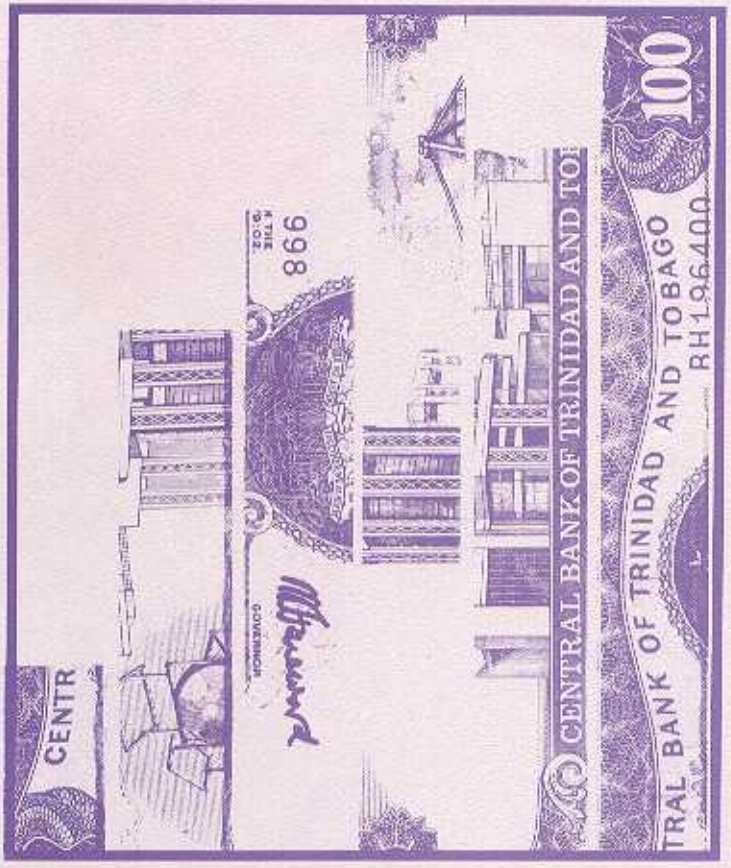
Insights into an Emerging Financial Structure: The Experience of Trinidad & Tobago

Edited by Ramesh Ramsaran



CARIBBEAN CENTRE for MONETARY STUDIES.

With nations under pressure to become more competitive in the global economy, both the financial and real sectors are being forced to address the questions of resource use and efficiency. Deregulation must be seen in this context; but while the new paradigm challenges long held theoretical orthodoxies and undermines many of the institutional tenets held sacred in a regulated environment, it offers little guidance in terms of new forms of interventions and controls necessary for orderly development. Many countries have to feel their way towards this goal.

Trinidad and Tobago has been in an adjustment mode for more than ten years. While adjustment may bring opportunities, it is also associated with stress, which if not handled creatively can undermine the confidence necessary for institutional development and orderly transition. The contributions in this volume are intended to provide some insights into Trinidad and Tobago's evolving financial structure and the institutional impact of changes in the policy environment.

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Insights Into an Emerging Financial Structure: Trinidad and Tobago's Experience

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INTRODUCTION

With the rapid changes taking place in the world's trading and financial environment, governments are coming under increased pressure to review economic policies and re-organise institutions with the aim of moving to higher levels of efficiency and competitiveness. It is difficult, if not impossible, for states to isolate themselves from the implications of the growing worldwide trends towards trade and financial liberalisation. An increasingly open world economy may challenge policies and institutional frameworks based on high levels of controls and intervention, but it also creates opportunities. A few developing states have done well in terms of growth and exports, but the vast majority are yet to place themselves in a position where they can exploit the opportunities being created by the new philosophical thinking driving trade and financial market reforms.

The questions that were beginning to confront policy makers in Trinidad and Tobago in the early 1970s got side-stepped with the onset of the oil boom which extended into the early 1980s. The decline in the economy since the early 1980s has not only challenged the 1960s policy framework, but also the adequacy and relevance of certain forms of trade, exchange and financial controls. The government is in the process of implementing a structural adjustment programme which is reviewing critically the whole management/development framework and strategy. In this context the functioning of institutions, the effectiveness of traditional instruments and the role of government in the economy are being examined. In this kind of exercise, understanding failures and successes of institutions and particular kinds of structures can help in fashioning new tools and organisations capable of meeting the challenges in liberalised financial environments.

This volume brings together a number of studies providing insights into Trinidad and Tobago's evolving financial system. The paper by Alvin Hilaire focusses on commercial policy, with special attention being given to the trade regime and the problems that arise in administering trade and exchange controls. The paper by Clarke *et al* presents the results from the 1992 National Sample Survey on Corporate Financing. The paper attempts to identify structural shifts in the pattern of corporate financing that may have taken place since 1982. Deryck Brown addresses a range of issues associated with financing small business and the adequacy of existing approaches to small business development. Augustine Nelson discusses the problems facing indigenous commercial banks with special reference to the Trinidad and Tobago experience. The volume includes two papers on the Trinidad and Tobago Stock Exchange. Kelvin Sargeant examines the performance of this institution and points to new measures which can enhance the performance of the securities market. Roopnarine Singh, on the other hand, uses a number of tests to examine Stock Market efficiency and argues that weak form capital market efficiency has varied in the period 1981 to 1991. In the final paper of the volume Ramesh Ramsaran speculates on the probable factors underlying movements in Trinidad and Tobago's foreign reserves during the 1980s.

Commercial Policy in Trinidad and Tobago

Alvin D.L. Hilaire*

INTRODUCTION

Trinidad and Tobago is presently pursuing major liberalization of its trade regime. The core of the reform involves dismantling Quantitative Import Restrictions and the use of a temporary system of higher import duties. For an economy long dependent on quantitative mechanisms for protection to its manufacturers, the liberalization represents a significant departure from a familiar form of control. The effects of the change would be far-reaching: it would affect, *inter alia*, manufacturing activity, domestic prices, government revenue and the balance of payments. Pursued within the context of other reforms, it requires a change in administrative devices and orientation, as well as complementary macroeconomic policies for success.

The purpose of this paper is to examine the role, operations and effects of Quantitative Import Restrictions within the context of the entire trade regime of Trinidad and Tobago. On this basis, the paper discusses the issue of tariff equivalence in the transition period to full liberalization, as well as the role of other government policy instruments. The paper is divided into three Sections: Section I examines the objectives of trade policy as well as the commercial policy instruments used in Trinidad and Tobago. The price instruments such as tariffs, taxes and subsidies, and the exchange rate are examined first. Quantitative import controls are then located within this environment. Section II concentrates on examining the variations in premia or rents that were reaped by holders of import licenses over the period 1973 to 1989. This leads into Section III where the use of a Temporary Tariff Regime is examined in terms of the equivalence to quantity restrictions. The paper closes with a discussion of the role of other instruments of policy in trade liberalization.[1]

I. POLICY OBJECTIVES AND INSTRUMENTS

Policy Objectives

Since their discovery at the close of the fifteenth century, the economic fortunes of the islands of Trinidad and Tobago have revolved closely around the foreign trade sector. First under Spanish and later under British colonial control, the islands were cast in the role of possessions to be employed in the service of the ruling country. Production of tobacco, and later sugar, was oriented almost exclusively for export. Moreover, much of domestic needs, including food, capital and raw materials were met by imports. Dependence on external trade was born — the international market for disposal of local production, the international market for domestic survival. For Trinidad and Tobago, concentration on sugar exports was later to give way to an even greater concentration on petroleum exports. By 1965, petroleum exports accounted for 60 per cent of visible export earnings,[2] with sugar accounting for 14 per cent. This dependence on petroleum meant that oscillations in international oil prices were transmitted forcefully to the Trinidad and Tobago economy. The year 1973, when international petroleum prices quadrupled, therefore represents an important watershed, as does the decline in prices in the early 1980s.

Independence came for Trinidad and Tobago in 1962. The new nationalist government often articulated the desire to maintain Trinidad and Tobago as an 'open economy'. Indeed this philosophy was stated as the first main element of commercial policy in 1963 and one of the principal bases of future commercial policy (Second Five-Year Plan, 1964-1968). Nonetheless, some governmental guidance was deemed necessary in order to influence the composition of imports, in the absence of voluntary changes by consumers.[3] The plethora of import controls that subsequently emerged however, was to make the trade regime of Trinidad and Tobago far removed from this ideal of an 'open' economy. Trade policy was also directed at minimizing imported inflation.[4] Taxes on international trade provided an important source of revenue for the government of Trinidad and Tobago. In 1957, import duties constituted over 20 per cent of the government's recurrent revenue. Policy-makers also expressed much concern with safeguarding the overall current account and developing non-petroleum exports, while keeping imports in check.

The overriding objective of trade policy in Trinidad and Tobago was protection of local economic activity from foreign competition. In the 1960s the need to encourage domestic industrial development was first given serious attention. The 'industrialization by invitation' strategy was founded on the writings of W.A. Lewis (1950) who built his case for rapid industrialization in the Caribbean Islands on the urgent need to create new employment opportunities off the land, since agriculture was unable to absorb more workers. The development of manufacturing industry would also complement and encourage improvements in the agricultural sector. Most of the manufactured commodities would be exported, since the local market was too small to support production on an economic scale. Basically, the strategy entailed providing incentives for foreign capitalists to invest in the islands. A certain period of protection was necessary during which the new activities would become more efficient and foreign capitalists would transfer the technology to local firms. Eventually, the result would be a vibrant, efficient and unprotected manufacturing sector, exporting much of its production and making an important contribution to employment.

A significant reorientation of objectives became evident in the late 1980s. Following the collapse of international oil prices in 1986, and needing balance of payments support, the government of Trinidad and Tobago entered into two successive Standby Arrangements with the International Monetary Fund, as well as a Structural Adjustment Loan (SAL) with the World Bank. Conditionalities in these agreements included wide-ranging dismantling of exchange and trade controls. The new theme involved a shift towards encouraging export activity and away from earlier import-substitution. While the government did appear to independently embrace this outward orientation,[5] the actual timetable and extent of liberalization, were embodied in the commitments made with the IMF/IBRD.

Commercial Policy Instruments

Trade policy in Trinidad and Tobago entailed the combination of a wide variety of instruments. Import tariffs raised revenue for the government and discriminated among imports by type and by source. Selected industries were granted waivers from the payment of import duties for their inputs. A mix of production and factor taxes-cum-subsidies was utilized to channel productive activity into desired

duty free concessions was conducted in 1983. It was decided that subsequent duty concessions would be given for one-year periods only.

Given the CET, the government of Trinidad and Tobago was unable to independently alter its minimum tariffs. It did, however, impose additional charges that also discriminated against imports. In 1985, stamp duties were levied on imported items, excluding food and drugs. In the following year, the stamp duties on raw materials and other industrial inputs were removed, as were the duties on books and newsprint in 1987. In 1988, stamp duties on capital goods, plant machinery and equipment were raised from 6 to 10 per cent, while rates on all other goods formerly subject to these duties were increased from 12 to 20 per cent. A similar device was the short-lived Consolidated Special Levy, imposed at rates of 7 1/2 or 12 1/2 per cent on a wide range of items from July 1, 1988. Due to widespread opposition by importers, the Consolidated Special Levy was withdrawn. There were few other changes in import taxes: in 1989, import duties on edible oil, margarine, imitation lard and edible fats were increased, while in 1990 new taxes were imposed on alcohol and tobacco of non-Common Market origin.

The removal of items from quantitative import controls from 1990, was accompanied by import surcharges on some of these items. Surcharges were levied on the wholesale value (including customs duty) of cosmetics, skin and hair products and ball point pens at a rate of 30 per cent. In January 1991, surcharges of 35 per cent and 50 per cent were applied on a wider range of other imports removed from quantitative restrictions and the earlier 30 per cent rates changed to 35 per cent. Furthermore in 1991 the method of calculation was altered so that the import surcharges were levied solely on c.i.f. They were previously based on a combination of c.i.f. stamp duty and a 20 per cent 'upliftment'.[8]

At the beginning of 1991, Trinidad and Tobago implemented a new CARICOM Common External Tariff. The new CET distinguished between 'competing' and 'non-competing' imports. The former attracted higher rates of duty. There were further distinctions between inputs and final goods, with final goods subject to higher duties than inputs. The maximum CET rate was set at 45 per cent, compared with the previous maximum of 75 per cent. Due to imple-

mentation problems, Trinidad and Tobago applied for and was allowed a one-year suspension of the CET on several items, particularly basic food items.[9]

Production/Factor Taxes-cum-Subsidies

In the 1950s and '60s, a range of subsidies for manufacturers was introduced. The Industrial Development Corporation (IDC) was set up in 1959 to implement the granting of incentives to manufacturing industry. An Aid to Pioneer Industries Ordinance (1950) defined a "pioneer industry" as one which had not previously conducted operations in Trinidad and Tobago on a commercial scale, or at all, or any industry having a favourable prospect of further development. This legislation formed the backbone of the protective regime and its substance changed very little subsequently. The twin pillars of the Act were generous tax and import duty exemptions.

Pioneer industries were granted exemptions from payment of income tax for a 5-year period with effect from the start of commercial production; no income tax was levied on dividends declared out of profits made by the pioneer company during the 5-year tax exemption period, provided that the dividends were declared during this period or within 2 years thereafter. Losses incurred during the tax exemption period could be set off, without limitation, against the income arising from the pioneer enterprise during the years immediately following. Accelerated depreciation allowances were to apply to all pioneer industries from the end of the tax exemption period on capital equipment at its original cost. Foreign manufacturers were guaranteed that they could repatriate their capital and profits.

A license issued by the Ministry of Industry allowed a pioneer manufacturer to import, free of customs duty, all plant machinery, building materials and tools necessary for constructing and operating his factory. Relief from customs duty provided under Section 49A of the Customs Ordinance (1959), was used very extensively to grant duty-free entry of raw materials and other supplies. The IDC also put at the disposal of eligible manufacturers, fully developed industrial estates, with factory space at highly subsidized rates.

At its discretion, the Cabinet could extend the pioneer status of manufacturers up to 10 years; over time, special enactments were

passed to encourage certain industries with large capital investments. These enactments were similar in form to the Aid to Pioneer Industries Ordinance but in some cases introduced new benefits and provided a longer period for enjoyment of the concessions.[10]

Overenthusiasm to develop industry in Trinidad and Tobago led to somewhat indiscriminate conferral of pioneer status on a number of firms. Consequently, by the end of the 1960s, employment in pioneer and assisted industries had grown slowly in relation to the amount of investment. The new industries had very weak linkages with the rest of the economy with import duty exemptions serving to encourage the use of imported inputs. Many small firms producing very similar products had been set up, each producing at sub-optimal levels so that economies of large scale production were foregone. Many firms that were previously importers, had gone into the business of production or assembly of the brand item previously imported.

