of 13-week and 26-week bills:

	13-Week	26-Week
Applications	$45,460,803,000	$44,293,024,000
Accepted bids	$11,093,994,000	$11,055,606,000
Accepted at low price	24%	41%
Accepted noncompetitively	$1,321,495,000	$925,654,000
Average price	99.269	98.483
Average rate	2.89%	3.00%
High price	99.272	98.493
High rate	2.88%	2.98%
Low price	99.267	98.483
Low rate	2.90%	3.00%
Coupon equivalent	2.95%	3.09%

60 CBSL does not manage financial sector liquidity on a daily basis. It announces daily buying and selling rates for secondary transactions in treasury bills and leaves it to the discretion of the banks whether they utilize the facility. The secondary window rates are adjusted depending on the residual maturity of securities and conditions in the call money market. The interest rate on buying bills from CBSL has normally been set to encourage additional treasury bills sales. Consequently, sales of bills by the CBSL at its secondary window have been consistently much larger than purchases (rediscounts). Although secondary trading in treasury bills outside the CBSL is permitted, it has not developed.
Study, Vol. III, p. 15-16

61 The Lucas Report was less concerned about such a conflict because it found that the bills being sold at the window were very short-dated and therefore may not be competing with the 3,6, and 12 month product being sold at auction. *Lucas Report*, p. 8

profitability depends not on holding securities but on trading them, and there must be a method by which such dealers can efficiently finance their trading inventories. We believe this will require the establishment of repurchase agreements (repos) as a dominant feature of the secondary markets.

The Lucas Report recommends that the Central Bank institute the use of repurchase arrangements for carrying out monetary policy as a means of stimulating the development of a "repo" market for financing inventories of government securities.[62] We also believe that the Central Bank can be influential in the development of a repo market. Apparently there was a failed attempt at repos several years ago, but we are confident that by carefully laying the proper foundation it can now be developed successfully. The first step is to begin the training program for Central Bank and private traders in Recommendation 3, which will include full treatment of repos. It is critical to have personnel in both the Central Bank and the private dealers who fully understand how repos work and the particular advantages they offer for implementing monetary policy, as well as financing dealer positions. While this training program is underway, the Central Bank can ensure that the SLACH/Central Bank systems are upgraded to provide modern and efficient transfer, clearing and settlement procedures and to accommodate scripless securities. Because repos are often done for very short periods (overnight to several days), rapid and reliable clearing and transfer are extremely important. Finally, the Central Bank, working with the dealers, can develop a set of standard repo documents and procedures which ensure the protection of both parties to the transaction.

Our recommendations are as follows:

19. That the Central Bank establish a trading desk staffed by trained personnel that are in daily communication with its approved dealers and capable of advising the MOU on market demand for specific Treasury maturities.

20. That complete auction results be made public before close of business on the auction day, including the amount applied for in each maturity, the amount awarded in each maturity, the amount accepted noncompetitively, and the high, low, and rupee-weighted average prices (yields). This recommendation should be implemented immediately.

21. That the Central Bank restrict use of its secondary window to implementing monetary policy.

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62 The daily operations should include repurchases and reverse repurchases as well as outright transactions and should include transactions in BAs when these are developed, as well as treasury bills. The use of repurchases would overcome the problems of a lack of bills of appropriate maturity. Also, repurchases have the advantages that financial markets do not need to be developed to undertake these transactions, and repurchases are self-liquidating and can be targeted to temporary fluctuations in bank reserves. They are, therefore, a flexible instrument.

Study, Vol. III, p 17.

22. That the Central Bank encourage development of repos by providing rapid clearing and transfer of trades through SLACH and helping to prepare documentation that will expedite repos while ensuring the protection of both parties.

Task 6: Begin Professional Management of the Captive Investor Portfolios

We define as "captive investors" those institutions which are legally controlled, or so influenced by, the government that their investment decisions cannot now be considered independent. These include the EPF, the ETF, the NSB, and the ICOSL. The concern with these and other captive institutions is twofold. First, the size of their portfolios and the amount invested in government securities makes them a critical element in any reform of the Treasury market.[63] Second, the importance of their role--particularly the pension funds--in the lives of their beneficiaries. They are entrusted with managing what for many citizens is the largest asset they will ever possess and upon which those individuals rely to carry them through their non-working years. It is vital that this trust be carried out in a manner consistent with the highest levels of management expertise available. There is great concern now that these institutions are being used largely as a means of funding government deficits and that investment returns are below what is necessary to safeguard the interests of their beneficiaries.[64] A further concern, with the pension funds

[63]At the end of 1991, EPF had about Rs. 46 billion in total assets, more than 85% of which were invested in government securities, on which it reported a nominal return of 11.5% (-.69% real). The ETF had some Rs. 6.5 billion in assets by year end 1991, about 90% of which were in government securities, on which it reported a 12.5 % (.31% real) return in 1991. The NSB had over Rs. 30 billion in assets as of June 1992, most of which is in government securities and on which it earned a return of 15% (2.81% real) in 1991. The ICOSL is the largest of the five insurance companies operating in Sri Lanka with assets at the end of 1991 of Rs. 5.7 billion invested in T-bills and equities of public sector enterprises. In December 1992 ICOSL was converted into a company operating under the Companies Act with a view to being privatized by December 1993. *PFDP Report*, pp. 15-16. The real rates of return are based upon the December-December change in the Colombo price index. See Central Bank of Sri Lanka, *Annual Report 1992*, Table 23. The EPF paid a nominal rate of return of 11.5% again in 1992, which was a positive return of one-tenth of 1%. Central Bank of Sri Lanka, *Annual Report: 1992, Part II*, p. XXVI and Table 23.

[64]For example, the *PFDP Report* describes investment of the some Rs. 46 billion in EPF assets:

> The funds are invested under the direction of the Monetary Board (MB). The investment policies are decided in consultation with the MOF. The MOF reviews the GOSL's requirements for budgetary financing, and requests the MB to invest specified amounts in government securities. Thus, the pressure to reduce interest costs and finance the government deficit has taken precedence over maximizing the return to employees covered under the EPF. *Consequently, the EPF has reported negative real returns to its members over the past few years.* (Emphasis supplied) *PFDP Report*, p. 15.

The July 1992 *Fifth Interim Report of the Presidential Commission on Finance and Banking* (the "*Fifth Interim Report*") described the problem as follows:

> 10. The financial management of the EPF is characterised by low rates of return on the EPF investments, with average yields being below not merely yields in the market but even below

specifically, is that the absence of long term treasury securities has created a mismatching of short-term assets with long-term liabilities, resulting in an unstable financial structure.

As the Lucas Report points out, the current system constitutes nothing less than a hidden tax that falls heavily on a broad segment of the population. Most of these individuals are presumably of modest means, which would cause the tax to be highly regressive.[65] The Lucas Report recommends reducing or eliminating the limitations on the investment practices of captive investors with respect to all government securities and adopting a set of fiduciary standards for such institutions that would require them to maximize returns in a manner consistent with normal standards of safety and prudence.[66] According to the PFDP Report, the MOF agrees; its position on the future of the captive investors is that:

i. they should continue to operate as institutions geared to fulfilling their declared objectives;

ii. they should be a provider of investment funds to the private sector to the extent consistent with their roles;

iii. their charters should be amended to given them more autonomy; and

iv. the institutions should separately develop investment guidelines and portfolio management skills to better fulfill their objectives.[67]

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those obtainable on fixed deposits with the NSB or those earned by some of the older private provident funds which continue to exist. In many years, given the rates of inflation that have prevailed, the real interest rates paid on members' balances have been negative. The principal reason for these poor returns is that the EPF is treated as a captive source of funds to meet government deficits. The investment policies of the EPF are decided by the Monetary Board of the Central Bank in consultation with the Ministry of Finance. While, in terms of the EPF Act, investments have to be "in such securities as the Board may consider fit...", they have in practice been limited to investments in Treasury bills and government securities. The Ministry of Finance, taking into account its estimates of the Government's budgetary financing requirements, requests the EPF department of the Central Bank to invest specified amounts in Treasury bills and government securities. These investments are made at the time of primary issues of government securities and Treasury bills, subject to ceilings on the amounts invested in the latter which carry relatively higher rates of interest.

....

16. Unlike the EPF, there is no separation in the ETF of administration and the management of financial resources. However, like the EPF, the ETF is also treated as a captive source of funds for the Government despite the fact that, in principle, the ETF Board is autonomous (although consisting largely of members appointed by the Government). .... *Fifth Interim Report*, pp.39-41.

[65] *Lucas Report*, p. 4.

[66] Id. pp. 4-5.

[67] *PFDP Report*, Annex 11 p. 91.

Also, GOSL has committed itself to investing EPF and ETF funds in non-government securities, at least equal to 5% of monthly inflows in 1993, increasing to 10% by June 1995. The NSB has already begun diversifying its investments and the target is 10% of assets by the end of 1993.[68] These commitments, particularly for EPF/ETF, seem extremely modest. Since the combined EPF/ETF portfolio was about Rs. 52 billion at 1992 year-end and monthly inflows are currently about Rs. 700 million, this would mean that only .7% of the funds assets will be affected by the end of this year. Even if the GOSL jumps immediately from its 5% commitment to 10% in January 1994, by June 1995 it still will have committed only 1.6% of fund assets to non-government securities.