Problems surfaced in the implementation of the package of incentives. The criteria that the IDC used in determining the eligibility of an applicant for concessions, included the amount of local value added entailed in the production process and raw materials utilized. The distinction between import-substituting and exporting firms was not very important until the late 1970s and '80s, when more emphasis was placed on the criterion of net foreign exchange earnings. Project evaluation by the IDC reflected the judgements of the incumbent officials. Techniques of cost-benefit analysis, including the use of shadow prices, and calculations of effective rates of protection and domestic resource costs, were not explicitly employed in ranking projects. In the absence of these guidelines, political influence and lobbying ability on the part of applicants tended to have greater bearing on the outcome of the IDC's decisions. There was insufficient follow-up on the performance of manufacturers after production subsidies were granted. For example, with respect to customs duty exemption, the IDC was supposed to make an evaluation of concessionaires after 5 years, at which point their concessions may be renewed or terminated. In practice, these evaluations were not performed except in cases of flagrant violations of customs laws such as not using the imported product for the stated purpose.[11]

Disappointed with the results of its regime of factor/production subsidies in the 1960s, the government outlined several changes in

policy guidelines.[12] In essence, protection was to be used more readily as an alternative to income tax concessions. After 1969, the tax holiday for new companies in normal cases was reduced to 3 years, with graduated corporation tax rates after the tax holiday. Pioneer firms were required to charge normal depreciation during the tax holiday period and to carry forward only net losses from their tax exempt period. For very large capital-intensive industries, generous write-off allowances were to be used instead of income tax holidays. Interest earned on loans to, and deposits in, financial institutions providing funds for agriculture, industry and housing, were to be exempt from income tax. Certain types of agricultural activities were also to become eligible for pioneer status. In terms of the criteria for the granting of incentives, emphasis was to be placed on: (i) those industries creating a large amount of direct employment per unit of investment capital; (ii) where direct employment creation was not large, the 'total net balance of payments effect,' i.e. the sum of the total amount of income generated locally, was to be considered; (iii) industries, wholly local or joint (foreign and local) ventures, with a significant capital input. At the same time foreign firms were to be encouraged to re-invest their profits.

The government also established certain institutions to provide finance for industry. The Development Finance Company (DFC) was established in 1970 to supplement the existing medium- and long-term finance available to manufacturing industry, commercial fishing and tourist companies. While the IDC funded smaller businesses, the DFC provided credit at subsidized rates to larger firms. The agricultural sector was eligible for subsidised finance allotted by an Agricultural Development Bank (ADB). Limited direct production subsidies were made available to farmers and fishermen. Guaranteed prices were offered for citrus and copra by the government's Central Marketing Agency.

With the coming into being of CARICOM, legislation was drafted to harmonize the granting of incentives by Caribbean countries to manufacturers, particularly from outside the region. Previously, Caribbean countries competed with each other in offering incentives to foreign direct investors to their shores. In Trinidad and Tobago, the modified legislation was as follows: — as regards the tax holiday — where the percentage of local (including CARICOM) value

added was over 50 per cent, the holiday could be for a maximum of 9 years; where local value added was between 25 and 50 per cent, the maximum holiday was 7 years; and where between 10 and 25 per cent, the holiday could be up to 5 years. Firms exporting all of their output to markets outside of CARICOM, were eligible for holidays up to 10 years. Normal depreciation in accordance with income tax legislation could be deducted during the tax holiday. Only net losses during the tax holiday period as a whole, could be carried forward into a taxable period to be set off indefinitely against subsequent profits. 'Nontraditional' exporters were granted an export allowance in respect of export sales outside CARICOM.[13] Manufacturers enjoying tax holidays under the existing legislation were not required to change over to the new system.

The regime of production and factor taxes-cum-subsidies set up before the 1973 oil boom, continued with little modification thereafter. From 1975 the system of guaranteed prices for agricultural produce was expanded while the subsidisation of agricultural inputs, except fertilizers, was being phased out. From 1979, the government took a more direct involvement in promoting specific areas of manufacturing such as garments, electronics, component elements for housing, food processing based on local agricultural produce and motor vehicle components. A 10 per cent investment allowance was also granted on the cost of new plant and machinery acquired after 1979. This allowance took the form of exemption from corporation tax and was increased to 20 per cent in 1980.

With the downturn in oil prices in the early 1980s there was greater concern over the country's foreign exchange earnings. A committee was appointed by the government in 1982 'to examine export development in the non-oil sector'. This committee found that the extensive protection under which domestic firms operated had bred tremendous inefficiency and an inability to successfully compete internationally. Profits from domestic sales had been very much assured by high domestic prices and the growth in demand due to buoyant national income. The government had provided inadequate incentives to offset the focus on the local market. Tangles in the government bureaucracy and the perception that the government was insensitive to the special need of exporters, had further served to deter export activity.

The proposed 'export led thrust' was similar to the Lewis 'industrialization by invitation' strategy: the government was to be the prime initiator that provided incentives for developing manufactured exports. There was, however, to be a greater focus on domestic manufacturers. While foreign investors were welcome, experience had bred in the government a greater wariness of their contribution to the economy. Market access was again important, as was technological knowledge of including foreign investment in the export strategy. The incentive regime was to be for a 15 to 20 year period, and reviewed in the twelfth year. It was to be comprised essentially of direct financial assistance and export financing facilities to potential exporters. An Export Development Company was created to take charge of the new export drive. An Export Allowance was introduced for exports outside CARICOM. The Export Allowance was calculated as the proportion of export sales to total sales multiplied by chargeable profits. There was no minimum and the Allowance was extended to all industries except petroleum and pioneer producers during the tax holiday period. Tax deductible export promotional expenses of 150 per cent of the actual outlay were allowed, together with tax free Market Development Grants of 50 per cent of the approved expenditure. In terms of export financing, pre- and post-shipment guarantees and rediscounting facilities at concessionary rates were offered. Manufacturing enterprises other than in petroleum, petrochemicals, iron and steel and sugar were eligible for these benefits and facilities.

In 1990, partly to increase revenue as well as to reduce the dispersion of effective protection rates, import duty concessions were limited to 80 per cent compared with full duty exemption previously. This policy was reversed however in the following year when duty exemptions were fully restored.

Consumption Taxes-cum-Subsidies

Government revenue, inflation control and influencing the pattern of consumption, were the motives behind the imposition of consumption taxes-cum-subsidies in Trinidad and Tobago. Until 1990, the three basic consumption taxes in the country were: (1) excise duties — specific taxes on goods produced for sale within Trinidad and To-

bago, payable by manufacturers; (2) purchase taxes — *ad valorem* taxes on specified goods payable by manufacturers or importers; and (3) motor vehicle taxes — *ad valorem* taxes payable by the purchaser or importer of locally-assembled cars.

The 1962 tariff restructuring which included a rise in the level of import duties on rum and beer, was accompanied by a proportionally lower increase in excise duties on locally produced rum and beer. In 1963, the coverage of the excise tax was extended to include a greater number of petroleum products and in 1968, lubricating oils were added to the list of excisable products. Rebates on the motor vehicle tax, which had been introduced since 1957, were granted from 1968 onwards, to local manufacturers in respect of cars costing below TT$7,000 and where local (including CARIFTA) value added exceeded 40 per cent of the showroom price. This was designed to increase the value of local or CARIFTA components.

Based on a precedent set in 1954, purchase taxes were introduced through the Finance Act of 1963. The 1963 purchase tax was imposed on 'a selected range of articles of the non-essential variety'.[14] The tax, ranging from 5 to 25 per cent, was levied on the basis of the 'chargeable price' of the goods — in the case of imported goods, the landed cost including duty, and, in the case of locally produced goods, the ex-factory price including excise duties where applicable.

In 1968 the list of items subject to purchase taxes was extended to include some items of clothing and other household goods. One reason for this change was to offset the loss of revenue from import duties due to ongoing import substitution. Furniture was subject to a 10 per cent purchase tax from 1969, while the rates of purchase taxes on stoves and fridges were made to vary directly with their prices. In 1973, the rate of purchase tax was increased by 10 per cent on household appliances, jewelry, other durable consumer goods and alcoholic beverages.

Consumption subsidies were concentrated on basic food items, mainly to subsidize the diet of lower income groups in the society. One such direct subsidy was the government's purchase of rice from Guyana in bulk; the rice was then marketed at less than cost to consumers. Most consumption subsidies, however, were implicit through subsidization of producers' inputs, such as livestock and poultry feed, in addition to some agricultural price supports.

After 1973, consumption taxes-cum-subsidies were modified, essentially to counteract the price rises induced by increased national income due to the oil windfall. The rice subsidy was continued while a flour subsidy was introduced. To insulate domestic consumers from the rise in oil prices internationally, the rate of excise duty on petroleum was halved in 1974. A subsidy on petroleum products — gasoline, kerosene, gas oil and diesel oil — was also started. In 1974 purchase taxes on fridges and stoves and motor vehicle taxes were reduced, these two taxes being further reduced in the following two years and in 1979. In 1975, rebates of purchase tax were extended for durable consumer goods where the local and CARICOM value added exceeded 35 per cent of the chargeable price. To grant assistance to the garment industry, a larger employer of labour, all purchase taxes on garments were removed. To cushion the effect of the falling value of the Trinidad and Tobago dollar which remained pegged to the pound sterling in 1975, the government introduced subsidies on a wide range of consumer items. In 1977, purchase taxes were removed on all items where the rate of tax was 7-1/2 per cent or less, and were reduced by between 33-1/3 and 50 per cent on a number of items, largely electrical appliances. Additionally, taxes were removed on a number of imported items which were close substitutes for domestic products.

In the 1980s the government pursued a policy which combined increases in consumption taxes with a withdrawal of consumption subsidies. The government announced at the start of the decade that henceforth there would be no increase in the level of real subsidies. The petroleum and cement subsidies were immediately reduced. The subsidy on petroleum products was again cut in 1982 while the government vowed to 'hold the line' on other subsidies. A year later, a comprehensive overhaul of consumption taxes and subsidies took place. Subsidies on petroleum products, cement, food items and agricultural inputs — flour, rice, cooking oil, poultry feed and livestock feed — were drastically reduced. The rates of purchase tax on domestic and imported items were raised across the board by 30 per cent while purchase taxes of 15 per cent on various items were reintroduced. Excise and motor vehicle taxes were also hiked. In 1984, the process continued, with reductions in subsidies on petroleum products, livestock feed and on travel between Trinidad and Tobago; sub-

sidies on washed grey sugar and flour were removed altogether. Excise duties on alcoholic beverages and petroleum products were increased, and a 10 per cent purchase tax imposed on a number of new items.

In 1985 the minimum guaranteed price programme for agricultural products was discontinued, as was the subsidy on imported chemical fertilizers. Subsidies on copra were reduced and were removed on livestock and poultry feed. Excise duties on alcoholic beverages were raised by 50 per cent, as were purchase taxes on alcohol, cigarettes and tobacco. Once again the coverage of the purchase tax was extended to other items, including paper and plastic products.

In 1984 the number of purchase tax rates was reduced from 6 to 4 while a 10 per cent purchase tax was introduced on new items. Simultaneously, purchase taxes on alcohol, cigarettes and tobacco were increased. Purchase taxes on packaging material and on live horses were removed. In 1987, 5 percentage points was added across the board to existing rates on all items subject to purchase tax; in 1988, a further 5 per cent was added to existing purchase taxes on alcohol, cosmetics, jewelry, cigarettes and various electrical appliances, while motor vehicle taxes were raised. Between 1987 and 1989 excise duties on gas, cigarettes and deodorized edible oils were raised and a new excise tax levied on soyabean oil.

A major change in the system of indirect taxation came with the introduction of a 15 per cent value added tax (VAT) in January 1990. The VAT was levied on both domestic and imported products and replaced the purchase tax regime while other taxes, such as excise and motor vehicle taxes were also adjusted. Goods and services that were zero-rated or exempt included basic food items, prescription drugs, and medical and financial services. The VAT was accompanied by a reduction in personal and corporate tax rates and contributed to the shift towards indirect and away from direct taxation.[15]

Price Controls

Price controls originated with the Trade Ordinance of 1958, with five subsequent amendments up to 1979. A Prices Commission was established in 1968, with inspectors monitoring retail prices and empowered to bring legal action against sellers where prices exceeded those published in the Government Orders. When it was originally

established, the Prices Commission was informed that all food items which had a weight of 10 or more for the Food Section of the All Items Index of Retail Prices, should immediately be brought under price control. The system had an upward rigidity in that there was no criteria for automatic removal of goods from price control.[16]

There were two methods of determining the level of controlled prices:

(i) The **Fixed Percentage Markup Method** applied to a predetermined percentage mark-up to the ex-factory cost or c.i.f. value of an item. This method was applied to building materials, selected patent drugs, school books, imported tyres and tubes.

(ii) The **Maximum Price Method** set prices on a case by case basis. For each product a study was made of the cost of the item and the final price was set such as to allow some maximum absolute margin along the stages of distribution of the item. This was a complex and time-consuming procedure[17] and was used to determine the prices of most controlled items, including food, animal feeds, batteries etc.

Essentially, additions to the list of price controlled items were recommended by the Ministry of Industry and Commerce or the Prices Commission. Application for a change in the level of price had to be made by letter from the seller of the item. Many of the items under price control were also on the Negative List so that this was one attempt by the government to restrict the premia to holders of import licences for these products. The system of price controls in Trinidad and Tobago was not very widespread. It was concentrated on imported basic food items and controls tended to be tighter and prices less flexible on those items where the government provided subsidies.[18]

Quantitative Restrictions

Quantitative Restrictions (QRs) on the level of imports were the main instrument of protection for domestic economic activity. They originated as a War measure, when the Imports and Exports Control Regulations (1941) empowered the government to limit imports into and exports out of Trinidad and Tobago. The Regulations were continued in force by Section 10 of the Trade Ordinance of 1958. Through

the large inventories of the imported product. Classification problems occasionally occurred in negative listing of items: while a local manufacturer was producing one very specific item, a whole range of goods with close customs classification numbers though not very close substitutes, were placed on the Negative List.

The main instrument of protection after 1973 continued to be Quantitative Import Restrictions. There were further additions to the Negative List which was consolidated by the government in 1985. Much discretionary power in the setting of quotas and issue of import licences remained in the hands of the officers of the Ministry of Industry and Commerce. In early 1973 the government had proposed changes in the licensing procedures for balance of payments purposes: more careful licensing procedures to minimize the use of foreign exchange for inessential imports and investments outside the CARICOM area and to discourage excessive stockpiling of imported goods; preference to exporters in the allocation of licences to import raw materials. But the improvement in the balance of payments after 1973 was translated into a feeling of release from urgency to implement these reforms. Licensing became altogether more liberal and quotas larger between 1974 and 1979. However during the 1980s it became progressively more difficult to import items on the Negative List.

The CARICOM treaty forbade members to impose Quantitative Restrictions on imports from other members. In Trinidad and Tobago, investigations revealed that some 'CARICOM' imports had not been satisfying the 'area origin' requirements: many items had been imported by other CARICOM members from outside the region, and re-exported to Trinidad and Tobago with minimal additional value added. Balance of payments problems had also led other CARICOM countries to impose quantitative restrictions: Guyana had invoked Article 28 of the Annex to the CARICOM Treaty, citing balance of payments problems; Jamaica had set up a 'monitoring system' to keep the value of imports within a foreign exchange budget. A government-appointed committee recommended Quantitative Restrictions as the best course for Trinidad and Tobago to take to assist its domestic firms due to trade barriers within CARICOM. On the further recommendation of the Trinidad and Tobago Manufacturers' Association, an association of about 200 companies representing about 70 per cent of manufacturers (except garments), Trinidad and Tobago's import licensing system was extended to CARICOM in April 1983.

In 1985, after deliberations with other Caribbean governments, the Trinidad and Tobago government decided to bias import licences to favour CARICOM. While the government occasionally expressed its itent to reduce quantity and rely more on price measures in the conduct of trade policy, complete abolition of Quantitative Restrictions was then not envisaged. In the government's thinking, retaliation against subsidized exports by other countries and the need to protect certain sensitive domestic industries demanded continued reliance on some amount of Quantitative Restrictions.

It was the first Standby Agreement with the International Monetary Fund that marked the beginning of the dismantling of quantitative import controls. In its November 1988 Letter of Intent to the IMF the government committed itself to eliminating from the Negative List a value of at least US$150 million in terms of 1986 imports. This was to be accomplished in three semi-annual tranches of at least US$50 million to be completed at the end of 1989. This entire phase in the removal of QRs was accomplished with little comment from domestic manufacturers. The rigidity in the Negative List had meant that by the end of 1988, the List contained a large set of items with little domestic protective effect, such as chemicals and fertilizers. The initial rationale for placing many of the items under the QRs had expired. Removal of QRs on these items therefore had little adverse effect on manufacturers.