The EPF is the largest of the captive investors. The Employees' Provident Fund Act, No. 15 of 1958, places responsibility for investing its funds in the Monetary Board of the Central Bank, which has the authority to invest those funds as it sees fit.[69] To meet the GOSL's targets and to start down the path toward professional management of the EPF portfolio in the best interest of the EPF beneficiaries, the Monetary Board should affirmatively assert its control over EPF's investment decisions, rather than allowing the Treasury to make them.[70] It should do this, *first*, by promptly adopting a short range plan that will assure that the minimal PFDP targets to which GOSL has committed are met on or prior to schedule, *second*, by adopting a set of fiduciary standards of the type suggested in the Lucas Report that will require the EPF portfolio to be managed to maximize returns consistent with normal standards of safety and prudence, and, *third*, by promulgating a set of general investment guidelines for the portfolio that are consistent with these fiduciary standards and that have monitorable goals. The Monetary Board should not, however, involve itself in the day-to-day management of the EPF portfolio, but should delegate the management to qualified personnel within or outside of the Central Bank. Further, it should require a built-in, formal reporting mechanism, such as an annual or semi-annual report to the Board, that monitors progress toward competent and professional management of the EPF profolio.

Comparable actions should be taken by the other captive investors to assure professional management of their portfolios in the best interests of their beneficiaries.

These changes will require that the captive investors have access to portfolio management expertise. Lucas suggests either providing technical support to in-house investment managers or creating a government investment corporation, as has been done

[68]Id., p. 24 and Annex 2, p. 47.

[69] "The Monetary Board -- ... (c) shall have custody of the moneys of the Fund; ...
(e) may invest such of the moneys of the Fund as are not immediately required for the purposes of the Act in such securities as the Board may consider fit and may sell such securities ...." Employees' Provident Fund Act, No. 15 of 1958, Section 5.

[70]It may be advisable at some point to make structural changes that would divest the Monetary Board from its formal responsibility for investing EPF funds, as was suggested by the Presidential Commission on Finance and Banking. See *Fifth Interim Report*, pp.iv and viii. There is no reason to wait for this restructuring, however, since much can be done within the present system to assure that the EPF portfolio is professionally managed in the best interests of its beneficiaries.

in Singapore where provident fund sources are consolidated and managed in the Government Investment Corporation by a staff that was trained by consultants from abroad.[71] The advantage to the latter is an ability to concentrate available expertise and perhaps achieve some economies of scale, although that may forego the benefits of having separate fund managers for each of the major investors competing against each other. Either one or a combination of these approaches could be used, and there are still other options. One would be for each fund to select two or more private funds managers, perhaps some in Sri Lanka and others from outside and shift the portfolio toward those who demonstrate their capabilities through actual performance. The ETF, for example, has recently decided to appoint three fund managers to manage portfolios of Rs. 100 million each.[72] The PFDP includes terms of reference for a consulting firm to assist in developing portfolio management expertise for the captive investors. This is being carried out through a training program in Colombo that prepares its participants for the Certified Financial Analysts (CFA) examinations. In line with our Recommendation 1, the Central Bank should immediately enroll qualified personnel from the EPF Department in the USAID training program for Certified Financial Analysts (CFA). The other captive investors should do so as well. Even if funds management is ultimately performed by contract managers it is important to develop the in-house expertise necessary to select, direct, compensate, and evaluate outside managers.

Our recommendations are as follows:

23. The Treasury's administrative practice of constraining the investment of EPF funds and those of other captive investors must be eliminated as soon as practically possible. The Monetary Board should promptly adopt a plan that will assure that at least 5% of EPF inflows are being invested in non-government securities by the end of 1993, and at least 10% by June 1995. The EPF Department of the Central Bank should immediately begin submitting competitive bids at the Treasury auctions.

24. The Monetary Board should promptly adopt a set of fiduciary standards that will require the EPF portfolio to be managed to maximize returns in a manner consistent with normal standards of safety and prudence. The Monetary Board should promulgate broad guidelines for the investment of the portfolio consistent with and to implement these fiduciary standards. It should then begin delegating the day-to-day managment of the portfolio to professional, independent fund managers, and/or to trained personnel within the EPF Department of the Central Bank, monitoring these managers and personnel to assure that management of the portfolio is being carried out within the Board's guidelines.

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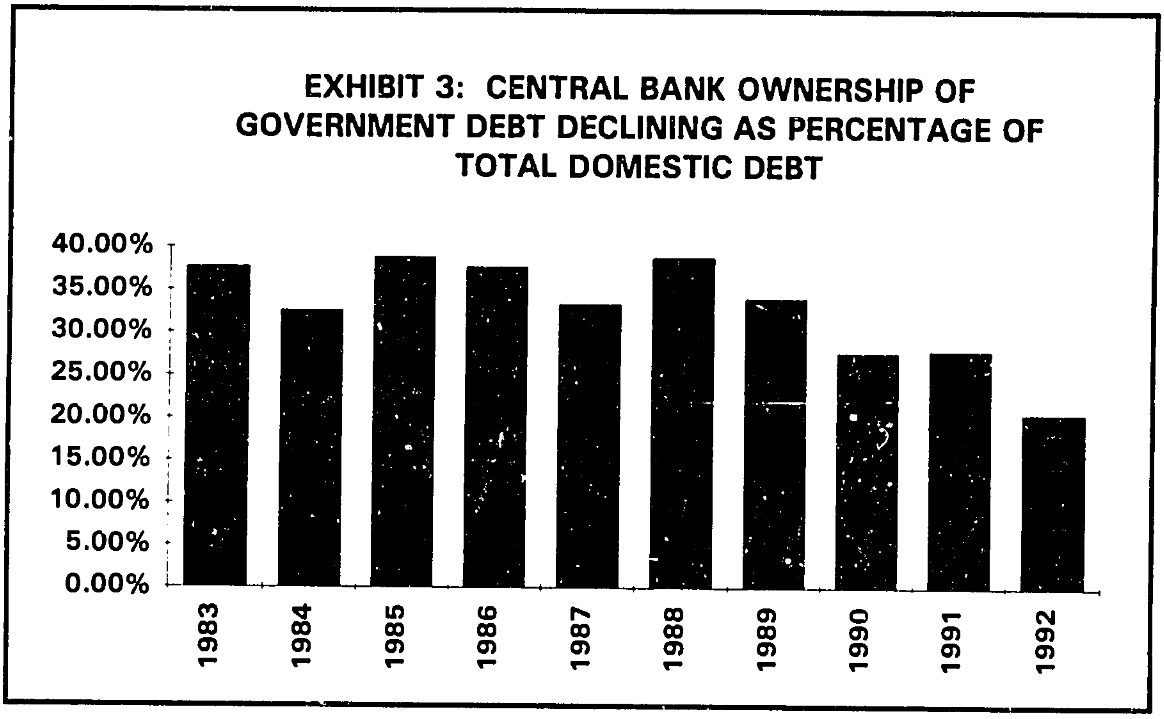
[71] *Lucas Report*, p. 5.
[72] *PFDP Report*, p. 15

25. The other captive investors should adopt comparable fiduciary standards, investment guidelines, and any other necessary plans and arrangements that will result in completely independent investment programs within 5 years.

Task 7: Commence Proactive Open Market Operations in the Central Bank

The Central Bank does not presently engage in proactive open market operations. This has not prevented it from making substantial progress on the dynamic aspects of monetary policy--actions to control (restrain) the growth of money supply. In 1992 the growth of M_1 rose by only 7.3%, compared with 18% in 1991, while M_2 expanded by 16.6%, compared with 23% in 1992.[73] This restraint is reflected in the Central Bank's declining relative inventory of government securities as shown in Exhibit 3[74], below, and has been greatly helped by budgetary restraint. The government deficit was reduced from over 12% of GDP in 1988 to about 8% in 1992.[75]



If the Central Bank is going to actively engage in defensive monetary policy--daily facilitating interbank transfers by daily smoothing of the amount of cash--it must

[73]Central Bank of Sri Lanka, *Annual Report 1992*, p. 149 and Table 79.
[74]For data from which Exhibit 3 was prepared see Central Bank of Sri Lanka, *Annual Report 1992*, Table 72.
[75]Id., Tables 1 and 58.

establish a trading desk through which it can engage in proactive open market operations. The Central Bank has preliminary plans for such a desk and a number of the above recommendations should contribute to this effort. Task 1 emphasized the need for training Central Bank personnel in various areas, including the skills that will be required for an effective trading desk. Task 2 urged an overhaul of the primary dealer system to create a much smaller, but stronger and more active, dealer group through which a Central Bank desk can influence system liquidity. Task 3 discusses the electronic infrastructure necessary for the rapid, high volume trading of money market instruments necessary for effective intervention. Task 5 focused on the development of a vigorous repo market which would give the Central Bank a flexible and efficient tool for active open market operations.

We therefore recommend:

26. That the Central Bank develop a schedule for creating a trading desk in the Central Bank (see Recommendation 10), training personnel for it (see Recommendation 3), and establishing an effective system of approved dealers (see Recommendations 5-7) in order to commence open market operations by June 30, 1994.

Task 8: Begin Issuing/Trading Long Term Treasury and Private Debt Securities

The fact that the government does not issue longer term coupon securities is of widespread concern.[76] There are several types of damage caused by the government's reliance upon short-term T-bills. First, because short-term debt is continually rolled over at current short-term rates, it creates the maximum amount of interest cost volatility, exacerbating the already difficult task of projecting funding needs. Second, the concentration of debt issues in such a limited maturity range raises interest costs of the government which it might lower by issuing a broader range of maturities that more closely matches investors' maturity preferences. Third, the absence of longer-term securities leaves the debt securities market without a yield curve base off which to price private debt securities and thereby inhibits the development of this market. Fourth, the unavailability of long-term debt security investments in Sri Lanka may result in maturity mismatches in institutional portfolios. This is particularly true of institutions, such as the pension funds, which are required to hold most of their assets in the form of government securities.[77]

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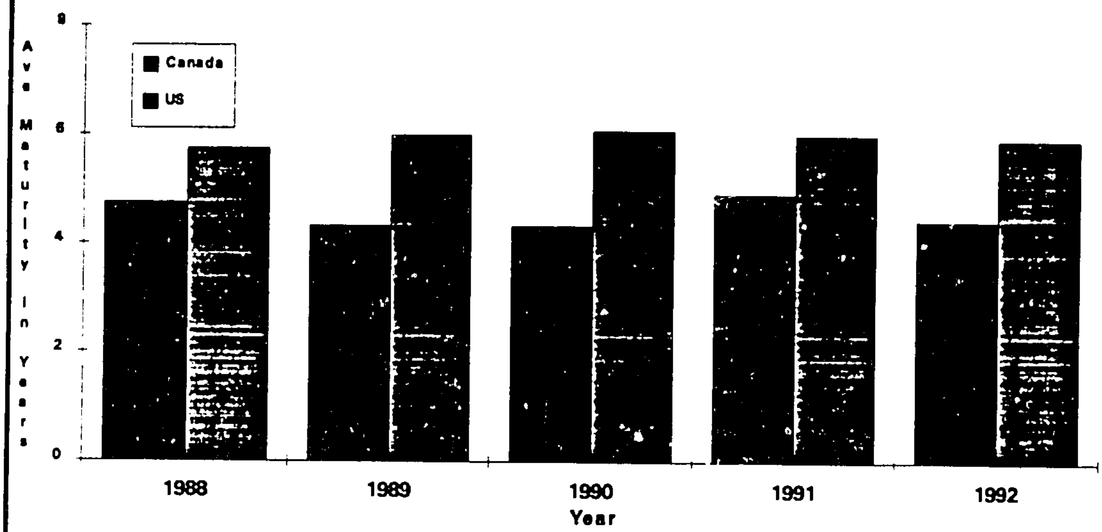
[76]E.g. see *Study*, *Vol. I*, p. 1; *Vol. III*, p. 8; *Lucas Report*, pp. 4,6,7; Conversations between the authors and Hannan Ezekiel (ISTI). This concern was expressed by a number of individuals in both the public and private sector during the authors' trip to Colombo, March 25 through April 5, 1993.

[77]See the discussion under Task 2, above.

We do not specify what Sri Lanka's maturity mix should be. It may be possible, however, to estimate medium and long term financing needs that should be funded with bonds of similar maturities, as opposed to short-term liquidity requirements that are appropriately met with T-bills. The maturity mix in developed economies shows wide divergence among countries and over time. Exhibit 4[78], below, shows the US and Canadian average maturity of privately held government securities over the past several years. Since 1988 Canada has averaged between 4 and 5 years with the US about 6 years. By contrast, the UK has an average maturity of around 11 years.[79] In the past 50 years the US figure has ranged from a high of 10 years 5 months in 1947 to a low of 2 years 5 months in 1975. The low average maturity in the mid-1970's alarmed both the central bank of the U.S. (the Federal Reserve or "Fed"), which feared loss of control of monetary policy, as well as the Treasury whose plans to sell additional debt to finance rising budget deficits were threatened by market congestion at the low end of the yield curve.[80]

EXHIBIT 4: AVERAGE MATURITY OF PRIVATELY HELD GOVERNMENT SECURITIES IN CANADA AND US: 1988-92



The Central Bank has already implemented the Lucas Report recommendation that T-bills be limited to a maximum of 1 year maturity. Under the PFDP, it has committed to increasing the maturity structure of its competitively priced debt securities in a manner that will result in at least Rs. 4 billion of competitively priced coupon securities, with maturities longer than one year, to be issued by July 1994 and Rs. 10 billion by January

[78]Exhibit 4 was prepared by MorBanc from statistics in Bank of Canada, *Bank of Canada Review: Winter 1992-1993* and Dept. of the Treasury, *Treasury Bulletin* (March 1993).
[79]Wann, *Inside the US Treasury Market*, p. 18 (1989)
[80]Id. p. 5

1996.[81] This seems a very modest commitment against the Rs. 152 billion in outstanding debt at the end of 1991.[82]

The legislative change necessary to auction coupon securities, described in Task 4, is simple and can be undertaken immediately. There are a number of models from which to draft an indenture and design an auction system. The Lucas Report recommends a quarterly cycle of coupon security auctions such that there is an outstanding coupon security which matures on each successive quarterly refunding date for the 10 years following the most recent auction.[83] Perhaps the most difficult obstacle in the way of successful issuance of longer term securities is the current lack of a secondary market. We believe, however, that the prior recommendations, by encouraging an active secondary market for T-bills, will prepare the market for trading the longer term securities.

We recommend the following:

27. That the Treasury and Central Bank, with assistance from the Debt Securities Advisers, design a Treasury coupon security, an auction procedure for primary sale of such securities, and a schedule for periodic issuance of coupon securities with maturities from 2 to 10 years.[84] In line with the GOSL's commitment to the World Bank, at the bare minimum at least Rs. 4 billion of these securities must be scheduled for issuance by July 1994, with an additional Rs. 6 billion to be issued by January 1996.

28. That the Treasury begin auctioning 2-year coupon treasuries as soon as practicable in order to meet this commitment to the World Bank, and then to begin a process of extending these maturities beyond two years, as contemplated by its obligations under the PFDP.

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[81]*PFDP Report*, p. 14. See also, Id. p. 39 and Annex 2, p. 46.
[82]Central Bank of Sri Lanka, *Annual Report 1991*, Table 70 (1992).
[83]Id. The terms of reference to which the *Lucas Report* responded referred specifically to the issuance of floating rate securities, but the *Lucas Report* states: "It is strongly recommended that all efforts be concentrated on development of conventional government securities market before introduction of special purpose issues." We interpret this as limiting Treasury bonds, at least initially, to fixed rate coupons. Floating rate securities do not overcome some of the principle concerns that would be addressed by fixed rate securities since they continually reprice in much the same manner as rolling short term debt.
[84]One example of a regular issuance schedule is the following, used by the U.S. Federal Reserve:

U.S. T-NOTE AND T-BOND AUCTION SCHEDULE

Security	Frequency	Announcement	Auction Date	Issue Date	Maturity Date
2-year/5-year	Monthly	Wed, week of 20th	Following Wed	Last calendar day of month	Last calendar day of month
7-year T-note	Quarterly	1st mon of qtr with 2-yr	Following Wed	15th of Jan, Apr, Jul, Oct	15th of Jan, Apr, Jul, Oct,
3 yr/10 yr/30 yr	Quarterly	1st Wed of mid-mon of qtr	Tues, Wed, Thur of week before settlement	15th of Feb, May, Aug, Nov	15th of Feb, May, Aug, Nov

Jones and Fabozzi, *The International Government Bond Markets*, p.31.

Task 9: Promote the Issuance and Trading of Private Debt Securities

Private debt securities include both money market instruments, such as commercial paper and banker acceptances, as well as asset-backed securities and the more conventional coupon bonds.[85] The Lucas Report did not discuss private securities, but we understand from conversations with the World Bank that it is vitally interested in this market.

The Financial Institutions Study does not deal with private securities in much depth,[86] but it does suggest two major impediments to their development. First is the artificially low cost of longer term debt. This is apparently due to the failure by the state-controlled banks (SCBs), Bank of Ceylon (BOC) and People's Bank (PB), to rationally price their lending risks[87] and to government-controlled non-bank lenders (e.g., the National Development Bank and the Development Financial Corporation of Ceylon) seeing themselves as instruments of development and not being required to issue financial statements that reflect their true condition.[88] The SCB's dominate Sri Lanka's banking community, though their market share is declining. Because of their government ownership they are prohibited from participating in the PFDP and a large portion of IDA's technical assistance funds are allocated to their restructuring.[89]

Second is the inadequacy of debt recovery legislation, under which a bank lender requires 3 to 10 years to gain control over assets.[90] Although debt recovery legislation

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[85]Asset-backed securities, which involve the "securitization" of various kinds of cash flow assets can be expected to be a large part of the private securities market.

> "One of the most important financial innovations of our times is the securitization of assets. It has far reaching implications for finance not only in North America but worldwide. Securitization involves taking an illiquid asset, such as a residential mortgage, packaging it into a pool of like assets, and then issuing securities backed by the pool. An illiquid asset thereby is transformed into a capital market instrument.... Investors are protected against credit losses by the separate legal entity of the asset pool, together with a host of credit enhancement devices including guarantees, overcollateralization, reserve accounts, and recourse arrangements.

Van Horne, "Changing World and Asian Financial Markets, in Rhee and Chang, *Pacific-Basin Capital Markets Research*, p. 70-71. We understand that an asset-backed security representing interests in a pool of leases may be issued in Sri Lanka sometime this summer. Authors' interview with Manohan Nanayakkara on March 30, 1993. The benefits of such innovations in the debt securities markets are apparently becoming recognized in Sri Lanka. See, e.g., V.M. Fernando, "Financial Innovations: The Experience of Sri Lanka", *The Island*, April 25, 1993.