At the beginning of 1991, a more significant reduction was made in the size of the Negative List. This was in keeping with the conditionalities of a Structural Adjustment Loan (SAL) from the World Bank. The conditions to be satisfied prior to release of the second tranche of the loan included the removal from QRs of items representing 40 per cent of "imputed production coverage" of non-oil manufacturing. This was basically a proxy measure of the domestic production affected by quantitative controls. The items chosen for removal included alcoholic and other beverages, construction materials and iron and steel products. The SAL conditions also required that at the end of 1991 all other manufactured items, except those retained for health, and security reasons were to be removed from the Negative List. There was no commitment to remove QRs on agricultural items.

Exchange Controls

Consideration of the small size of the country and the stability of the exchange rate were decisive in the government's opting for maintaining a fixed exchange rate system.[20] A system of exchange controls regulated convertibility of domestic into foreign currency. Concentration of trade with the United Kingdom as well as the previous colonial relationship influenced the government's decision to remain pegged to the pound sterling until the mid '70s. Before the advent of the Central Bank of Trinidad and Tobago in 1964, the West Indian dollar (WI$), issued by the British Caribbean Currency Board (BCCB) was legal tender at a fixed relationship to sterling of WI$4.80 = £1 (about WI$1.71 = US$1 in 1963). Conversion of West Indian dollars into sterling and vice versa were the only exchange transactions carried out by the BCCB. All other exchange transactions in Trinidad and Tobago were effected through authorized banks. In December 1964 the Central Bank of Trinidad and Tobago started operations and the Trinidad and Tobago dollar (TT$) was issued at par with the West Indian dollar.

In November 1967, the British government devalued the pound *vis a vis* the US dollar from US$2.80 = £1 to US$2.40 = £1. Trinidad and Tobago followed the pound and devalued by a similar 14.3 per cent relative to the US dollar. This changed the par value with the US dollar established with the IMF to TT$2.00 = US$1 from its initial level of TT$1.71429 = US$1.[21]

The exchange control system in Trinidad and Tobago required compulsory surrender of foreign exchange to the monetary authorities. If a firm's activities involved constant receipts and payments of foreign currency, a portion of its receipts could be kept in a Retained Account, with periodic statements being submitted to the authorities. Commercial banks could also open External and Blocked Accounts for non residents of the Sterling Area. Holders of these Accounts could use them to handle certain approved financial transactions with residents of the Sterling Area. The funds could also be transferred between residents of countries outside the Sterling Area. Blocked Accounts could be credited with funds that could not be credited to External Accounts e.g. proceeds from the sale by a non resident of capital assets in Trinidad and Tobago. The use of balances in Blocked

Accounts was subject to authorization. Up to 1964, no control was exercised over transfers of sterling by residents of Trinidad and Tobago to other parts of the Sterling Area. Short-term credit transactions by resident banks to non residents were subject to control.

The policies towards nationals in the formation and operation of companies in Trinidad and Tobago did not apply equallly to foreigners. All foreigners (defined to include all non-nationals, resident or not) needed to obtain a licence in order to hold interest in real estate or to hold shares in local companies. Prospective foreign investors had to obtain official approval for their projects in order to repatriate capital and capital gains. From 1950 the proceeds realized from a direct capital investment by a non resident in an approved project could be repatriated at any time. In September 1966, a withholding tax was imposed on dividends, interest and other income arising in Trinidad and Tobago when paid to a non-resident. The rate of tax was 30 per cent unless modified by a double taxation agreement.

The Aliens Landholding Act (No. 36 of 1921 with amendments up to 1969) governed the conduct of foreign investment. An Aliens Landholding Advisory Committee examined the application and made recommendations as to whether the licence should be granted. The Minister of Finance also had the discretion to grant licences, with or without the Committee's approval. The Committee operated under a set of guidelines which however were never published. Consequently, an applicant had to deduce the policy guidelines based on other information. The opaqueness of the system was compounded by the bureaucratic requirements whereby applicants had to apply to several government agencies for independent approvals. Because the rules were not clearly spelt out, the government was able to utilize the Aliens Landholding Act for a number of purposes. By selectively granting licences the government supported its localization drive, particularly after the 1970s. Certain activities, such as finance and insurance, were reserved almost exclusively for nationals. In the manufacturing sector, the Act was sometimes used to protect local businessmen, by preventing foreigners from slipping under the QR and tariff barriers. Prior to 1969, the Act mainly dealt with land ownership, which was extended to cover ownership and control of companies with the 1969 Amendments. In an attempt to streamline the system, a 'One-Stop Shop' was set up in the late 1980s to process

applications. In 1990, the Aliens Landholding Act was repealed and replaced by the Foreign Investment Act (No. 16). The new Act was considerably less restrictive. The definition of foreigner was altered to exclude all residents, as well as citizens of CARICOM countries with reciprocity agreements. Additionally, there was no restriction on foreign ownership in private companies, once the investment capital was brought in from abroad.

Before 1968, the administration of exchange control for payments for invisibles was carried out by the Ministry of Finance through its Exchange Control Division; for payments for visible imports by the Ministry of Agriculture, Industry and Commerce through its Trade and Commerce Division; and for proceeds from exports by the Customs and Excise Department. For payments within prescribed limits and relating to certain specified invisibles, authority was delegated to authorized banks by the Ministry of Finance. Approval for larger amounts was usually granted by the authorities. In terms of the ceilings for invisibles, by 1973, the basic allowance for tourist travel was TT$1,200 (about US$600) a person a year. Residents and non residents could take out Trinidad and Tobago notes up to the equivalent of TT$50. These limits were virtually unchanged from the 1964 ceilings.

In November 1968 administration of exchange control for payments for invisibles was taken over by the Central Bank. The definition of foreign currencies was broadened to include all currencies other than the Trinidad and Tobago dollar; previously only non-Sterling Area currencies were classified as foreign currencies. While this measure made the existing exchange control regulations applicable to the Sterling Area, in practice this treatment of Sterling Area currencies only lasted for one month initially. In April 1969 limitations were imposed on commercial banks' holdings of liquid foreign assets. If on the 15th day of any subsequent month a bank's holdings of sterling and other foreign currencies exceeded the amount held on April 2, 1969 (or the average amount held during an agreed period prior to that date) the bank either had to sell the excess to another commercial bank or to the Central Bank, or it would incur a penalty.

The Exchange Control Act was enacted in July 1970, while the Defence (Finance) Regulations (Re-enactment and Validation) Ordinance, 1959, was repealed; except that Regulation 6 (concerning the

Control of Capital Issues) of the Defence (Finance) Regulations, 1942, remained in force. The new Act provided that exchange control regulations were applicable to all countries (including those from the Sterling Area) other than Trinidad and Tobago. With the Exchange Control Act all overseas payments and transfers required the approval of the exchange control authorities. The Act came into operation in November 1971. Exchange control had already been applied *de facto* to the Sterling Area since May 1970.

From 1970, access to domestic sources of funds by non residents and companies controlled by non residents was curtailed. The Central Bank directed commercial banks that the volume of domestic borrowing by 'regulated borrowers' (non residents and non resident-controlled companies) should not exceed the total amount outstanding in respect of such borrowers at the end of February 1972; each bank was free to determine which borrowers were to be granted credit facilities within the total. The Central Bank's directive was subsequently amended to exempt persons and firms resident in CARIFTA countries. In May 1972 the ceiling applicable to commercial bank loans and advances to regulated borrowers was raised by 20 per cent.

Between 1974 and 1983 there was little change in Trinidad and Tobago's exchange control regulations. In practice, the exchange control system between 1973 and 1980 was more of a monitoring than a regulating device. The Central Bank gradually raised the ceilings for the acquisition of foreign exchange for invisibles during this period. From 1980, approvals for foreign exchange for invisibles in excess of the stated ceilings became increasingly difficult to acquire. In 1982, the Central Bank assumed the responsibility to approve advance payments for imports. A major change in exchange control procedures occurred in October 1983 with the introduction of a foreign exchange budget for imports - the 'EC-O' system, so called because of the requirement that importers fill in and get approval of a new 'EC-O' form from the Central Bank.

The foreign exchange budget specified guidelines for annual foreign exchange allocations for product categories, together with indications of the amount that could be made available to individual applicants. Information on the level of the ceilings was withheld from the public. The allocation criteria gave priority to capital goods,

raw materials, other industrial inputs, and essential food and drugs. Importers were required to inform the Central Bank of their foreign exchange requirements before placing a firm order for goods. The Bank could then approve the entire amount, a portion of the amount, or it could refuse the request altogether. The need to obtain licences from the Ministry of Industry and Commerce for goods on the Negative List was unaffected. Import licences against which authorized foreign currency had not yet been fully purchased before October 7, 1983 were called in for revalidation by the Central Bank. On November 22, 1983, in a modification of the earlier regulations, the Central Bank announced that importers with letters of credit already opened on or before October 7, 1983 did not require exchange approval from the Central Bank but could acquire the foreign exchange from their commercial banks.

Prior to the EC-O system, the Central Bank had minimal control over visible imports. In practice, goods were frequently brought into the country and foreign exchange sought *ex post facto*. The Central Bank usually granted the request for foreign exchange since during the boom years, foreign exchange holdings were large; it was also thought that nonpayment of Trinidad and Tobago's bills might spell embarrassment for the country. Eventually, importers came to expect this as a matter of course and continued to operate in this fashion. The terms of contracts between local and foreign firms involving future ongoing foreign exchange commitments (e.g. royalties), and some technology transfer were supposed to be approved by the Central Bank before signature of the document. Contracting of foreign debt also required the Central Bank's prior approval. But technology agreements had often been signed and foreign debt incurred, especially by State Enterprises, before the Central Bank was informed.

According to the Central Bank, the underlying basis for the budget was to reduce the rate of decline of the nation's foreign exchange reserves.[22] The system was also to take into account the need to facilitate export production, including new non-traditional exports, while Trinidad and Tobago's imports were to be brought down to a more sustainable level, given the change in the economy's fortunes. The EC-O system had three immediate objectives: (1) budgeting and planning of foreign exchange utilization; (2) developing a monitoring

system for visible imports by building a data base on importers and products; and (3) restricting imports to prevent the outflow of foreign exchange. The system was intended to be temporary. The basic formula for the determination of the ceilings was the average value of items in the specified categories over the period 1978 to 1982 inflated by the projected increase in import prices. The determination of quotas for particular importers was based on their historical market shares, with some allowance for new importers.

Foreign exchange budgeting by the Central Bank was not comprehensive. Imports were categorized as (1) capital goods; (2) raw materials; and (3) consumer goods, these being subdivided into essentials and non-essentials. Foreign exchange ceilings were prescribed only for the subset of non-essential consumer goods; no ceilings were applicable to capital goods, raw materials and essential consumer goods. Consumer goods were selected primarily because they could more easily be curtailed in the short run. The partial foreign exchange budgeting was in no way related to an industrial policy. A clearly articulated government national plan and industrial policy framework on which to base exchange controls were absent in Trinidad and Tobago. The Central Bank therefore did not assert to itself the right or responsibility to develop its foreign exchange budgeting criteria on anything more than a general notion of a desirable industrial structure for Trinidad and Tobago.

In the first year and a half of the budgeting system, the large margin of discretion possessed by Central Bank Exchange Control Officers and their inexperience with the EC-O system meant that the probability of success of an application frequently depended on which officer was reviewing the application. In 1985 the Exchange Control Division began to have its approving officers specializing by Tariff Classifications. This sometimes raised problems with respect to industrial input combinations: e.g. a manufacturer might get approval for all of his raw materials under a certain customs classification but for inadequate amounts of other complementary raw materials under a different classification.

The foreign exchange ceilings imposed by the Central Bank occasionally did not mesh with the quotas allocated by the Ministry of Industry and Commerce. This was due partly to the fact that these bodies had different objectives, and partly to the lack of dialogue

between them to reconcile their import controls. The Bank was mainly interested in contraction of overall imports while the Ministry's intent was more selective import control and allocation. Political and other factors sometimes led the Ministry to exceed the limits it had itself set for imports, especially those with respect to CARICOM trade. Occasionally, inconsistencies between the Central Bank and Ministry of Industry and Commerce ceilings resulted in an importer's application for foreign exchange being refused by the Central Bank even after he had acquired an import licence. Even when policy had been mutually agreed, information on unilateral changes was sometimes not transmitted between the Ministry and the Bank. In 1985 the two institutions attempted to coordinate their policies by drawing up a Master List for products subject to controls.

In 1988, the cost of foreign exchange was effectively increased for most imports. A 10 per cent levy was imposed on the sale of foreign exchange for vacation travel, business travel and emigration, making the exchange rate for these transactions TT$2.64 = US$1.00. Furthermore, the 12 per cent stamp duty on all bills of entry (excluding food and drug items) took the exchange rate for most visible imports to TT$2.69 = US$1.00. In December 1985, a dual exchange rate system was introduced. The TT$2.40 = US$1.00 rate on drugs, food items, agricultural inputs and school books was maintained. The 10 per cent tax on the sale of foreign exchange was removed and the parity on all other conversions was changed to TT$3.60 = US$1.00. Up to June 1986 the government allowed commitments entered into before December 17, 1985 to be settled at the pre-devaluation exchange rate. During 1986 the Central Bank exercised tight management of foreign exchange approvals. Except where licences had already been received by the Ministry of Industry, no approvals were given to new importers for budgeted items.

In January 1987 the exchange rate was unified at TT$3.60 = US$1.00. During that year the Central Bank closely controlled foreign exchange approval as international reserves continued to decline. In January 1988 a new foreign exchange allocation system was introduced replacing the EC-O system. The new system entailed:

(a) each importer on the Central Bank's register was issued with a certificate of foreign exchange allocation for visible imports; these importers were no longer required to

submit applications to the Exchange Control Department;

(b) the certificate, issued for an approved sum in local currency, was to be utilized to purchase foreign exchange for imports at any time during the years; thereby avoiding multiple applications;

(c) the Certificate authorized purchases within a range represented by a 2-digit chapter heading CCCN number allowing some flexibility in actual items imported;

(d) payments for CARICOM imports qualifying under Rules of Origin would not be debited against the allocation, once payments were made in regional currencies;

(e) importers had to report to the Central Bank on a quarterly basis details of all imports and exports.

Stringent exchange controls were maintained in 1988 as reserves losses continued and in August the currency was devalued to TT$4.25 = US$1.00. In 1989, the commitment under the Standby Arrangement included progressive relaxation of exchange controls. The system was modified in order to manage foreign exchange cash flows. The Central Bank issued allocations to registered importers phased over the year in categories based on prioritization of the imports. Foreign currency accounts were granted to net export manufacturers who earned at least 80 per cent of their import requirements, as well as petroleum service companies.

At the end of September 1989 the Trade Allocation System was amended as certification for certain items was discontinued — these included most agricultural inputs, some raw materials for manufacturing, capital goods and spares. Imports of capital goods valued over TT$500,000 required prior exchange control approval. The Central Bank estimated that the change implied that 60 per cent of merchandise imports were removed from direct exchange controls. Exchange control liberalization was substantially extended when in January 1991, the Trade Allocation system was discontinued and all merchandise imports no longer required exchange control approval.

Effective Exchange Rate Movements

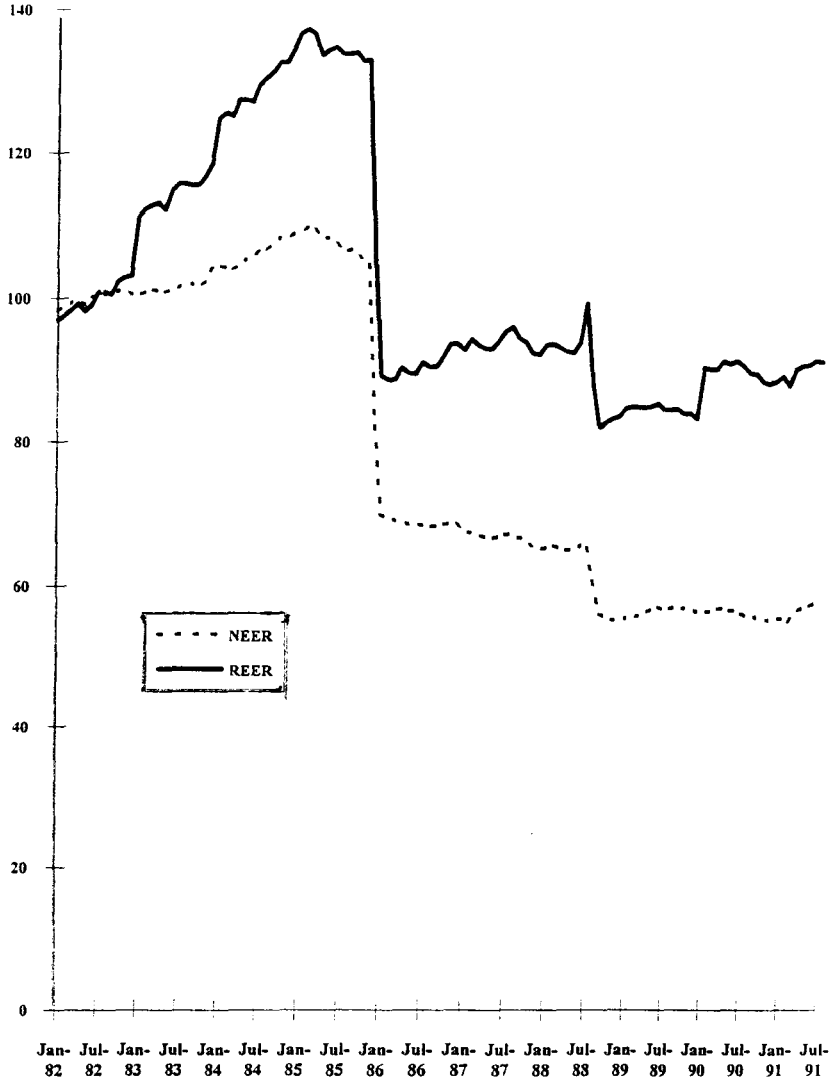
The fixed relationship of the Trinidad and Tobago dollar to sterling was continued until 1976 when the domestic currency was pegged to the US dollar. During 1975, the TT dollar had depreciated against the US dollar since it had remained linked to sterling which floated down-

wards: the TT dollar had moved from an average of TT$2.03 = US$1.00 for the month of January 1975 to an average of TT$2.37 = US$1.00 in December 1975. By May 1975 the rate had reached TT$2.70 = US$1.00. The United States had become Trinidad and Tobago's main trading partner, so the government decided on the US dollar peg to minimize exchange rate fluctuations between the two countries. In May 1976 the new peg with the US dollar was established at TT$2.40 = US$1.00, which represented the average exchange rate over the previous months. Subsequently, there were only two formal exchange rate changes: (i) the dual exchange rate in late 1985, later unified in 1987 at TT$3.60 = US$1.00 and (ii) the devaluation of August 1988 to TT$4.25 = US$1.00.

Apart from the discrete devaluations, the movements in Trinidad and Tobago's nominal effective exchange rate mirrored the fluctuating value of the United States dollar. On a trade-weighted basis the nominal effective exchange rate appreciated slightly between the second quarter of 1976 and the third quarter of 1977. Thereafter the TT dollar depreciated steadily to about 8 per cent lower than its May 1976 level. Subsequently, the domestic currency appreciated slowly such that by the close of 1985 it had just about reattained its May 1976 nominal value against the currencies of its trading partners. Between the 1986 and 1988 devaluations the nominal effective exchange rate depreciated by about 3 per cent. Between September 1988 and July 1991, the rate appreciated by 4.7 per cent in line with movements in the United States dollar. In general, the movements in the nominal exchange rate were relatively minor between devaluations.

Figure 1 shows trade-weighted real and nominal effective exchange rate indices for Trinidad and Tobago.[23] The real effective exchange rate index shows the continuing overvaluation of the domestic currency up to the end of 1985, with a 33 per cent real appreciation from 1982. This in fact succeeded a 21 per cent appreciation between May 1976 and 1982 and reflected the fact that inflation rates in Trinidad and Tobago significantly exceeded those of its main trading partners. Up to 1980, however, the effect on the real exchange rate was largely offset by depreciation of the nominal exchange rate. From 1981 the combination of a steadily appreciating nominal exchange rate and an acceleration in domestic inflation resulted in sharp

FIGURE 1: EFFECTIVE EXCHANGE RATE INDICES
(1982 = 100)



real appreciation of the Trinidad and Tobago dollar. The December 1985 exchange rate change represented a 50 per cent depreciation against the United States dollar.

Between 1986 and July 1988 the real effective exchange rate appreciated by 11.3 per cent. The appreciation, together with the impending Standby Arrangement with the IMF, prompted an 18 per cent devaluation in August 1988. Between this devaluation and July 1991, the real effective exchange rate appreciated by 9.7 per cent. This represented the combination of a slightly higher domestic inflation rate as well as the appreciation of the United States dollar.[24]

II. VARIABILITY IN QUOTA PREMIA 1973 - 1989

One effect of binding quantitative import restrictions is the potential rents reaped by holders of licences to import. If the QRs are fixed in volume terms, an increase in demand, other things being equal, would lead to an increase in the licence premia.[25] There need be no rise in the premia however if the import quotas are simultaneously sufficiently expanded. In the case of Trinidad and Tobago, we assume in 1973 the existence of some licence premia. In this Section we attempt to gauge the *variability* of the premia up to 1989 as well as some of the causal factors.

Changes in the differential between domestic and foreign prices are due to a number of factors. Increases in tariffs, reduction in subsidies, higher 'normal' markups as well as increased licence premia all work to widen the gap between domestic and foreign (c.i.f.) prices. Symbolically

$$\Delta(Pd-Pf) = f(\Delta t, \Delta s, \Delta m, \Delta pr) \qquad f1, f3, f4 \geq 0, f2 \leq 0 \qquad (1)$$

where Pd = domestic price
Pf = c.i.f. price
t = tariffs and other taxes
s = subsidies
m = 'normal' markup
pr = import licence premia

and Δ represents a change in a variable.

$$\text{Furthermore } \Delta pr = g(\Delta dd, \Delta QR) \qquad g1 \geq 0, g2 \leq 0 \qquad (2)$$

where dd = demand
QR = amount of quota

i.e. a change in the licence premia, assuming for simplicity a fixed domestic supply curve and a perfectly elastic foreign supply curve, is positively related to an increase in demand and negatively related to the quota sizes.

For Trinidad and Tobago we begin by observing the relative prices of tradeables over the period 1973 to 1989. Since we are interested in the *change* in the differential over the boom, we use 1973 as a base. We take the markup existing at 1973 as the 'normal' markup and assume this unchanged. Consequently, Δm in equation 1 is assumed to be zero.

Our Index of Price Differentials for tradeables (RELPTRAD) in Table 1 and Figure 2 is calculated as follows. For import prices we use the Index of Average Unit Value of Imports for Final Consumer Goods. For the domestic goods, the only available Index is the Retail Price Index where we include the subset of tradeable goods. For our Index of Price differentials for Tradeable goods, we take the ratio of the Domestic Consumer Prices of Tradeables to the Import Value Index for Final Consumer goods, multiply by 100 and set 1973 = 100.[26] A rise in this Index would imply a widening of the price differential due to a combination of higher tariffs or taxes, an increase in import premia, or a reduction in subsidies from the 1973 level.

The Index of Price Differentials declined to 70.6 in 1979 from 100 in 1973. This shows a significant narrowing of the differential between domestic and foreign prices of importables over the first boom. The differential was narrowest in 1979 and widened somewhat over the second boom. By 1983, the 1973 differential had been restored as the Index rose once more above 100. The rise in the Index to a maximum of 142.4 in 1985 shows the widening of the differential after the end of the second boom. The differential then dips subsequently by about 10 per cent in 1986 and remained fairly steady subsequently up to 1989.[27]

We will now examine the causes of the changes in the price differentials for importables. There was little movement in Trinidad and Tobago's tariffs on imports since 1973, since the extent of flexibility was constrained by the CARICOM Common External Tariff. It was only in 1991 that a new CET was adopted. Essentially, therefore, tariff changes bore little responsibility for the alterations in domestic/foreign price differentials after 1973.

Alterations in purchase taxes served to bring domestic prices closer to world levels over the boom while this process was reversed after the boom. As discussed in Section I between 1974 and 1979 purchase taxes on durable consumer goods were reduced, with rebates granted where the local and CARICOM value added exceeded 35 per cent of the chargeable price. All purchase taxes on garments were reduced and were removed on all items where the rate of tax was 7 1/2 per cent or less. After 1982, much of the previous reductions in indirect taxes was withdrawn. In 1983, the rates of [purchase taxes] were raised across the board by 30 per cent while taxes of 15 per cent on various items were introduced. Between 1983 and 1985 excise and motor vehicle taxes were also hiked with the coverage of the purchase tax further extended. The steady increases in purchase tax rates after 1985 also help to explain the widening of the domestic/foreign price differentials for tradeables.

The alterations in the subsidy programmes after 1973 discussed in Section I are also consistent with the observed changes in domestic/foreign prices differentials i.e. the increase in the subsidies over the boom and their subsequent reduction. The sharp decline in the differential in 1986 — from 142.9 to 130.7 — may have been caused in part by the devaluation at the end of 1985. While foreign (c.i.f.) prices would have increased in domestic currency, some elasticity in demand implies that not all of the higher c.i.f. cost could be passed on to domestic consumers.

Premia to Import Licence Holders

With an increase in demand, binding quotas lead to an increase in the premia to import licence holders and import substitute producers. Given the presence of subsidies and taxes, the Index of Price differentials for tradeables does not give a clear indication of the direction and magnitude of the changes in the import premia. Additionally, not all tradeables were subject to QRs.

In order to isolate the effects of the quota premia, we concentrated on Food Items. Food Items in Trinidad and Tobago generally bore no indirect taxes. We therefore need to net out only the subsidy component as import duties were unchanged after 1973. Practically all of the items in the Index of Retail Prices for Food Items were Negative Listed.

We used the Average Unit Value of Imports of Food — Section 0 of the SITC. From this we eliminated Flour and Rice, the major food items bearing subsidies. For the Sub-Index of Retail Prices for food items, rice and flour were also removed.[28] Our Indices of Retail Prices and Average Unit Value of Food excluding Flour and Rice were then rebased to 1973. The ratio of the former to the latter multiplied by 100 appears in Column C of Table 1. This represents the change in the premia to importers of food (RELPQUOTA). Alongside it in Column B is a similar ratio where flour and rice are included: this (RELPFOOD) is an Index of Price Differentials for Food (see also Figure 2).

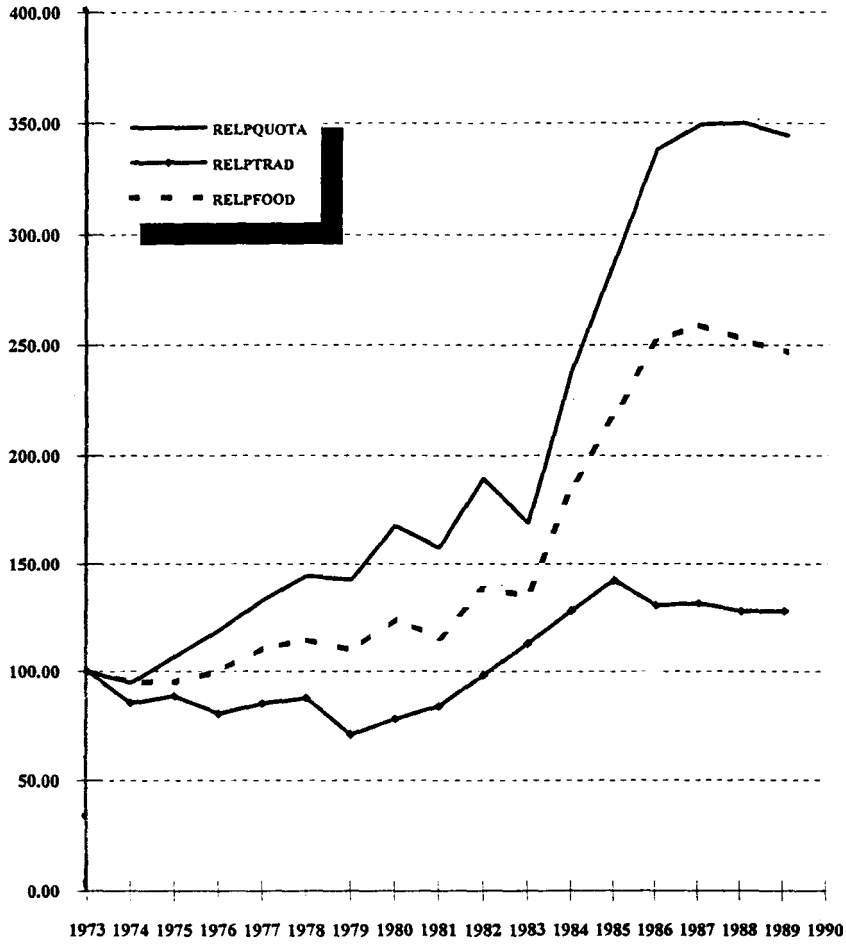
Compared to the overall Index of Price Differentials, the Index of Price Differentials for Food shows a smaller reduction in the price differentials between the landed cost and the retail price of food.

TABLE 1: INDEX OF PRICE DIFFERENTIALS (1973 = 100)

YEAR	(A) RELPTRAD	(B) RELPFOOD	(C) RELPQUOTA
1973	100.00	100.00	100.00
1974	85.40	94.91	94.56
1975	88.53	95.08	106.68
1976	80.35	99.86	118.90
1977	85.15	110.80	133.12
1978	87.73	114.72	144.31
1979	70.57	109.68	142.51
1980	78.08	124.27	167.59
1981	83.87	115.56	157.39
1982	98.35	138.39	189.69
1983	113.07	135.29	168.76
1984	128.35	185.33	238.04
1985	142.42	218.48	288.06
1986	130.70	252.08	338.43
1987	131.69	258.96	349.47
1988	128.05	252.77	350.20
1989	128.07	246.86	344.46

Notes: (A) RELPTRAD: Index of Relative Prices of tradeables
(B) RELPFOOD: Index of Relative Prices of Food
(C) RELPQUOTA: Index of Relative Prices of Food (excluding flour and rice)

FIGURE 2: RELATIVE DOMESTIC/FOREIGN PRICES
(1973 = 100)



Moreover, this reduction was confined to the first boom. By 1977, the Index was over 100. Once again, however, the Price Differential for Food widened significantly after the boom. There was a 61 per cent jump in the differential between 1983 and 1985 and a further 15 per cent jump in 1986 subsequent to which it remained fairly steady.

Generalising from the analysis of relative food prices, there is a pattern of an initial decline in relative prices of items under QRs followed by a steady rise, a jump after the second boom, a further jump with the 1985 devaluation and then relative price stability. While we can omit tariffs on Negative Listed items as they were unchanged, we cannot attribute this pattern solely to variations in quota premia due to the presence of the subsidy component.