[86]*Study*, *Vol. I*, p. 23, *Vol. III*, pp. 3, 49, 55, 59, 63, 67.

[87] A recently completed external audit of the financial condition of PB and BOC revealed that both institutions incurred large operating losses and. as of December 1991, were technically bankrupt. A capital infusion of more than Rs. 24 billion is required to recapitalize these banks to internationally accepted (BIS) standards... The banks, in effect, are being used to funnel off-budget subsidies to the sectors of the economy that are commercially non-viable. *PFDP Report*, p. 19

[88]*Study*, *Vol. III*, p. 48, 59

[89]*PFDP Report*, Annex 2, p. 45; Annex 7, pp. 66-71.

[90]Id., p. 58

was strengthened by amendments enacted in March 1990, the laws are still too weak, particularly with respect to the execution of writs, which was not affected by the amendments at all.[91] More recently, a committee to examine the debt recovery law and procedure was appointed by the Cabinet Subcommittee on Monetary Affairs. This committee submitted its recommendations in October 1992 and new legislation is expected by August 1993. Until additional effective reforms are made this will remain an impediment to the bond market as well. Whether the lender be a bank or a bondholder, you cannot have efficient debt markets of any kind unless and until lenders are able efficiently to recover pledged collateral of bankrupt borrowers. The PFDP is supporting debt recovery reform with technical assistance from the IDA.[92]

We consider the development of a private debt securities market to be of the highest concern.[93] The considerable work outlined in this report to establish a viable government securities market contributes also to the development of non-government bond issues. Some additional steps can be taken, however, to directly promote the issuance and trading of corporate and asset-backed securities. We recommend the following:

29. That the Debt Securities Advisers survey potential issuers and underwriters of private debt securities to determine what impediments there may be to developing this market and prepare a set of recommendations for overcoming those obstacles.

WHAT IS REQUIRED

Together, the 29 recommendations constitute a highly complex undertaking. Exhibit 5, below, provides a schematic overview of this undertaking, showing the institutions or entities who must act, the key tasks or developments that must be accomplished, and the array of goals to be reached.

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[91] Amendments to the debt recovery laws were proposed by a Committee on Debt Recovery, appointed by the Ministry of Justice in January 1985. The committee issued its report, along with proposed legislation in July 1985. The legislation passed in March 1990 was based upon the committee's recommendations, but was significantly weakened in committee. NU Jayawardena, "Some Aspects of Credit and Financial Markets in Sri Lanka" (Address before the Royal Asiatic Society on November 30, 1992). Most recently, a committee to examine the debt recovery law and procedure was appointed by the Cabinet Subcommittee on Monetary Affairs. This committee, chaired by Mr. Herat, submitted its recommendations on October 19, 1992 and new legislation is expected by August 1993. *PFDP Report*, p. 20.

[92] See *PFDP Report*, pp. 20, Annex 2, p. 48,.

[93] The potential importance of a debt securities market to any economy is suggested by its importance to the U.S. economy, where the amount of corporate bonds outstanding ($1.7 trillion) is almost equal to the total amount of bank loans ($1.8 trillion, excluding interbank loans). Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin*, pp. A29, A42 (March 1993).

EXHIBIT 5: KEY TASKS, DEVELOPMENTS AND GOALS

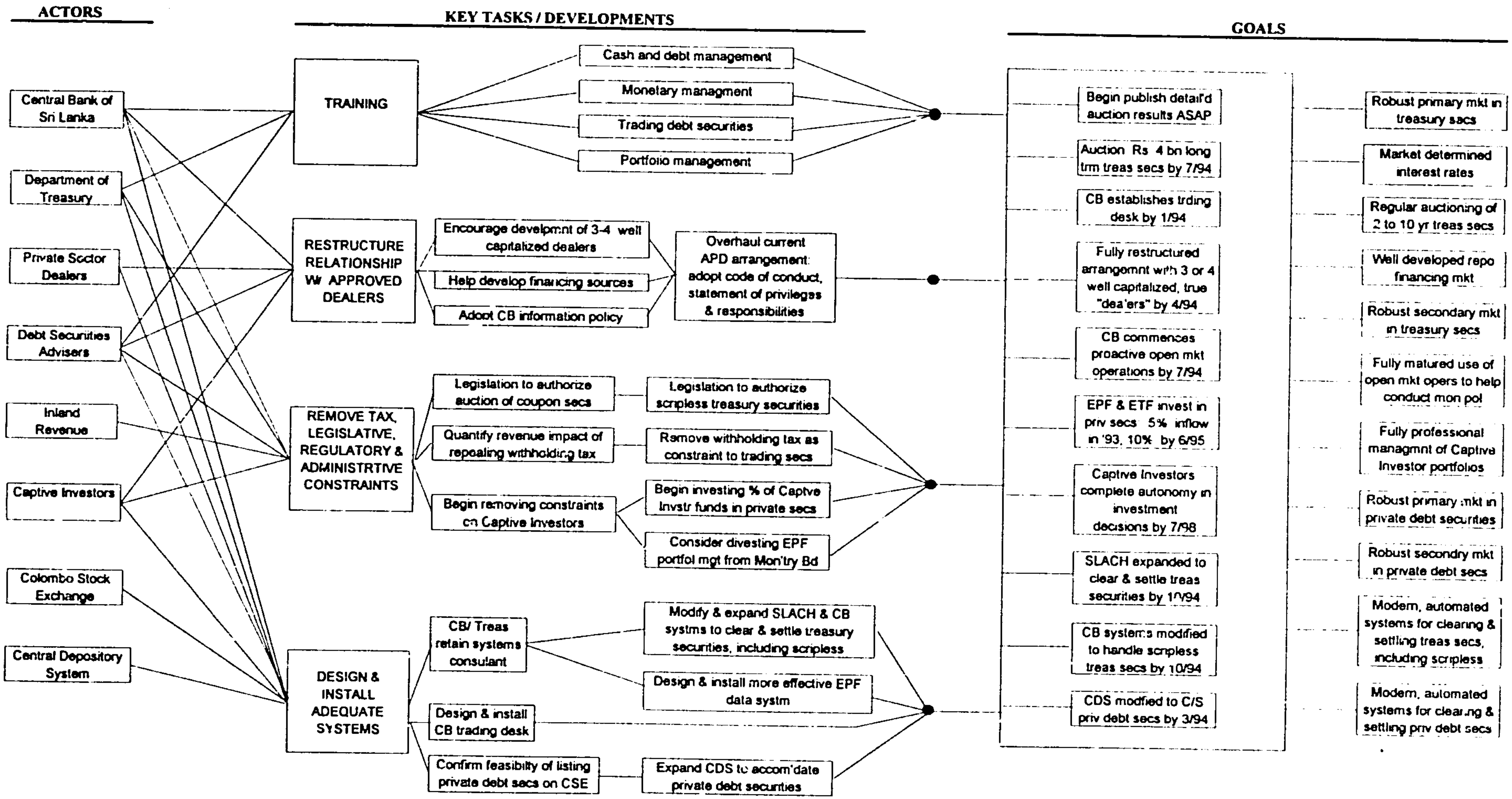
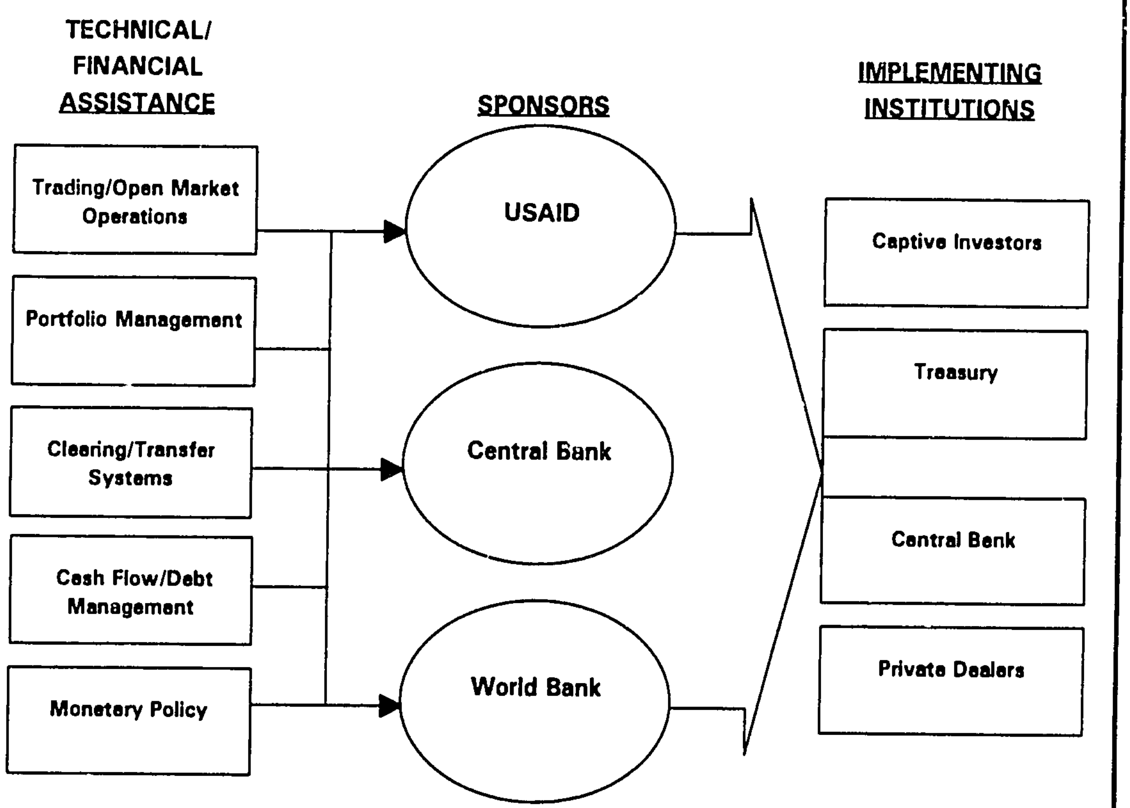


Exhibit 6, below, diagrams in a different manner the three things needed to accomplish this complex undertaking. First, is technical assistance in five different areas: Trading/open market operations, portfolio management, clearing/transfer systems, cash flow/debt management, and monetary policy.

EXHIBIT 6: COORDINATION OF RESOURCES



Second, are sponsors able and willing to provide financial assistance. The resources required are likely to exceed USAID's commitment to the Financial Markets Project and help will therefore be required by the Central Bank, and the World Bank. Third, and perhaps most important, is the active and willing participation of the affected institutions which must actually implement the necessary reforms.

IMPLEMENTING ORGANIZATION

The most critical requirement of this project, without which it will certainly fail, is the willingness of the affected institutions--the Central Bank, the Treasury, the captive investors, and several private dealers--to commit to the substantial changes in their structure, philosophy, and operational management necessary to establish an efficient debt securities market. In some cases, this willingness has already been signaled; some of our recommendations have been embraced in whole or in part by commitments made by the GOSL in the context of the PFDP. Many of the recommendations, however, deal with areas in which there has been no explicit acknowledgment that change is needed or there has been demonstrated resistance to the kind of action we propose.

One of the working principles set forth at the beginning of this report is that change cannot be imposed from the outside of an organization. The process must actively involve those individuals who will ultimately be responsible for administering those changes within the affected institution. At the same time, it is important that there be an organizational focus to the effort as a whole, along with some forum in which coordination among the various affected parties can take place. Since so much of what is being recommended affects the Central Bank, it is the appropriate organization to take the leadership role. It has already created a task force for the explicit purpose of instituting reforms to modernize the treasury security markets. The entire job will involve agencies and private firms outside the Central Bank--Treasury, the SEC, private dealers, CSE, CDS, among others--but we believe the Central Bank could accommodate the concerns of these various groups through its existing task force and we urge it to make that forum available to all affected parties upon reasonable request.

WHO PAYS FOR WHAT

It is not yet possible to quantify with any precision the cost of carrying out this project, and because of this we do not include a proposed budget as part of this report. One major cost item which we assumed would have to be undertaken almost immediately, may not be necessary. This was either an additional computer system, or a substantial upgrade to an existing system, for the purpose of accommodating an adequate clearing and transfer mechanism. Additional research is still necessary, but the SLACH system as it is currently being upgraded may have sufficient capacity to accommodate "next day" clearing of government securities without additional hardware and only modest software changes.[94] Also, the CDS system, after completion of the budgeted upgrade, should be robust enough to handle clearing of private debt securities and require only moderate software changes.[95]

Substantial hardware and software investment will be required, however, to provide the Central Bank with adequate capabilities in three areas. One is trading. A desk for open market operations will require several trading stations with pricing screens, such as

[94]Conversation between the authors, S.N. Fernando, Manager/SLACH, and Justin Wickremasinghe, Senior Operations Manager/SLACH on March 30, 1993, and between the authors, P. Amarasinghe, Executive Director, S.N. Fernando, and S.S. Colombage, Director of Data Processing, on June 28, 1993. It should be noted that clearing government securities was not discussed at this meeting in detail, and several issues concerning timeliness and delivery-versus-payment (DVP) safeguards must be researched before we can confirm that the upgraded SLACH system will be adequate.

[95]Various conversations with Satyajit Seneviratne, CSE Systems Analyst and Bill Gorman, USAID consultant, March 29-April 3, 1993.

Reuters, computational hardware and software for security analysis, and access to informational databases. Two, is communications. The various departments of the Central Bank and the Treasury should be linked in some type of local area network with dispersed access to centralized databases. Three, is EPF data-processing. While EPF administration lies outside the Financial Markets Project, the demands placed by it on the Central Bank's systems and the impact that its funds flows have on the fixed income markets require that it be considered in any overview of the Central Banks systems and fiscal operations.

In addition to electronic media, the other principal cost will be training. This will not be cheap. We believe that the success of the project is dependent upon how effectively it can provide training to a critical mass of individuals in the Central Bank, the Treasury, and the dealer community. This will require considerable care in developing the training programs and substantial funding to carry them out. We have said in Task 1 that inadequate training may be worse than none at all. Proper training will require a highly structured core curriculum, periodic visits to Colombo of talented professionals for periods of several weeks at a time, and international travel by the trainees to allow them to observe other central bank and dealer operations. The initial design and funding should be undertaken with a view to institutionalizing it, probably in the Central Bank, as an ongoing part of that agency's operations.

The following is a breakdown of the technical assistance pledged to the PFDP by IDA and USAID:

TECHNICAL ASSISTANCE	USAID (US$ '000)	IDA (US$ '000)
PCI Training		$500
Strengthen bank supervision/restructure state banks/improve debt recovery		$1,400
Clearing/settlement of debt securities	$843	
Dealer/investor training	$124	
Develop long-term Treasury market	$222	$500
Strengthen CSE regulation	$547	
Develop portfolio management capacity for EPF, ETF, NSB, and ICSL	$395	
Accounting and auditing	$711	$100
CFA program & other activities	$2,244	
Program management/evaluation	$1,289	
Contingency (15%)	$625	
TOTAL	$7,000	$2,500

The GOSL and the Central Bank will obviously need to contribute significant resources to assure the success of this project to the extent that these resources are not provided by IDA, USAID or other international donors. For example, the GOSL and the Central Bank may have to accommodate clearing/transfer of government securities within

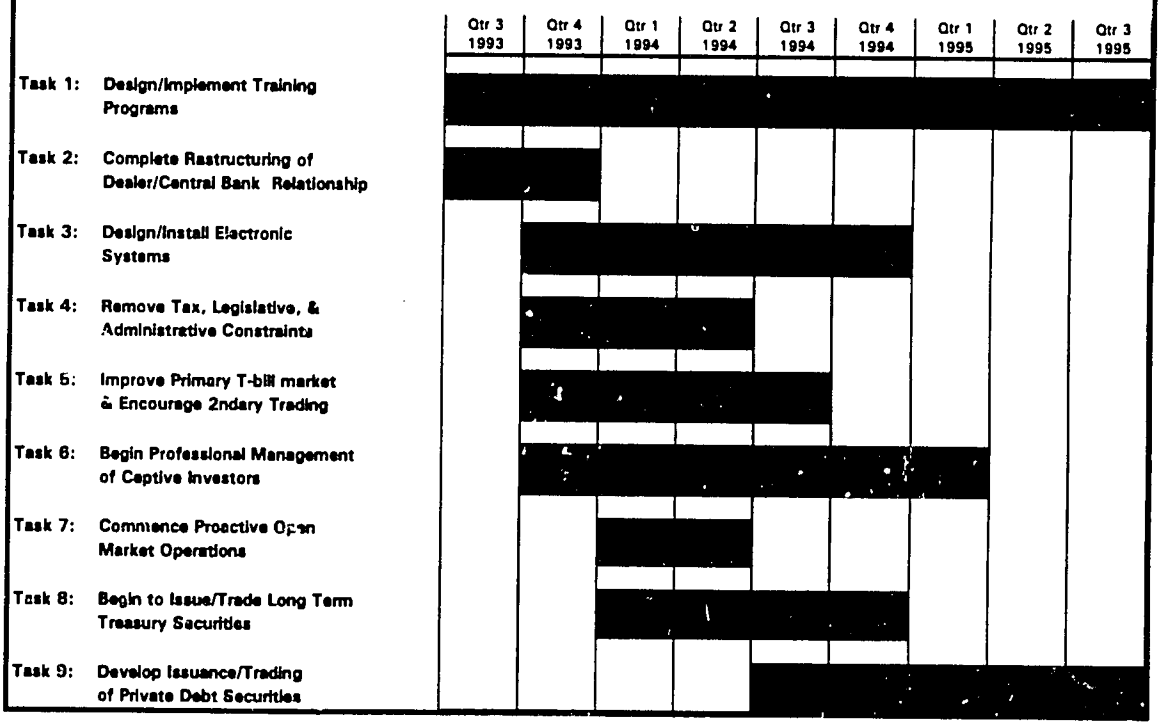
SLACH and the Central Bank main frame computer systems, while co-sponsoring technical training in portfolio management with USAID, on the one hand, and co-sponsoring technical training in monetary policy, trading, and open market operations with the World Bank, on the other.

TIMING

We have said that markets are by their nature interdependent. If one part is not in place or is in some way dysfunctional, it not only degrades the functioning of every other part, it may keep the entire structure from working at all. At the same time, with a problem of this size and complexity, it is not possible to attack every aspect of it simultaneously. This makes the sequencing of tasks especially difficult and quite crucial to the success of the undertaking.