The Index of Food Premia (RELPQUOTA) further shows that for those food items not subject to subsidy in Column C, there was virtually no narrowing of price differentials after 1973. Apart from an initial decline in 1974 the Index grew slowly from 100 in 1973 to 118.9 in 1976. The Index then jumped to 133.1 in 1977. During the second boom, there was a strong increase in relative prices, the Index moving from 144.3 in 1978 to 189.7 in 1982 and even more quickly to 288.1 in 1985. The devaluation in late 1985 was accompanied by a large increase to 338.4 in 1986 followed by relative stability between 1987 and 1989 at an average level of 348.0.

The changes in the Index reflect a slow increase in licence premia over the boom periods. While the administration of trade controls was more relaxed, it appears that the expansion of quotas lagged somewhat behind the growth in demand. In the situation of higher national income it was therefore possible for importers to benefit both from acquiring the rights to import more Negative Listed items as well as being able to sell them with a larger price margin.

The growth in import premia after the boom reflected a significant tightening of import controls, particularly given that domestic demand was not growing very quickly. This highlights the importance of exchange controls as an effective instrument of quantitative import controls. The introduction of the EC-O system, in tandem with the shrinking of import quotas present importers with two linked forms of control. The ability to import became more valuable as it often implied possession of a certificate from the Central Bank to acquire foreign exchange as well as a licence from the Ministry of Industry.[29]

A large increase in the licence premia accompanied the 1985 devaluation. The cause of this increase is not clear although several possibilities may be advanced. The devaluation may have contributed to this observation to the extent that there was substitution to lower cost supply sources and hence a widening of price margins

occurred. It is more likely however that the simultaneous decontrol of prices together with intensification of QRs and exchange controls were as important as the devaluation. The proposition that the devaluation contributed to a larger premia is also weakened by the observation of a small decline in the quota premia after the 1988 devaluation.

The results of the analysis of relative prices suggest a plausible pattern. In a regime based on QRs, administration of control had an important effect on relative prices and hence on import licence premia. The effect significantly modified the impact of changes in demand. Furthermore, there was a strong interaction between exchange controls and the Negative List. This is supported by the increase in all three measures of price differentials with the introduction of the EC-0 system. The slight decline in relative prices in 1989 with the relaxation of exchange controls also supports this claim.

III. ON TARIFF EQUIVALENCE 1991 - 1994

Phases of the Regime of Trade Controls

The trade and payments regime in Trinidad and Tobago went through a number of very distinct phases. These phases were distinguished from each other by the mechanisms employed in each and also by the actual implementation of policy measures — the 'tightness' of the regime. A National Bureau of Economic Research Project (NBER) delineated five phases of an exchange control regime, differentiated essentially by their relative reliance on quantitative as against price measures [see Bhagwati (1978) and Kruegger (1978)]. During Phase I, quantitative restrictions on international transactions are initiated, generally in response to an unsustainable payments deficit and then, for a period, are intensified. During Phase II, primary reliance is still on quantitative restrictions but various price measures, such as heightened tariffs, import surcharges, etc., are used to offset some of the undesired results of the system. Phase III is characterised by an attempt to systematize the changes which take place during Phase II; it generally starts with a formal exchange rate change and may be accompanied by removal of some of the surcharges and by reduced reliance on quantitative restrictions. The country enters Phase IV if the changes in Phase III result in adjustments within the country so that liberalisation can continue; the necessary adjustments gener-

ally include increased foreign exchange earnings and gradual relaxation of quantitative restrictions. During Phase V the exchange regime is fully liberalized with full convertibility on current account while quantitative restrictions are not employed as a means of regulating the ex ante balance of payments.

The structure of trade policy in Trinidad and Tobago is in the process of significant modification. The changes can be viewed in the context of five recent periods in the regime of trade controls:

(i) pre-1962 — characterised by foreign determination of the trade instruments in foreign interests;
(ii) 1962-1973 — distinguished by the deployment of new trade measures and extension of existing measures primarily to further domestic industrial development;
(iii) 1974-1982 — while the form of the regim introduced in earlier periods was maintained, the easing of balance of payments pressures led to relaxation of import controls;
(iv) 1983-1987 — in this period the resurfacing of balance of payments problems led to a reversal of the earlier process of liberal administration, while new controls were instituted along with policies to encourage exports;
(v) 1988-1990 — characterised by trade liberalisation involving progressive removal of import and exchange controls.

Each period involved dependence on quantitative restrictions, particularly heavy in (ii) and (iv). This gave way in (v) to formal reductions in quantitative controls. This period was also distinguished by the existence of Standby Arrangements and a Structural Adjustment Loan which involved trade reform as loan conditionalities. Price measures were important in all periods, though in periods (iii) and (iv) there was relatively minor modification of the tariff as against other price measures. The exchange rate instrument was hardly utilized but increasing overvaluation of the domestic currency in period (iv) led to a large devaluation near the end of that period, followed by a small devaluation during period (v).

Given the present path of trade policy a new period can be distinguished:

(vi) 1991-1994 — the period commences with adoption of the new CARICOM common external tariff. It involves the removal of all exchange and quantitative import controls on visible trade.

The QRs are to be replaced by a temporary tariff regime such that the total of import changes, i.e. all taxes that discriminate against imports, would be no higher than 100 per cent of c.i.f. value. The maximum for garments and textiles is 120 per cent. Furthermore, the import charges are to be reduced to the CET levels by the end of 1994. The mechanics of this transition are still to be outlined by the government. The other mechanisms to be outlined are possible reduction of import duty concessions as well as a streamlined regime to allow exporters access to imports at world market prices.[30]

Put within the framework of the NBER study, the 1991-94 period can be seen to straddle Phases III and IV. What happens during this period — exogenous events, the power of lobbies, commercial and macro policies pursued — would determine whether or not full liberalization is eventually attained (Phase V). If there are policy reversals then the country can reenter the earlier Phases I and II.

Non Equivalence: Tariffs vs QRs

In a static partial equilibrium analysis, a QR may be replaced by a tariff that has equivalent effects save that the value of import licence premia is transferred to the government as revenue.[31] One of the primary reasons for the use of the temporary tariff regime in the case of Trinidad and Tobago is to initially approximate the level of protection offered by the QRs. There are a number of important ways however in which the new regime founded on tariffs would differ from the regime based on quantitative controls.

(i) **Tariff levels and quota premia**: Calculations of the nominal protection offered by quotas, in order to replace them by equivalent tariffs, is an enormous task. Some of the well-known difficulties include estimating world prices, especally when there are no imports of the product, and quality differentials between domestic and foreign goods. This is even more problematic given the amount of products on the Negative List.

The IBRD conditionality of 100 per cent maxmimum import surcharge reduces the need for calculating the extent of nominal protection for each product. It means, however, that equivalent nominal protection is not provided for those products where QRs had allowed price margins to exceed 100 per cent. Even where nominal protection rates are accurately calculated and are below 100 per cent, these

would not all be translated directly into surcharges given the limitations on the number of surcharge rates to be imposed.[32]

(ii) **Price Variability**: With a tariff regime, price differentials are more tightly linked to the actual tariff rates and less dependent on changes in demand than under QRs. The analysis in Section II had shown how Quantitative Restrictions and demand interacted to affect price differentials. In the boom period, the impact of increased demand was reduced by expansion of quotas. Subsequently, although demand growth was slower, tight exchange and trade controls allowed differentials to widen. During the period 1991 to 1994, price differentials for items formerly on the Negative List are likely to be much more predictable and dependent on the method by which the new import surcharges are stepped down to the CET by 1995. Any demand shocks during this period are less likely to influence the differentials.

(iii) **Administration of the protective regime**: The simultaneous relinquishing of import licensing, exchange controls on visibles as well as constraints on import surcharges puts a large burden on other instruments of protective policy. For institutions long accustomed to quantitative controls, it requires a reorientation of objectives. It also demands a much greater exercise of creativity, minimization of information and implementation lags and tighter policy coordination. Policies that could have been dealt with by raising quotas, such as dumping or underinvoicing of imports, will have to be tackled more directly. The present policies would offer the government a temporary increase in trade taxes. Domestic manufacturing and the balance of payments would also be affected. In this context, macroeconomic policies — exchange rate, monetary and fiscal policies, would need to be consistent in order to support trade liberalisation.

CONCLUDING REMARKS

Refocussing trade policy instruments away from Quantitative Restrictions can be a difficult undertaking. Conceptually, it is possible to replace exchange and import controls by a suitable combination of tariffs and other taxes and subsidies, in order to achieve certain objectives. Trinidad and Tobago is presently undertaking such an exercise in a comprehensive manner and with a fairly short transition

period. If the present policies are pursued without significant reversals, 1995 would usher in a new period based on very limited import controls. During this period, taxes that discriminate against imports would be constrained to the CARICOM CET levels while there would be virtually no restrictions on the amount and type of imports and the foreign exchange to purchase them. Domestic activity would certainly be affected as profitability is altered due to more open international competition. Economic agents in all sectors, long accustomed to a familiar form of control, have a brief period in which to adjust to the new regime.

NOTES

1 The study extends to 1991. Consequently, it does not incorporate a major change in policy i.e. the floating of the domestic currency in April 1993.

2 Excluding oil under processing agreement.

3 The Second Five-Year Plan (1964-1968) stated:

> Historically, the economy has been an 'open' one in the sense that there have been no serious restrictions on the level of imports, which have been very high in relation to the gross domestic product. If development is to continue on the basis of an 'open' economy, there has to be a voluntary re-orientation in the composition of imports, either through a higher rate of voluntary savings or through greater concentration on buying locally-produced goods. The alternative would be the adoption of fiscal measures designed to discourage the import of 'inessentials' or to limit them through direct controls, neither of these two alternative courses of action would be consistent with the maintenance of an 'open' economy.

The Third Five-Year Plan (1969-1973) reiterated the need for:

> A deliberate attempt to reduce the taste for inessential imported goods and services in favour of locally produced goods and services [since]... the excessive tendency on the part of the population to import foreign goods and services remains a problem.

4 According to the Second Five-Year Plan (1964-1968):

> To the extent that import prices continue to rise and the cost of living with them, the Government will maintain a close surveillance over the margin between the landed cost of imports and the final prices to the consumer in order to ensure that upward movements in import prices are not unduly magnified in retail prices.

5 See, for example, "Report of the Committee to Examine Export Development in the Non-Oil Sector", (1982).

6 The principal goals of the revision were: (1) to minimise the import of 'non-essential' commodities; (2) to provide adequate protection from foreign imports to domestic manufacturers; (3) to keep down the price of basic foods items; (4) to minimize costs of imported inputs to producers; (5) to lay the foundation for wider economic cooperation in the Caribbean area; and (6) to increase the government's revenue — Budget Speech of the Government of Trinidad and Tobago, 1962.

7 These industries included the textile and garment industries, the furniture, brewing and distilling, processing and packaging and petro-chemical industries, and secondary industries based on agriculture.

8 The 'upliftment' means that the base was first increased by 20 per cent before calculating the value of the surcharge.

9 The government of Trinidad and Tobago was also allowed to suspend the CET for inputs to certain industries which were, according to the CARICOM Agreement, ineligible for import duty exemptions. In 1992 the CET was further revised downwards to a maximum of 30/35 per cent and scheduled for subsequent reductions to a maximum of 20 per cent by 1998.

10 The Cement Industry (Development) Ordinance (No. 41 of 1951); the Nitrogenous Fertilizer Industry (Development) Ordinance (No. 3 of 1958), the Lubricating Oils and Greases Industry Development Ordinance (No. 44 of 1961) and the Petrochemicals Industry Development Act (No. 4 of 1962) all specified a 10-year pioneer period for manufacturers in these fields. Export duties were not to be payable on their products and they could import raw materials and fuels for their production duty-free for an unlimited period. Interest payments on borrowed funds were tax exempt in the case of the latter three industries.

11 Interview with IDC Senior Official, August 1986. The reviews were scheduled to be done at five year intervals. The periodicity was changed to annual after 1985.

12 According to the Third Five-Year Plan, 1969-1973:

> Some of the fiscal concessions granted by the Government at a considerable loss of revenue have been either ineffective or unnecessarily generous. It is desirable, therefore, that at this point in time a comprehensive measurement of the past applications of concessions be made, with a view to exercising a greater selectivity in future.

13 Non traditional exports excluded sugar, cocoa, coffee, fertilisers, bauxite, petroleum and petroleum based products. Like the export allowance under the Aid to Pioneer Industries Ordinance (1950), this allowance was in the form of a rebate on part of the tax on chargeable profits attributable to such exports.

14 Budget Speech, 1963. 'Non essential' included alcoholic beverages, tobacco, domestic household appliances and certain 'luxury' consumer goods.

15 In 1990 the share of indirect taxes in government revenue (excluding oil) was 54 per cent compared with 32 per cent in 1986.

16 By 1985, seven items had been removed from price controls. These were (i) salted fish; (ii) goat meat/beef; (iii) soft drinks; (iv) sharp sand and gravel;

(v) pre-mixed concrete; (vi) poultry; and (vii) cocoa powder. The reasons cited for their removal were: (a) a decrease in demand obviated the need for price control; (b) the problem of monitoring the quality of the item — in certain cases, firms sold lower quality items at the controlled prices; (c) excess demand at the controlled price led to black market prices and unacceptably low profit margins for producers.

17 Other problems in the Price Control System are pointed out in *Report of the Cabinet Appointed Committee on the Existing System of Price Controls in Trinidad and Tobago* (March 13, 1980) and *The System of Price Control*, Trinidad and Tobago Ministry of Industry and Commerce (1985).

18 As one example, over the first boom, the price of rice was constant at 30 cents per pound while the price of fresh butter rose by an annual average of 4 per cent from $1.42 to $1.60 per pound.

19 An Export Negative List on a limited number of goods was designed primarily to monitor the export of commodities especially those under trade agreements, such as coffeee.

20 The exchange rate system was changed to a free float in April 1993, after this study was written.

21 The government offered several reasons for the devaluation of the local currency in line with the pound sterling. The non-devaluation option would have meant that: (1) there would have been an adverse effect on the country's sugar, citrus and rum industries which together employed over 25,000 workers directly; (2) Trinidad and Tobago would have been placed at a grave competitive disadvantage in the Caribbean Free Trade Zone, which was due to come into effect the following year; and (3) goods from other devaluing countries, in many cases assisted by low rates of import duty under Commonwealth Preferences, would have been able to offer strong competition in the domestic market to the new manufacturing firms. The Central Bank Annual Report 1967 explained that "devaluation avoided these risks and also appeared desirable in order to preserve and possibly expand domestic production and employment even though it meant an increase in some prices paid by local consumers".

22 See, for example, Bobb (1983).

23 The indices use geometric averages weighted by previous year total trade shares of Trinidad and Tobago's main trading partners, with a base year of 1982. Data Source: *IMF International Financial Statistics*.

24 The changes in the US dollar contributed 4.7 percentage points to the 9.7 per cent real appreciation.

25 See Appendix I for an example.

26 (a) For Import prices of Final Consumer goods, we include the categories 'Food', 'Beverages and Tobacco', 'Oils and Fats', 'Chemicals', 'Manufactured Goods' and 'Miscellaneous Manufactured Goods'. The categories excluded are 'Raw Materials', 'Mineral Fuels' and 'Machinery and Transport'. Since the Index of Average Unit Values is not based on price quotations for specific commodities, a change in this Index does not necessarily signify that fluctuation was due to a

difference in price but could well be attributable either to a shift in quality of product or a change in type of product imported, classified nevertheless under the same item number. In the original Index, to affix item weights, the value of each commodity within an SITC Section was divided by the Total Value of that Section and the result multiplied by 1,000. For our Index of Import Value of Final Consumer Goods we retain the 1974 weights and make 1973 the base (1973=100).

(b) For the domestic goods, the only available Index is the Retail Price Index. Concentrating on Tradeable goods, we include the Sections 'Food', 'Drink and Tobacco', 'Household Supplies' and 'Clothing'. Excluded are 'Meals Out', 'Fuel and Light', 'Housing', 'Services', 'Transportation', 'Education' and 'Medical Goods and Services'. The 1975 weights for the C.S.O.'s Retail Price Index were used and we take (1973=100).