Exhibit 7, below, summarizes our suggested time frame, a more detailed version of which is given in the Gantt chart in Appendix A. In it we have adhered to our working

EXHIBIT 7: SUMMARY TIME FRAME



principles, which require starting with reform of the short end of the government market (T-bills) and working toward the issuance of longer term government securities and privately issued bonds. Those individuals who are or will be responsible for administering the reforms undertaken at the Central Bank, the Treasury, the captive investors, and the APDs must be part of designing and implementing those changes.

CONCLUSION

We commend the World Bank. The Financial Institutions Study, the Lucas Report, and the PFDP Report have substantiated the critical need for development of Sri Lanka's debt securities markets and defined the essential elements of change. To actually bring about that change will now require three things. First, the dedication of individuals with expertise in debt securities markets so exemplified by the efforts of Charles Lucas over the past 15 years. Second, the financial resources of USAID, the World Bank, and the Central Bank. Third, a willingness--no, more--an eagerness, on the part of Sri Lanka's financial institutions to lead their country in creating a robust, market-driven debt securities market which will become the foundation of both the private and public capital markets for decades to come.[96]

We commend the Central Bank. After our meetings with its top management, both as a group and with their individual departments, we are impressed with the reforms they have instituted over the past year and their willingness to continue moving forward. The commitment of the Central Bank's management to bringing about real change, and their constancy in pursuing this objective, are the most essential ingredients to creating a new era in Sri Lankan financial markets.

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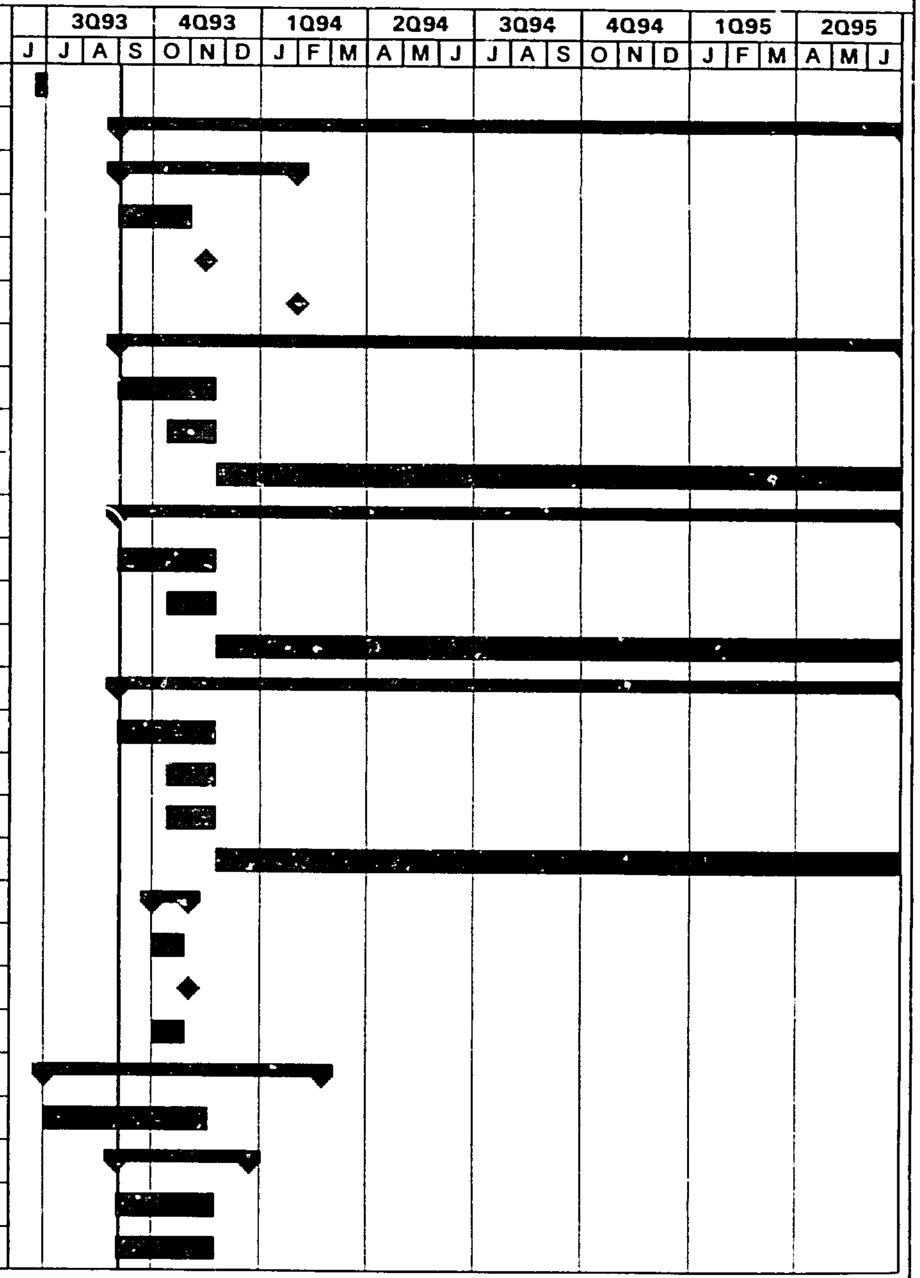
[96] D.B. Wijetunge has certainly indicated a willingness to provide whatever support the GOSL can to development of Sri Lanka's capital markets.

> [T]he ability of the capital market to channel savings into investment will become of overriding importance to the economy's future. I can assure you that the government is keen to develop an environment conducive to achieving this goal and will always be willing to provide the necessary support.

Speech delivered at the Regional Conference of Emerging Securities Markets of South and South East Asia in Colombo, September 30-October 3, 1992.

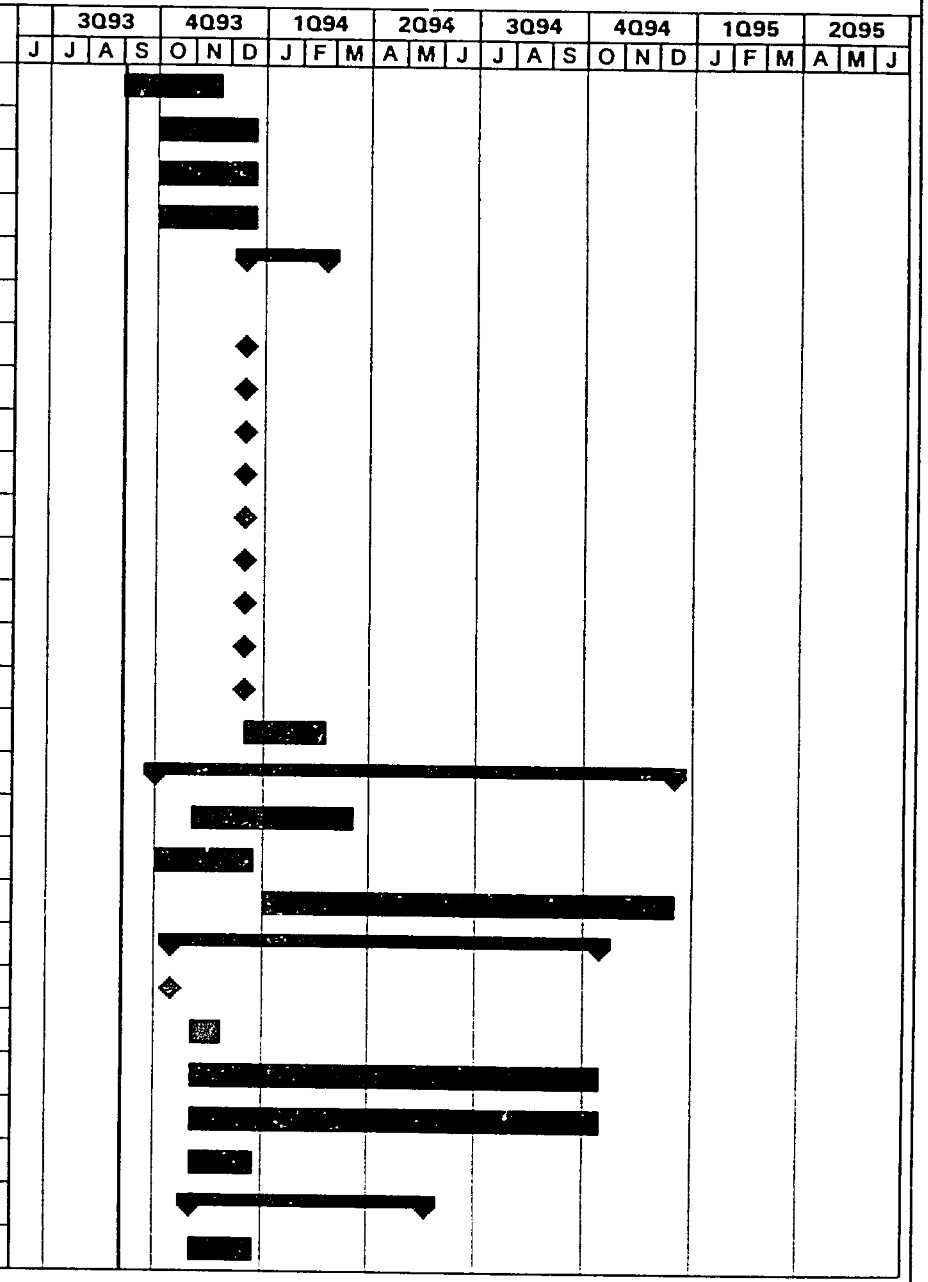
APPENDIX A

ID	Name
1	APPOINT DEBT SECURITIES TASK FORCE WITHIN CENTRAL BANK
2	TASK 1: ESTABLISH TRAINING PROGRAMS FOR CB & TREASURY PERSONNEL
3	Establish overview and training programs for CB senior and middle managers
4	Design overview & training programs covering: financial mkts, trading, portfolio mgt
5	Begin ongoing training program for CB middle managers
6	Begin executive sessions for CB senior officials
7	Establish CB training program in cash management and debt management
8	Design training program
9	Designate personnel to be trained
10	Implement training
11	Establish CB training program in monetary policy
12	Design training program
13	Designate personnel to be trained
14	Implement training
15	Professional training for debt security traders in trading/open mkt operations
16	Design training program
17	Designate CB personnel to be trained
18	Primary dealers also designate personnel to attend training
19	Implement training
20	Training in portfolio management, using USAID CFA program or others
21	CB designates EPF Dept personnel to be trained, contacts CFA program
22	Enroll qualified CB personnel in CFA or other training
23	ETF, NSB & ICOSL similarly designate & enroll qualified personnel in CFA program
24	TASK 2: ESTAB. WORKING RELATIONSHIP BETWEEN CB & PRIVATE MKT MKRS
25	CB & DSA investigate discount houses & other dealer models
26	CB designs & undertakes dealer development plan
27	Indentify private parties willing/able to take positions, make mkt, etc.
28	Research capital and financing sources for dealers, including developing repos