(c) For our Index of Price differentials for Consumer goods, we take the ratio of the Domestic Consumer Prices of Tradeables to the Import Value Index for Final Consumer goods and multiply by 100. While giving a good indication of the changes in domestic/foreign price differentials after 1973, the limitations of this Index stem from:

(i) the use of Average Unit value as a representation of import prices and;

(ii) the different weighting schemes in the Import Value and Retail Price Indices.

27 The large appreciation of the real effective exchange rate between 1976 and 1985 discussed in Section I does not match the observation in this section of the relative narrowing of price differentials for tradeables. The likely explanation is that the international outlet for higher demand for tradeables limited the extent of price variability. However, the consumer price indices used to calculate the effective exchange rates also include non tradeables, whose price in Trinidad and Tobago rose markedly, in Dutch Disease fashion during the period. See Hilaire (1989).

28 In order to eliminate Flour and Rice, from SITC O Average Unit Value, for each year the values of 'Rice in Bulk' and of Wheat from the Trade Statistics on imports were divided by their respective volumes. These gave rise to Indices of the Average Unit Values of Rice and Flour. The weights of Rice and Flour in the Food Section of the Index of Average Unit Value were determined by the ratio of the value of these items to Food Imports in 1974. Our calculated Indices for Rice and Flour were then multiplied by these weights and subtracted from the Index of Average Unit Value of Food Imports.

For the Index of Retail Prices, Indices of Average Retail Prices of Rice and Flour were calculated from a Table of Average Retail Prices of Selected Food Items (Central Statistical Office, *Annual Statistical Digests*). The calculated Indices were then multiplied by their respective weights in the Food Section of the Index of Retail Prices for 1975 and the results subtracted from the Index of Retail Prices of Food.

29 The approval processes helped to concentrate the licence permits in the hands of traditional importers as both agencies favoured such applicants.

30 Action on these areas form part of the SAL agreement.

31 See Appendix I.

32 The government's commitments include limits on the amount of surcharges. In 1991 the only non-zero surcharges used were 35 per cent and 50 per cent.

REFERENCES

Auty, Richard and Alan H. Gelb. "Oil Windfalls in a Small Parliamentary Democracy: Their Impact on Trinidad and Tobago", World Bank, Development Research Department Discussion Paper, Report No. DRD131, September 1985.

Bhagwati, Jagdish N. *Foreign Trade Regimes and Economic Development: Anatomy and Consequences of Exchange Control Regimes*, Cambridge, Massachusetts: Ballinger Publishing Company for National Bureau of Economic Research, New York, 1978.

Bhagwati, Jagdish N. and T.N. Srinivasan. *Lectures on International Trade*, Cambridge, Massachusetts: MIT Press, 1983.

Bhagwati, Jagdish N. "More on the equivalence of tariffs and quotas", *American Economic Review*, 58, 1968, 142-7.

Bhagwati, Jagdish N. and T.N. Srinivasan. "Optimal trade policy and compensation under endogenous uncertainty: the phenomenon of market disruption", *Journal of International Economics*, 6, 1976: 317-36.

Bhagwati, Jagdish N. "The generalized theory of distortions and welfare", in J.N. Bhagwati et al. (eds.), *Trade, Balance of Payments and Growth: Papers in Honor of Charles P. Kindleberger*, Amsterdam: North-Holland, 1979.

Bhagwati, Jagdish N. and T.N. Srinivasan. "Optimal intervention to achieve non-economic objectives", *Review of Economic Studies*, 36, 1969: 27-38.

Bhagwati, Jagdish N. "On the equivalence of tariffs and quotas" in R.E. Baldwin et al. (eds.) *Trade, Growth, and the Balance of Payments: Essays in Honor of Gottfried Haberler*, Amsterdam: North Holland, 1965.

Bobb, Euric. "Exchange Control as an Instrument of Economic Policy", *Central Bank of Trinidad and Tobago Quarterly Economic Bulletin*, Vol. VIII, No. 1, March 1983.

_____. "The Management of the Foreign Exchange Reserves of Trinidad and Tobago", *Central Bank of Trinidad and Tobago Quarterly Economic Bulletin*, Vol. VIII, No. 1, March 1983.

_____. "Some Aspects of Monetary Policy in Trinidad and Tobago", *Central Bank of Trinidad and Tobago Quarterly Economic Bulletin*, Vol. III, No. IV, December 1978.

_____. "Import Budgeting and Commercial Policy", *Central Bank of Trinidad and Tobago Quarterly Economic Bulletin*, Vol. VIII, No. IV, December 1983.

Buiter, William H. and Douglas Purvis. "Oil, Disinflation and Export Competitiveness: A Model of the 'Dutch Disease'" in *Economic Interdependence and Flexible Exchange Rates*, ed. J.S. Bhandari and B.H. Putnam, Cambridge, Massachusetts: MIT Press, 1983.

Corden, W.M. "Exchange Rate Policy and the Resources Boom", *Economic Record*, 58, March 1982: 18-31.

_____. *Protection, Growth and Trade: Essays in International Economics*, Oxford, U.K., New York, USA: Basil Blackwell, 1985.

_____. "Booming Sector and Dutch Disease Economics: A Survey", Working Papers in Economics and Econometrics, Australian National University, Working Paper No. 079, November 1982.

Corden, W.M. and Peter J. Neary. "Booming Sector and Deindustrialization in a Small Open Economy", *Economic Journal*, 92, December 1982.

Corden, W.M. "Tariffs, Subsidies and the Terms of Trade", Economica, n.s. 24, 1957, 235-42.

Eastwood, R.K. and A.J. Venables. "The Macroeconomic Implications of a Resource Discovery in an Open Economy", *Economic Journal*, 92, June 1982: 285-299.

Farrell, Terrence W. "Import Restrictions in Short-Run Economic Management: EC-Zero and the New Exchange Control Procedures", *Central Bank of Trinidad and Tobago Quarterly Economic Bulletin*, Vol. VIII, No. IV, December 1983.

Gelb, Alan H. "Adjustment to Windfall Gains: A Comparative Analysis of Oil Exporting Countries", Paper presented to Conference on Adjustment to External Shocks, Finafrica, Milan, November 1984.

Harberger, Arnold C. "Economic Adjustment and the Real Exchange Rate" in *Economic Adjustment and Exchange Rates in Developing Countries* ed. S. Edwards and L. Ahmad, Chicago: University of Chicago Press, 1986: 371-423.

_____. "Dutch Disease: How much sickness? How much boon?" *Resources and Energy* 5, September 1983: 1-20.

Hilaire, Alvin D.L. "Economic Reaction to a Sectoral Boom: Trinidad and Tobago 1973-1985", Ph.D. dissertation (Columbia University) 1989.

Islam, Nurul. *Foreign Trade and Economic Controls in Development: The Case of United Pakistan*, Yale University Economic Growth Centre, 1981.

Johnson, Harry G. "Optimum tariffs and retaliation", *Review of Economic Studies*, 21, 1984: 142-53.

Krueger, Anne O. *Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences*, Cambridge, Massachusetts: Ballinger Publishing Company for National Bureau of Economic Research, New York, 1978.

_____. "Trade Policies in Developing Countries", in *Handbook of International Economics*, Vol. 1, ed. R. Jones and P.B. Kenen, Elsevier Science Publishers B.V., 1984, Chapter 11.

Lewis, W. Arthur. "The Industrialization of the British West Indies", *Caribbean Economic Review* II(1), May 1950.

Lizondo, Jose Saul. "A note on the nonequivalence of import barriers and voluntary export restraints", *Journal of International Economics*, 16, 1984:183-7.

Long, Ngo Van. "The Effects of a Booming Export Industry on the Rest of the Economy", *Economic Record*, 1981.

Mussa, M. "Government policy and the adjustment process" in J.N. Bhagwati (ed.) *Import Competition and Response*, Chicago: University of Chicago Press, 1982.

Neary, J. Peter. "Real and Monetary Aspects of the 'Dutch Disease'" in *Structural Adjustment in Developed Open Economies*, ed. K. Jungenfelt and D.C. Hague, London: McMillan, 1984.

Pelcovitis, Michael D. "Quotas versus tariffs", *Journal of International Economics*, 6, 1976: 363-70.

Ranis, Gustav. "Production and Export Incentives in the CARICOM Region, 1982.

Roemer, Michael. "Dutch Disease in Developing Countries: Swallowing Bitter Medicine" in *The Primary Sector in Economic Development: Proceedings of the Seventh Arne Ryde Symposium, Frostvallen, August 29-30, 1983*, ed. Lundahl, Mats, London and Sydney: Croom Helm, 1985, Chapter 11.

Rodriguez, Carlos Alfredo. "The quality of imports and the differential welfare effects of tariffs, quotas and quality controls as protective devices", *Canadian Journal of Economics*, 12, 1979:439-49.

Takacs, Wendy E. "The nonequivalence of tariffs, import quotas and voluntary export restraints", *Journal of International Economics*, 8, 1978:565-73.

Valdes, Alberto. "Trade Policy and its Effect on the External Agricultural Trade of Chile 1945-1985", *American Journal of Agricultural Economics*, May 1973.

Van Wijnbergen, Sweder. "The 'Dutch Disease': A Disease After All?" *Economic Journal* Vol. 94, March 1984:41-55.

_____. "Inflation, Employment and the Dutch Disease in Oil-Exporting Countries", *Quarterly Journal of Economics*, May 1984:233-250.

_____. "Exchange Rate Management and Stabilization Policies in Developing Countries", in *Economic Adjustment and Exchange Rates in Developing Countries*, eds. S. Edwards and L. Aham, Chicago: University of Chicago Press, 1986:17-41.

Williams, Eric. *From Columbus to Castro: The History of the Caribbean 1942-1969*, London: Andre Deutsch, 1970. Reprint ed. New York: Random House Inc., First Vintage Books Edition, 1984.

GOVERNMENT OF TRINIDAD AND TOBAGO DOCUMENTS

Ministry of Agriculture, Lands and Fisheries

Incentives for Agriculture Subsidies and other Services Available to Farmers, Fishermen, Government Printery, Trinidad and Tobago, (1979).

White Paper on Agriculture, Government Printery, Trinidad and Tobago, (1978).

Central Statistical Office

The Balance of Payments of Trinidad and Tobago.
Annual Statistical Digests
Quarterly Economic Review

Industrial Development Corporation

Promotions Division, Note for Appraisals and Promotions Committee Criteria Applied in the Assessment of Applications, October 4, 1984.

Negative Lists Review Committee letter to Industrial Development Corporation, on expiry date for negative lists, May 3, 1982.

Development Plans

Five Year Development Programme 1958-1962, Government Printing Office, Trinidad and Tobago, 1958.

Second Five Year Plan, 1964-1968, Modification to Draft Plan as Approved by Parliament in November 1963, Government Printery, Trinidad and Tobago, 1965.

Third Five Year Plan 1969-1973, Government Printery, Trinidad and Tobago, 1970.

The Imperatives of Adjustment Draft Development Plan 1983-1986, Report of the Task Force Appointed by Cabinet to Formulate a Multi-Sectoral Development Plan for the Republic of Trinidad and Tobago, Vol. 1 and III, Government Printery, Trinidad and Tobago, 1984.

Ministry of Planning and Development, (1968,) *Report on Control of Prices in Trinidad and Tobago*, Government Printery, Trinidad and Tobago.

Ministry of Industry and Commerce, *The System of Price Controls*, 1985.

Legislation and Legal Notices

Aid to Pioneer Industries, Chapter 33, No. 3, Revised Ordinaries, 1950, Government Printing Office, 1957.

Aliens (Landholding) Act, Chapter 58:02, Act 36 of 1921 and Amendments Foreign Investment Act, Act No. 16 of 1990.

Central Bank Act, 1964.

Customs Ordinance, Chapter 32, No. 2-10, Customs Act, Chapter 78:01, Customs Duties (Developing and Subsidies Act), No. 7 of 1958.

Exchange Control Act No. 24, of 1970.

Fiscal Incentives Act — Act No. 36 of 1973, An Act to Give Effect to the Agreement on Harmonization of Fiscal Incentives to Industry, September 24, 1973.

Fiscal Incentives Act — Act No. 22 of 1979, An Act to Provide for Fiscal Incentives to Industry in Accordance with the Agreement on Harmonization of Fiscal Incentives to Industry.

Industrial Development Corporation, Chapter 85:50, Act II of 1958.

Negative List, Notice to Importers No. 5 of 1985 and Legal Notice No. 111, Legal Supplement Part B, Vol. 24, No. 172, 17 June, 1985.

The Trade Ordinances (No. 19 of 1958).

Other

Accounting for the Petrodollar 1973-1983, Government Printery, Trinidad and Tobago, 1984.

Accounting for the Petrodollar, Government Printery, Trinidad and Tobago, 1977.

House of Representatives of The Republic of Trinidad and Tobago, *Budget Speeches*, 1957-1986.

Central Bank of Trinidad and Tobago, *Annual Reports*.

Central Bank of Trinidad and Tobago, *Quarterly Economic Bulletins*.

Central Bank of Trinidad and Tobago, *Quarterly Statistical Digests*.

Chamber of Industry and Commerce, Trinidad and Tobago. *Consolidated Negative List up to 31 December 1975 with Addendum showing omissions and amendments up to 23 June 1977*, Trinidad and Tobago Chamber of Industry and Commerce (Inc.).

Chamber of Industry and Commerce, Trinidad and Tobago. *Consolidated Import Negative List (provisional and unofficial) and guide to importers*, July 1982, Port of Spain: Trinidad and Tobago Chamber of Industry and Commerce (Inc.).

Report of a Committee on a System of Selective Controls on Imports into Trinidad and Tobago, Government Printery, Trinidad and Tobago, 1978.

Report of a Committee to Examine Export Development in the Non-Oil Sector, Government Printery, Trinidad and Tobago, April 1982.

"Letter of Intent to the International Monetary Fund dated November 16, 1988", *Central Bank Quarterly Economic Bulletin*, Vol. XIII, No. 4, December 1988.

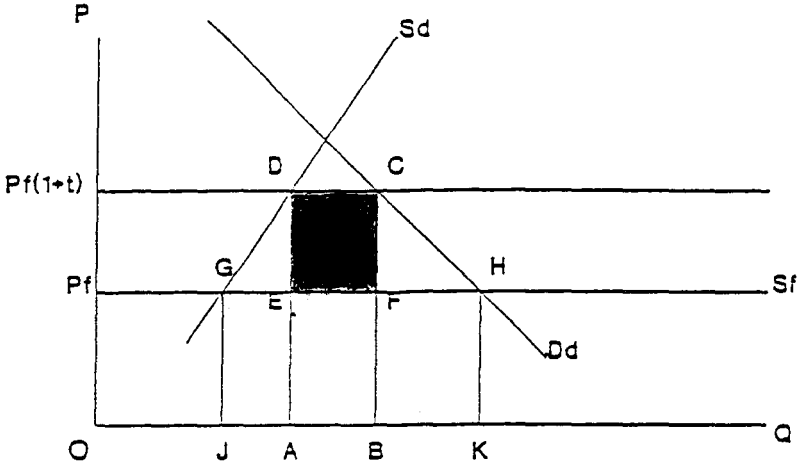
"Letter of Intent to Mr. Michael Camdessus, Managing Director of the International Monetary Fund dated March 14, 1990" in Ministry of Finance, Republic of Trinidad and Tobago, *Trinidad and Tobago Government's Relationship with the International Monetary Fund and the Paris Club 1990*, May 1990.

Loan Agreement (Structural Adjustment Loan) between Republic of Trinidad and Tobago and International Bank for Reconstruction and Development, dated January 25, 1990.

APPENDIX I

The equivalence between a tariff and a quota can be demonstrated in Figure 1.

FIGURE 1



For a small country with given terms of trade, Sf is the perfectly elastic foreign supply curve, Sd is the domestic supply curve and Dd the domestic demand curve. With free trade the country demands OK (=PfH), of which OJ (=PfG) is supplied domestically and JK(=GH) is imported. An ad valorem tariff at the rate of t raises the price consumers must pay for imports to Pf(1+t). Consequently, domestic demand declines to OB(=Pf(1+t)c), domestic supply rises to OA(=Pf(1+tD) while imports decline to AB(=DC). The shaded area accrues to the government as tariff revenue.

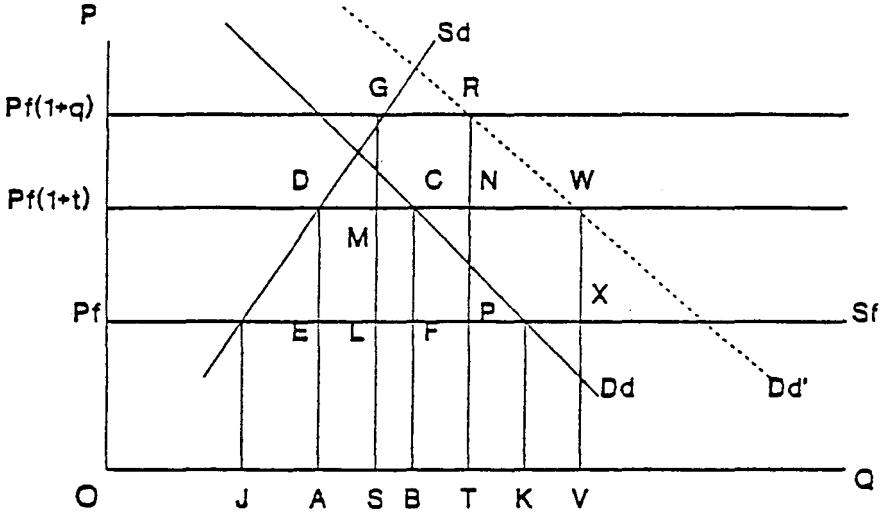
If a quota of AB is imposed, the effects are equivalent. Prices to consumers rise to Pf(1+t) with domestic supply at OA. In the quota case, how-

ever, the shaded area accrues as rent or premia to the holders of import licences. Apart from the transfer of the shaded area from the government to licence holders, the effect of the quota of AB are equivalent to the ad valorem tariff of t.

There are a number of other ways in which the tariff equivalence of a quota is broken. See, for example, Bhagwati (1965 and 1968), Pelcovits (1976), Rodriguez (1979), Takacs (1978).

An example, Figure 2 shows a comparative static analysis for an increase in domestic demand from Dd to Dd. For a tariff fixed at t, domestic prices and domestic supply are unchanged. Government revenue increases to DWXE from DCFE while imports increase to AV(=DW). If the volume of quotas is expanded to AV then the tariff equivalence is preserved as in Figure A.1. If however the volume of quotas is fixed at the original level of AB then imports cannot rise above this amount. Consequently, as demand increases, domestic supply increases to OS, imports are ST(=AB) while domestic prices rise to Pf(1+q). The premia to licence holders is QRPL which may or may not equal DWXE. The quota premium per unit of imports is now q and exceeds the ad valorem tariff t. The restriction on import volume also unambiguously involves higher domestic producer surplus and lower consumer surplus.

FIGURE 2



Corporate Financing Revisited

Christopher Martin Clarke
Dominic Stoddard
Vernie Shield

INTRODUCTION

This paper presents some of the major findings from the National Sample Survey on Corporate Financing (N.S.S.C.F) 1992. This survey is a follow up to a similar survey carried out by the Research Department in 1983. The major areas of improvement relate to the increased coverage of the survey population and the utitlization of randomized techniques of sample selection. The paper is divided into five sections. In the next section we undertake a brief review of previous research in the area of corporate financing especially with regard to the Caribbean context. In section III we examine the methodologies utilized for the N.S.S.C.F. 1992 and present some caveats about the data. In Section IV we present some of the major findings from the current survey with regard to our findings on bank customer relationships, sources and uses of corporate finance and business financial structure. Finally, in Section V we present a summary of our findings and some suggestions for future research.

SECTION II

Corporate Financing Theory and Caribbean Economies

Traditionally, the literature on corporate financing in the advanced countries has been dominated by the widespread belief that the financial system simply responds to the needs of the productive sector or is "simply the handmaiden of industry" (Mayer, 1987). This notion may be traced back to the seminal work of Modigliani and Miller (1958, 1961) who argued that in a perfect capital market with no transactions cost and no taxation the market valuation of the firm is independent of financing or dividend policy. Moreover, assuming that all players in the stock market had uniform expectations, the firms valuation would be determined by their earning prospects rather than

by their financial structure or choice between external or internal funds for investment.

More recently this orthodoxy has been challenged from a number of perspectives. Indeed, even from within the Modigliani-Miller paradigm there have been attempts to relax some of the more restrictive assumptions particularly with regard to taxes and expectations. For example, many corporate tax systems convey a significant tax advantage on users of debt finance for fixed investment purposes. However, there is an associated cost to firms, in that such financing increases the risk of corporate failure in an economic downturn. As such, proponents of the "trade-off" model argue that firms strive for a optimal debt equity ratio that maximizes its stock market valuation. Other writers have introduced considerations such as asymmetric information, moral hazards, signaling and transaction cost into the analytical framework (see, for example, Myers, 1977; Stiglitz, 1985; and Greenwald, Stiglitz, Wieiss, 1984) and have argued that the so-called "pecking order" approach to corporate finance may be more appropriate. These writers have argued that firms always preferred internal sources of funds to finance investment over debt and in the last resort, equity finance. Other writers have taken a more empirical approach and have argued that the competitive failure of the US and the UK firms in many key sectors *vis a vis* their Japanese and German competition, could be attributed to differences in the operation of the financial system. These writers have argued that in the highly competitive, stock-market dominated financial system of the US and the UK the cost of capital and the expected rate of returns are too high to encourage long term investment. By contrast, the Japanese and German financial systems are more bank-dominated with banks with long term relationships with industrial concerns. This situation is more conducive to the long term planning, investment and the development of international competitiveness.

By contrast Caribbean research on corporate financing behaviour is not very extensive. The most notable studies are those of Bourne (1972) and Farrell, Najar and Marcelle (1986). We shall focus our analysis on the latter paper for obvious reasons. Farrell, Najar and Marcelle study was based on the empirical sample survey of 69 firms in Trinidad and Tobago in 1982. Farrell, et al assumed that in the

context of a relatively underdeveloped capital market commercial banks would dominate the market for corporate finance; as such the major focus of the analysis was on illuminating the nexus between commercial banks and their corporate customers. Among the major findings of Farrell et al was the fact that while commercial banks played a strategic role in corporate financing, supplier credits and non-bank financial intermediaries were also an important source of external funding. Indeed, external funding accounted for slightly less than 50 per cent of corporate financing requirements. Overdraft credit was the most popular form of borrowing but firms outside the construction sector generally relied on non overdraft credit to finance business expenditure. Farrell et al also revealed that firms were generally highly geared with small firms having high gearing ratios while more established firms tended to be less highly geared than their younger counterparts. Sector analysis also revealed that firms in Construction had the highest debt to equity ratios. Farrell, Najar and Marcelle attributed the relatively high gearing levels of business enterprises to the easy credit conditions which prevailed in the economy in the boom years. Moreover, their study revealed that local businesses were largely insensitive to the level of interest rates as neither the cost nor the availability of finance were listed as serious constraints to the expansion of business. Instead, the size of the domestic market and the availability of qualified managers were listed as more important constraints to business expansion.

The major criticisms of the Farrell, Najar and Marcelle study have been the small size of the sample and use of non-random methods of sample selection. However, its finding has achieved wide currency because of the implications for the conduct of monetary policy in the small open economies of the Caribbean. Moreover, this study also pointed to the relative inefficiency of financial intermediation in the Trinidad and Tobago context. Farrell, Najar and Marcelle found the fact that overdraft credit was utilized to finance investment "disquieting" and had concerns about the high levels of gearing observed in the survey. This proved to be quite relevant after the collapse of oil prices in 1985/86 which led to the spate of business failures which followed.

In this context and in the light of changing financial conditions, it was considered necessary to update and expand the survey. In the

next section we outline the improvements that we have made to the survey methodology. At this point, we pause to remind our readers about some of the intrinsic weaknesses of the approach to data collection that we have chosen. As an alternative, flow of funds accounts could have been utilised to collect information on corporate financing behaviour. While such data tends to be more universal in coverage, it was felt to be too aggregated to allow for inter sectoral comparisons. However, the use of accounting data is not without its limitations. For instance, the data that we were able to collect from respondents was quite sparse while we had little control over accounting the accounting practices utilised to compile the returns.

In this preliminary presentation of our findings, we confine our analysis to the firms that responded to the survey and make no attempt at generalising the results to the wider survey population. Moreover, readers are reminded that response rates to some items on the questionnaire were low, so that they should be cautious about interpreting these results.

SECTION III

Survey methodology

Sample Frame

The Central Statistical Office's Register of Business Establishments (employing 10 or more persons) was utilized as the basis for constructing a sampling frame for the NSSCF. The department obtained the latest available edition of the register which contained information on individual firms classified by the industrial sector, employment size, geographical location and telephone contact numbers. An examination of the register obtained from the CSO revealed that some of the information contained was dated. Many of the firms listed had gone out of business, in other cases new firms had become active and were not listed. Moreover, for the active firms on the list, information on numbers employed, mailing addresses and contact persons had to be verified. Given the pervasive nature of these problems and in an effort to improve coverage of the population, the Department undertook a supplemental survey designed to identify which firms should have been included on the list, those to be eliminated and to update

information on mailing addresses, telephone numbers, numbers employed, etc. Additionally, the Department utilized the data base it had compiled during the course of its routine surveys of the Balance of Payments and Quarterly Real Gross Domestic Product to supplement these efforts.

Sampling Methodology

Previous research and experience with similar surveys revealed that the survey population was likely to exhibit a high degree of positive skewness, i.e. a few large and many smaller units. In such circumstances simple random sampling was likely to lead to an overestimate of the sample characteristics. In an attempt to deal with the problems posed by a highly skewed population, it was decided to adopt the "cut-off" sampling technique proposed by Hidiroglou (1982) and utilized quite successfully in many official business surveys. In this technique, the population is divided into two major strata: a "take-all" stratum which contains the largest elements of the population and are sampled entirely, and a "take-some" stratum which is sampled randomly.

For the purpose of selecting the sample, numbers employed was utilized as the primary measure of size of establishment. Experience suggests that this variable was likely to be highly correlated with the major variables of interest. We utilized Hidiroglou's technique to obtain an exact "cut-off" rule for a sample size of 200 firms (judged to be the maximum manageable size given the Department's resources and time) and a coefficient of variation of 10 per cent. It should be noted that while this method yielded an objective cut-off rule, the validity of the technique does not rest on its rigid application. Indeed, Kish (1965) notes that the entire sorting procedure is an area where personal judgement based on expert knowledge of the list and the subject matter can be fruitfully exercised.

Questionnaire Design and Field Work

The questionnaire utilised for the NSSCF 1992 was largely based on the one utilized in the 1983 survey. Firms were asked to supply information on the following areas:

- Basic identifiers such as major economic activity, legal status, type of ownership and number of years in operation, as well as information on total employment and total revenue at the end of the last financial year.
- The questionnaire sought to address the relationship between firms and their bankers. Information was requested on the number of business relationships as well as the quality of these relationships. In this regard, the firms were asked to comment on how the availability and cost of finance relative to other factors such as market size, availability of management etc. had affected the scale of their operations.
- The overdraft facility was explored at some length. Information was requested on overdraft limits, overdraft balances on a quarterly basis, interest paid etc. The questionnaire also requested information on the uses to which these funds were being put.
- Firms were requested to give information on the amount of commercial bank credit outstanding as well as the reason for the choice of financial instruments. The questionnaire also requested information on institutional sources of funds (excluding overdrafts) and sought to determine how much funding was obtained from these sources as well as the uses to which these funds were being put.
- Information was requested on the value of investment in fixed assets for 1990, 1991 and 1992 (to date) and whether this investment was financed by internally generated funds, overdraft or other external borrowing.
- In an effort to supplement and validate the responses, information on the sources and uses of funds and other financial statements were requested.

The questionnaire employed for the NSSCF 1992 was largely "experimental" in the sense that it was anticipated that some items would prove difficult for respondents. However, it was important to design an instrument that would allow us to compare results with the 1983 survey. Moreover, since the Department itends to conduct surveys on corporate financing on a more regular basis it was felt that an analysis of response patterns and the problems encountered by par-

ticipants would serve to improve the quality of future business surveys.

The proposed plan of action called for a pilot survey of 30 firms, but these plans had to be severely curtailed as the field staff was forced to devote a large part of its resources to developing an adequate sampling frame. Moreover, since the survey instruments remained largely unchanged from 1983, when it was extensively tested, it was felt that this would not pose a serious problem to respondents. This assumption turned out to be invalid as some of the items created difficulties for some respondents.

The survey was formally launched on July 31, 1992, and was attended by over 175 participants from business organisations, commercial banks and research institutions. Following the launch, questionnaires were mailed out in batches to the firms in the sample, starting on August 15, 1992. Field work consisted of telephone reminders, reminder letters and visits to some firms. It was anticipated that the survey would close-off by October 10, 1992. However, several firms requested extensions as they were engaged in auditing exercises so it was decided to extend the deadline to January 31, 1993. As an interim measure, at the end of December 1992 when the "number" response rate stood at 54.5 per cent, a set of preliminary tabulations were sent out to firms that responded to the survey. At January 31, 1993, the number response rate stood at 77.5 per cent of 155 firms out of 200.

Respondent Characteristics

Table 1 provides a summary of the characteristics of the firms that responded to the survey. Analysis of the size distribution of respondent firms indicates that the modal firm was medium-size, as 46.5 per cent (72 firms) of the respondents fell into this cohort. Large firms represented about one fifth of the sample while 32 per cent (49 firms) were classified as small. When examined by ownership 122 (79 per cent) of the respondents were locally-owned firms in the private sector, 13 per cent (20 firms) were foreign-owned, while 8 per cent (13 firms) were state controlled.

Most of the respondent firms 35.5 per cent (55 firms) were in operation for between 10 and 25 years. Those that were in operation

TABLE 1: SAMPLE RESPONDENTS BY SIZE, INDUSTRY GROUP, OWNERSHIP YEARS IN OPERATION AND LEGAL STATUS
(Size based on number of employees)

Industry group, Ownership, Years in operation, Legal status	Small (less than 50)		Medium (51-250)		Large (More than 250)		Total	
	Num-ber	Per cent	Num-ber	Per cent	Num-ber	Per cent	Num ber	Per cent
TOTAL, ALL FIRMS	49	31.6	72	46.5	34	21.9	155	100.0
INDUSTRY GROUP								
Petroleum	3	6.1	6	8.3	8	23.5	17	11.0
Manufacturing	15	30.6	34	47.2	11	32.4	60	38.7
Other Goods Producing	0	-	3	4.2	2	5.9	5	3.2
Distributive	17	34.7	22	30.6	6	17.6	45	29.0
Other Services	14	28.6	7	9.7	7	20.6	28	18.1
OWNERSHIP								
Local	40	81.6	63	87.5	19	55.9	122	78.7
Government	1	2.0	2	2.8	10	29.4	13	8.4
Foreign	8	16.3	7	9.7	5	14.7	20	12.9
YEARS IN OPERATION								
Under 10 years	15	30.6	16	22.2	11	32.4	42	27.1
10-25 years	24	49.0	23	31.9	8	23.5	55	35.5
Over 25 years	9	18.4	28	38.9	13	38.2	50	32.3
Not Stated	1	2.0	5	6.9	2	5.9	8	5.2

TABLE 1: (Cont'd) SAMPLE RESPONDENTS BY SIZE, INDUSTRY GROUP, OWNERSHIP YEARS IN OPERATION AND LEGAL STATUS
(Size based on number of employees)

Industry group, Ownership, Years in operation, Legal status	Small (less than 50)		Medium (51-250)		Large (More than 250)		Total	
	Num-ber	Per cent	Num-ber	Per cent	Num-ber	Per cent	Num ber	Per cent
LEGAL STATUS								
Individual Proprietorship	0	—	2	2.8	0	—	2	1.3
Partnership	5	10.2	1	1.4	1	2.9	7	4.5
Private Limited Liability	38	77.6	58	80.6	22	64.7	118	76.1
Public Limited Liability	2	4.1	6	8.3	8	23.5	16	10.3
Other	2	4.1	3	4.2	2	5.9	7	4.5
Not Stated	2	4.1	2	2.8	1	2.9	5	3.2

for over 25 years accounted for a slightly small proportion of the sample while more recently established firms (under 10 years) accounted for 27 per cent of the respondents.