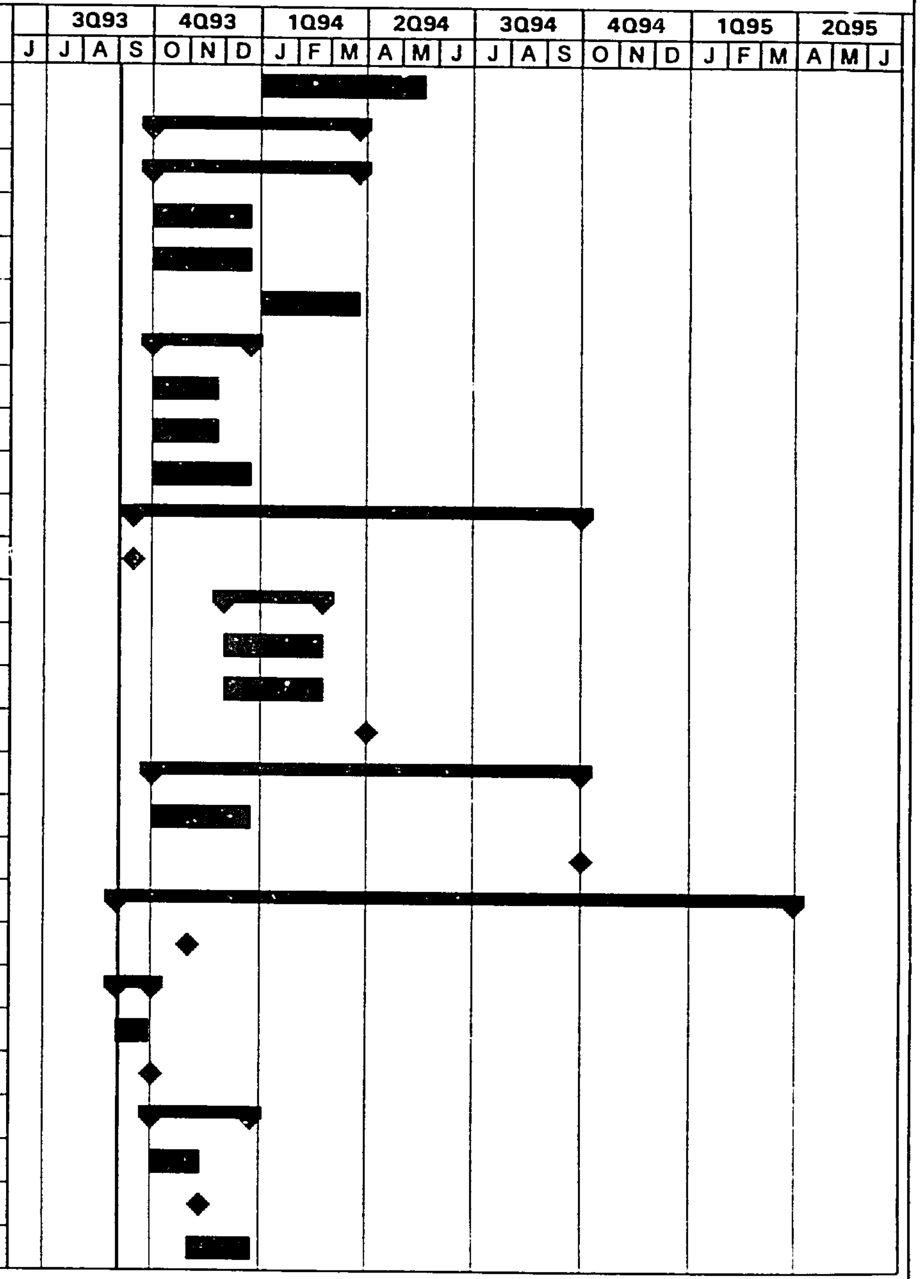
APPENDIX A

ID	Name
29	Investigate use of clearing accounts for non-bank dealers
30	Develop information exchange policy between CB & dealers
31	Develop code of conduct/statement of privileges/responsibilities for approved dealers
32	Design other terms of restructured deal between CB & approved dealers
33	Establish arrangement between CB & strong group of private dealers
34	CB announces terms of new arrangement with approved dealers
35	Limit amounts an approved dealer can purchase at one auction
36	Each dealer to bid specified minimum, etc., to retain status
37	Estab. code of conduct/statement of privileges/responsibilities for approved dealer
38	Establish clearing accts for non-bank dealers
39	All primary, 2ndary & financing operations conducted thru approved dealers
40	Govt & semi-govt agencies directed to bid thru approved dealers
41	Non-competitive. tenders limited to Rs. 1 million, one per bidder
42	CB adopts explicit information policy
43	Establish gen'l responsiblity of approved dealers to provide mkt info daily to CB
44	CB signs up new group of dealers willing to accept new arrangmnt
45	TASK 3: DESIGN & INSTALL ADEQUATE SYSTEMS IN CB & TREASURY
46	CB & Treasury retain systems consultant to study overall info needs and computer applicati
47	CB completes its design & installation of trading desk
48	CB redesigns & installs more effective EPF data system
49	Expand CB/SLACH systems to accomodate c/s of debt secs, scripless secs, etc.
50	CB retains technical assistance to advise it on this project
51	Send CB/SLACH personnel to Singapore to study c/s systems there
52	Design & install SLACH modification/expansion to clear/settle govt secs
53	Design & install CB modification/expansion to handle scripless govt secs
54	Debt Sec Advisors confirm feasibility of listing & trading priv debt secs on CSE
55	Expansion of CDS to handle c/s of private debt secs
56	Debt Sec Advisors & CDS study expanding CDS to accommodate private debt secs



APPENDIX A

ID	Name
57	Implement c/s of priv debt secs on CDS
58	TASK 4: REMOVE TAX, LEGISLATIVE, REGULATORY & ADMINISTRATIVE CONSTRAINTS
59	Remove withholding tax from debt securities
60	Consider alternative to repeal
61	CB & Treas quantify revenue impact
62	Remove the tax from debt securities
63	Enact legislation related to issuance of govt securities
64	Enact legislation to authorize auctioning of coupon treasury securities
65	Enact legislation to remove needless procedural requirements in issuing govt secs
66	Enact legislation to authorize scripless treasury securities
67	TASK 5: IMPROVE PRIMARY T-BILL MKT; ENCOURAGE SECONDARY TRADING
68	CB begins providing detailed auction results to public
69	CB establishes and begins operating CB trading desk
70	Commence operations
71	Start daily communication with selected dealers
72	CB begins restricting use of secondary window to monetary policy operations
73	CB encourages development of repos
74	Prepare model documentation
75	Begin providing rapid transfer & clearing though SLACH
76	TASK 6: BEGIN PROFESSIONAL MANAGEMENT OF CAPTIVE INVESTOR PORTFOLIOS
77	CB's EPF Dept begins submitting competitive bids at Treasury auctions
78	Meet PFDP commitments to invest in non-govt securities
79	CB prepares plan for meeting the commitment
80	Monetary Bd adopts plan for meeting the commitment
81	Adopt fiduciary standards and guidelines for managing EPF investments
82	Draft set of fiduciary standards for EPF
83	Monetary Bd adopts the fiduciary standards
84	Draft guidelines for managing EPF investments



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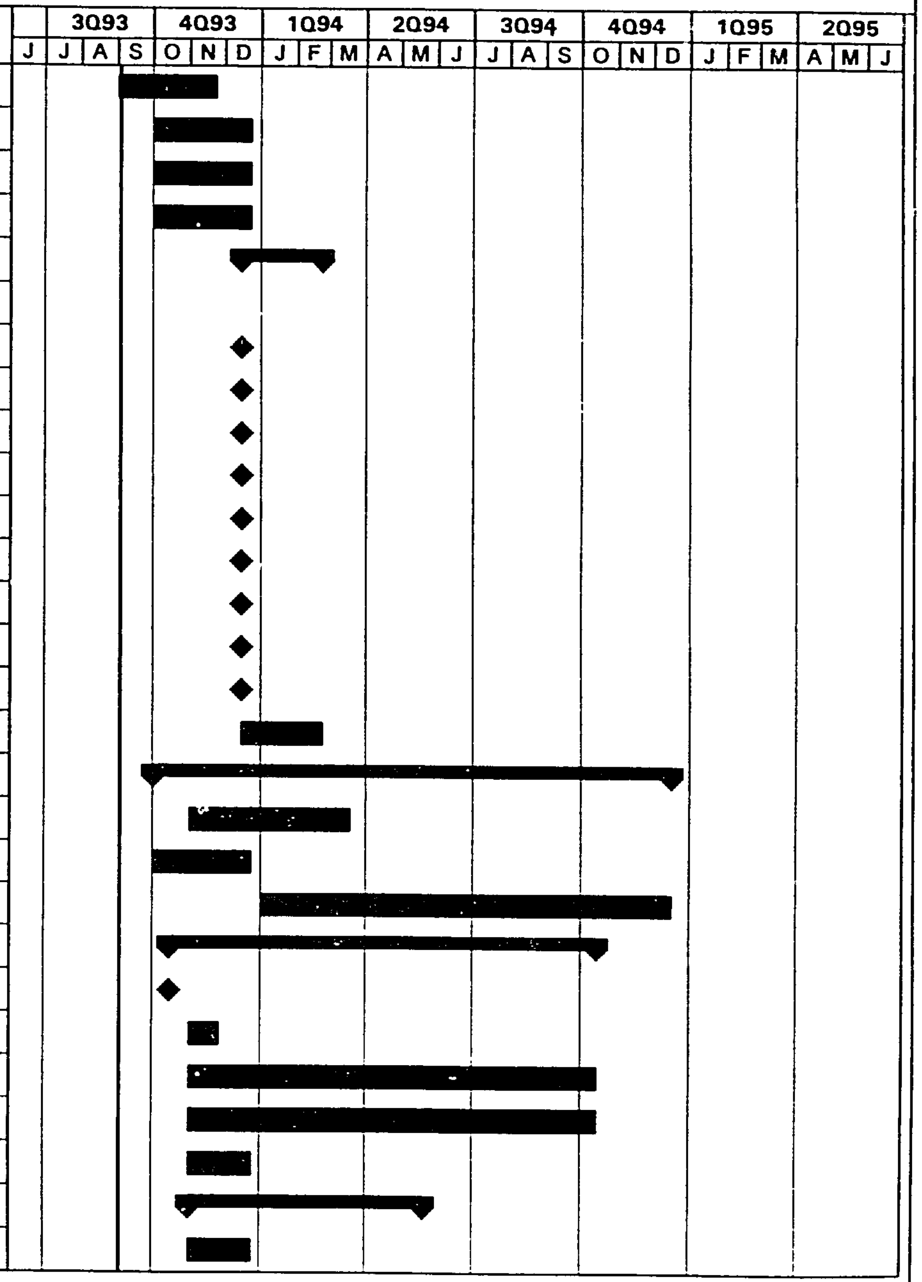

APPENDIX B

LIST OF PEOPLE INTERVIEWED IN COLOMBO OR LONDON

Name	Title	Organization	Date(s) of Interview
Ahangama, Srilal	Group Finance Director	The Maharaja Organization Ltd.	6/28/93
Amarasinghe, P.	Executive Director	Central Bank of Sri Lanka	6/28/93
Atukorala, A.W.	Assistant General Manager, Credit	ANZ Grindlays Bank	6/25/93
Blunden, George	Chief Executive	Union Discount Company of London, plc	7/5/93
Boulton, Paul	Assistant Director	Gerrard & National Ltd.	7/5/93
Boyagoda, Mangala	Manager	Keells T & R Ltd.	3/29/93, 6/17/93, 6/27/93
Colombage, S.S.	Director Data Processing	Central Bank of Sri Lanka	6/28/93
Cossey, Geoffrey	Director	S.G. Warburg Securities	7/6/93
De Silva, A.	Economic Research Dept	Central Bank of Sri Lanka	6/29/93
de Silva, Charitha P.	Chairman	Lanka Orix Leasing Co. Ltd.	3/29/93
De Silva, G.M.P.D.	Executive Director	Central Bank of Sri Lanka	6/28/93
deSilva, Deyani	Advisor - Fiscal Policy	Ministry of Finance	6/21/93, 7/2/93
Devasurendra, Ajith	Managing Director	MB Financial Services (Pvt) Ltd.	6/16/93, 6/17/93
Dissanayake, M.B.	Chief Accountant	Central Bank of Sri Lanka	6/29/93
Ellepola, H.M.R.	Executive Director	Central Bank of Sri Lanka	6/24/93, 7/1/93
Ezekiel, Hannan	Senior Associate	Intern'l Science & Technology Institute	2/10/93
Faire, Henry	Director	S.G. Warburg Securities	7/6/93
Fernando, Ajith	Assistant Vice President	Vanik Incorporation Ltd.	6/18/93
Fernando, Nayeni	Manager	Sri Lanka Automated Clearing House	3/30/93, 6/28/93
Fernando, S.T.G.	Deputy Governor	Central Bank of Sri Lanka	4/5/93
Fernando, T.S.N.	Superintendent Public Debt	Central Bank of Sri Lanka	6/21/93, 7/1/93
Fonseka, Nihal	Manager, Corporate Banking	Hongkong & Shanghai Banking Corp	6/28/93
Galgamuwa, M.T.	Chief Mgr, Institutional/Pers'l Banking	ANZ Grindlays Bank	6/25/93
Gorman, William	Consultant	Intern'l Science & Technology Institute	3/28/93
Gunasekara, K.C.M.	Superintendent - EPF Dept	Central Bank of Sri Lanka	6/28/93
Hafeez, M. Rohil	Senior Financial Analyst	World Bank	2/10/93
Harkness, Euan	Managing Director	Barclays de Zoete Wedd	7/6/93
Hettiarachichi, W.	Director Economic Research	Central Bank of Sri Lanka	6/29/93
Hill, Peter	Director & Head of Treasury	Guinness Mahon & Co. Ltd.	7/6/93
Howland, Alan	Assistant Director	Guinness Mahon & Co. Ltd.	7/6/93
Jayamaha, Ranee	Staff member	Committee on Financial Sector Reform	6/14/93 and numerous other times
Jayasinghe, A.P.	Director Accts & Paymnts	Dept of Treasury	6/17/93
Jayasundera, P.B.	Deputy Director of Research	Central Bank of Sri Lanka	3/30/93, 6/29/93
Jayawardena, A.S.	Deputy Governor	Central Bank of Sri Lanka	3/29/93, 6/28/93, 7/2/93
Jayawardena, N.U.	former Deputy Governor	Central Bank of Sri Lanka	4/4/93
Jayawardene, L. Stanley	Chairman	Securities & Exchange Commiss'n of SL	6/23/93, 7/1/93, 7/2/93
Kadurugamuwa, Sarojini	Senior Assisstant Secretary/Legal	Central Bank of Sri Lanka	7/1/93

Kiriella, Nihal H.	Operations Manager	Keells T & R Ltd.	3/29/93, 6/17/93, 6/27/93
Larkman, Brian S.	Head of Money Markets	National Westminster Bank	7/6/93
Loehnis, Anthony D., Esq.	Director	J. Rothschild Assurance	7/5/93
Lucas, Charles M.	Senior Vice President	Federal Reserve Bank of New York	3/9/93, 8/13/93
Mahadeva, Baku	Chairman	Committee on Financial Sector Reform	3/29/93 and numerous other times
Mahendren, L.A.	Secretary	Committee on Financial Sector Reform	3/29/93 and numerous other times
Meegoda, D.Justin M.	President & CEO	Vanik Incorporation Ltd.	6/18/93
Nanayakkara, Manohan	Chief Executive Officer	C F Venture Fund Ltd.	3/30/93
Nangia, Rakesh	Operations Officer	World Bank	2/10/93
Perera, P.T.	Chief Legal Officer	Central Bank of Sri Lanka	6/18/93, 7/1/93
Perry, Patrick	Group Treasurer	Barclays Bank plc	7/6/93
Seneviratne, Satyajit	Computer Consultant	Colombo Stock Exchange	3/30/93
Shanmugalingam, K.	Deputy Secretary	Dept of Treasury	3/28/93, 7/3/93
Sivagananathan, K.	Deputy General Manager	Bank of Ceylon	6/17/93
Snoek, Harry A.	Resident Representative	International Monetary Fund	7/1/93
Talagala, S.	Deputy Superintendent Public Debt	Central Bank of Sri Lanka	6/21/93, 7/1/93
Tilakaratna, W.M.	Chairman	VANIK Incorporation Ltd.	3/26/93
Tucker, Paul	Senior Manager	Bank of England	7/5/93
Tweed, Andrew	Managing Director	Barclays de Zoete Wedd	7/6/93
Vanniasinkam, S.H.	Senior Manager, Treasury	ANZ Grindlays Bank	6/25/93
Weerasuriya, O.M.	Commissioner of Withholding Tax	Inland Revenue	6/22/93
Wickremasinghe, L.J.	Senior Operations Manager	Sri Lanka Automated Clearing House	3/30/93
Wikramanayake, A. R.	Director General	Securities & Exchange Commiss'n of SL	4/5/93, 7/1/93, 7/2/93
Wikramanayake, Mano	Group Director	The Maharaja Organization Ltd.	6/28/93
Williamson, Brian	Chairman	Gerrard & National Holdings plc	7/5/93