The private limited liability company was the preferred form of incorporation as 76.1 per cent (118 firms) of the respondents reported that they were privately incorporated. Public limited liability companies account for 10.3 per cent of the respondents, partnerships accounted for 4.5 per cent, while two firms, both in the retail sector, were individual proprietorships.

Firms from the Distribution and Manufacturing sectors together constituted almost 68 per cent of the total respondents to the sample. Eighteen (18 per cent) of the firms were from the Other Services sector while firms from the Petroleum and Other Goods Producing sectors (mainly firms from Agriculture and Construction) represented 11 and 3 per cent respectively of all respondents.

Table 2 shows the distribution of respondent firms by size, industry group, years in operation and total revenue for 1991. As expected, there appeared to be a high correlation between revenue and numbers employed. Firms earning over $50 million were typically large and/or in operation for more than 25 years. Local private sector firms represented 84.7 per cent of those earning under $15 million and were relatively small. In fact, they represented 61.7 per cent of all small firms.

SECTION IV

Bank Customer Relations

As part of the analysis, the survey attempted to gain insights into firms' perception of their relationship with the banks, the number of relationships they had and the reasons for so doing. In addition, the extent to which firms were affected by the cost and availability of finance, market size and other constraints to business expansion were also investigated.

Number of Banking Relationships

Information on the number of banking relationships of firms and the way in which this varied by size, sector, years in operation and own-

TABLE 2: TOTAL REVENUE BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Total Revenue and Industry Group	Under $15 million		$15-$50 million		Over $50 million		Not Stated		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	59	38.1	49	31.6	43	27.7	4	2.6	155	100.0
Small (<50)	40	67.8	7	14.3	0	—	2	50.0	49	31.6
Medium (51-250)	17	28.8	37	75.5	16	37.2	2	50.0	72	46.5
Large (>250)	2	3.4	5	10.2	27	62.8	0	—	34	21.9
INDUSTRY GROUP										
Petroleum	4	6.8	3	6.1	9	20.9	1	25.0	17	11.0
Manufacturing	18	30.5	26	53.1	14	32.6	2	50.0	60	38.7
Other Goods Producing	1	1.7	3	6.1	1	2.3	0	—	5	3.2
Distributive	17	28.8	14	28.6	14	32.6	0	—	45	29.0
Other Services	19	32.2	3	6.1	5	11.6	1	25.0	28	18.1
OWNERSHIP										
Local	50	84.7	42	85.7	27	62.8	3	75.0	122	78.7
Government	1	1.7	1	2.0	10	23.3	1	25.0	13	8.4
Foreign	8	13.6	6	12.2	6	14.0	0	.0	20	12.9
YEARS IN OPERATION										
Under 10 years	18	30.5	8	16.3	15	34.9	1	25.0	42	27.1
10-25 years	29	49.2	16	32.7	7	16.3	3	75.0	55	35.5
Over 25 years	10	16.9	21	42.9	19	44.2	0	—	50	32.3
Not Stated	2	3.4	4	8.2	2	4.7	0	—	8	5.2

ership is summarized in Table 3. As indicated, 82 firms (53 per cent) of the firms surveyed had a relationship with only one bank, 25 per cent (39 firms) dealt with two banks, and 14 firms (9 per cent) dealt with three banks. Firms which had relationships with more than three banks were grouped and totalled 19 or 12.3 per cent of the sample. When classified on the basis of size, roughly 60 per cent of both small and medium size firms had relationships with a single bank. Large firms however tended to have more banking relationships, to the extent that 38 per cent had relations with more than three banks.

When classified by industrial grouping, both the Manufacturing and Petroleum sectors had a significant proportion of firms with more than one relationship. For Manufacturing it was 50 per cent (29 firms), while 64.7 per cent or 11 of 17 firms in the Petroleum sector reported having more than one relationship.

Based on ownership, it was observed that locally-owned firms largely maintained a relationship with one bank. A total of 71 (58 per cent) of the local firms had relations with one bank, while government-controlled firms in proportionate terms had three or more banking relationships. In fact, 9 of the 13 government controlled firms (69.2 per cent) had multiple banking relationships. Finally, firms in operation for under ten years tended to have more banking relationships.

An attempt was made to elicit the reasons for multiple banking relationships among firms. The most popular reason given was that such arrangements increased flexibility and allowed the firm to take advantage of different kinds of financial services offered by banks. A total of 49 firms (35.5 per cent) indicated this as their reason. Other popular reasons given were prudence and the fact that multiple relationships strengthened bargaining position *vis a vis* bankers. These were recorded at 23.2 per cent and 21 per cent respectively. It was further observed that the popularity of these responses did not vary significantly when firms were classified by either size, industry group, ownership or years in operation.

Quality of Banking Relationships

The duration of banking relationships was also investigated, particularly in relation to size and industry group. It was found that 61 per

TABLE 3: NUMBER OF BANKING RELATIONSHIPS BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Number of Banking Relationship										Total all Firms	
	One		Two		Three		More Than Three		Not Stated			
	Num-ber	Per cent	Num-ber	Per cent	Num-ber	Per cent	Num ber	Per cent	Num-ber	Per cent	Num-ber	Per cent
TOTAL, ALL FIRMS	82	52.9	39	25.2	14	9.0	19	12.3	1	0.6	155	100.0
SIZE OF FIRM												
Small	31	63.3	11	22.4	6	12.2	0	.0	1	2.0	49	31.6
Medium	42	58.3	19	26.4	5	6.9	6	8.3	0	—	72	46.5
Large	9	26.5	9	26.5	3	8.8	13	38.2	0	—	34	21.9
INDUSTRY GROUP												
Petroleum	6	35.3	3	17.6	2	11.8	6	35.3	0	—	17	11.0
Manufacturing	30	50.0	15	25.0	7	11.7	7	11.7	1	1.7	60	38.7
Other Goods Producing	1	20.0	3	60.0	0	—	1	20.0	0	—	5	3.2
Distributive	29	64.4	10	22.2	3	6.7	3	6.7	0	—	45	29.0
Other Services	16	57.1	8	28.6	2	7.1	2	7.1	0	—	28	18.1
OWNERSHIP												
Local	71	58.2	32	26.2	9	7.4	9	7.4	1	0.8	122	78.7
Government	4	30.8	1	7.7	3	23.1	5	38.5	0	—	13	8.4
Foreign	7	35.0	6	30.0	2	10.0	5	25.0	0	—	20	12.9
YEARS IN OPERATION												
Under 10 years	21	50.0	8	19.0	6	14.3	7	16.7	0	—	42	27.1
10-25 years	33	60.0	14	25.5	4	7.3	3	5.5	1	1.8	55	35.5
Over 25 years	24	48.0	14	28.0	4	8.0	8	16.0	0	—	50	32.3
Not Stated	4	50.0	3	37.5	0	—	1	12.5	0	—	8	5.2

TABLE 4: REASONS FOR MULTIPLE BANKING RELATIONSHIPS BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION
(Due to multiple responses, the percentages may add to more than 100)

Size, Industry Group, Ownership and Years In Operation	Reasons for Multiple Banking Relationships																Total, all Responses	
	Historical		Prudence		Flexibility		Size of the Business		Strengthens Negotiating Position		Choose All		Choose None		Not Stated			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	19	13.7	33	23.7	49	35.3	9	6.5	29	20.9	2	1.3	3	1.9	86	55.5	155	100.0
SIZE OF FIRM																		
Small	3	10.3	8	27.6	12	41.4	0	—	6	20.7	0	—	0	—	32	65.3	49	100.0
Medium	7	13.0	10	18.5	21	38.9	2	3.7	14	25.9	2	2.8	2	2.8	44	61.1	72	100.0
Large	9	16.1	15	26.8	16	28.6	7	12.5	9	16.1	0	—	1	2.9	10	29.4	34	100.0
INDUSTRY GROUP																		
Petroleum	4	16.0	4	16.0	8	32.0	2	8.0	7	28.0	0	—	0	—	6	35.3	17	100.0
Manufacturing	6	10.7	13	23.2	22	39.3	5	8.9	10	17.9	2	3.3	0	—	34	56.7	60	100.0
Other Goods Producing	1	16.7	2	33.3	2	33.3	0	—	1	16.7	0	—	1	20.0	1	20.0	5	100.0
Distributive	6	19.4	8	25.8	9	29.0	2	6.5	6	19.4	0	—	1	2.2	29	64.4	45	100.0
Other Services	2	9.5	6	28.6	8	38.1	0	—	5	23.8	0	—	1	3.6	16	57.1	28	100.0
OWNERSHIP																		
Local	13	13.1	25	25.3	33	33.3	7	7.1	21	21.2	2	1.6	3	2.5	74	60.7	122	100.0
Government	3	16.7	4	22.2	5	27.8	1	5.6	5	27.8	0	—	0	—	5	38.5	13	100.0
Foreign	3	13.6	4	18.2	11	50.0	1	4.5	3	13.6	0	—	0	—	7	35.0	20	100.0
YEARS IN OPERATION																		
Under 10 years	5	11.4	9	20.5	16	36.4	5	11.4	9	20.5	1	2.4	0	—	21	50.0	42	100.0
10-25 years	5	13.5	8	21.6	13	35.1	1	2.7	10	27.0	0	—	1	1.8	36	65.5	55	100.0
Over 25 years	8	15.7	15	29.4	17	33.3	3	5.9	8	15.7	1	2.0	2	4.0	25	50.0	50	100.0
Not Stated	1	14.3	1	14.3	3	42.9	0	—	2	28.6	0	—	0	—	4	50.0	8	100.0

TABLE 5: LENGTH OF LONGEST REPORTED BANKING RELATIONSHIP BY SIZE AND INDUSTRY GROUP

Length of Longest Reported Relationship and Industry group	Small (less than 50)		Medium (51-250)		Large (More than 250)		Total, all Firms	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
ALL FIRMS								
Total, all firms	49	31.6	72	46.5	34	21.9	155	100.0
Less than 3 years	2	4.1	5	6.9	1	2.9	8	5.2
3-10 years	12	24.5	18	25.0	3	8.8	33	21.3
11-15 years	8	16.3	4	5.6	4	11.8	16	10.3
More than 15 years	26	53.1	44	61.1	25	73.5	95	61.3
Not Stated	1	2.0	1	1.4	1	2.9	3	1.9
PETROLEUM								
Total, all firms	3	1.9	6	3.9	8	5.2	17	11.0
Less than 3 years	0	—	2	33.3	0	—	2	11.8
3-10 years	1	33.3	1	16.7	1	12.5	3	17.6
11-15 years	1	33.3	0	0	1	12.5	2	11.8
More than 15 years	1	33.3	3	50.0	6	75.0	10	58.8
MANUFACTURING								
Total, all firms	15	9.7	34	21.9	11	7.1	60	38.7
Less than 3 years	1	6.7	2	5.9	0	—	3	5.0
3-10 years	3	20.0	9	26.5	1	9.1	13	21.7
11-15 years	2	13.3	1	2.9	0	—	3	5.0
More than 15 years	9	60.0	21	61.8	9	81.8	39	65.0
Not Stated	0	—	1	2.9	1	9.1	2	3.3
OTHER GOODS PRODUCING								
Total, all firms	0	—	3	1.9	2	1.3	5	3.2
3-10 years	0	—	1	33.3	0	—	1	20.0
More than 15 years	0	—	2	66.7	2	100.0	4	80.0
DISTRIBUTIVE								
Total, all firms	17	11.0	22	14.2	6	3.9	45	29.0
Less than 3 years	0	—	0	—	1	16.7	1	2.2
3-10 years	5	29.4	7	31.8	0	—	12	26.7
11-15 years	3	17.6	2	9.1	2	33.3	7	15.6
More than 15 years	9	52.9	13	59.1	3	50.0	25	55.6
OTHER SERVICES								
Total, all firms	14	9.0	7	4.5	7	4.5	28	18.1
Less than 3 years	1	7.1	1	14.3	0	—	2	7.1
3-10 years	3	21.4	0	—	1	14.3	4	14.3
11-15 years	2	14.3	1	14.3	1	14.3	4	14.3
More than 15 years	7	50.0	5	71.4	5	71.4	17	60.7
Not Stated	1	7.1	0	—	0	—	1	3.6

cent (95 firms) had banking relationships lasting more than 15 years, 10 per cent (16 firms) had relationships lasting between 11 and 15 years, 21 per cent (33 firms), for 3 to 10 years and a mere 5.2 per cent (8 firms) had banking relationships for less than three years. Three firms did not respond to this question.

In the Petroleum sector 10 of the 17 firms (58.8 per cent) had a banking relationship lasting more than 15 years. The corresponding figure for Manufacturing was 39 or 65 per cent of the respective total. Both the Distributive and Other Services sector displayed a similar pattern in that half the firms in these sectors reported having had a relationship for over 15 years. Four of the five (5) firms in the Other Goods Producing sector had a relationship with a bank for more than 15 years.

Firms were asked to rate the quality of their general relationship with banks, the advice given and the quality of business services provided. Table 6 summarizes this information. As indicated, firms perceived their general relationship to be largely very good or excellent. One hundred and twenty six (126) firms or 81 per cent of the respondents perceived their general relationship to be very good or excellent, while only 26 firms (17 per cent) rated their relationship as either good or fair. Notably, only 41 per cent rated the quality of their business advice as excellent, whereas 51 per cent rated it good or fair. Business advice was considered poor by 4.5 per cent of the sample and overall had the lowest rating by firms. In terms of services offered just over half the responding firms found business services satisfactory as 83 firms (54 per cent) gave a rating of very good or excellent. However, forty five (45) per cent of the firms rated business services as good or fair, a single firm perceived business advice as poor and two others did not respond.

When analyzed by size, 31 of the 34 large firms found their general relationship very good/excellent compared with 82 and 73 per cent respectively for medium and small firms. The rating of business advice varied significantly by firm size. While a mere 31 per cent (15 small firms) rated business advice excellent, 65 per cent of the large firms gave this excellent rating. For medium size firms, 38 per cent rated the advice excellent. More than 50 per cent of both medium and small firms rated the banks' advice as good or fair. For business services the pattern was similar, with small firms having the

lowest assessment of the quality of services provided and large firms the highest.

On the basis of industrial grouping, however, the most common response for business advice was good or fair as more than 50 per cent of the firms gave this rating. The proportion of firms rating business advice excellent was roughly 40 per cent on average, with the exception of the Other Goods Producing sector where 4 of the five responding firms gave an excellent rating. The assessment of business services offered by banks to firms in the different sectors was largely similar to that of business advice.

Firms' perception of their general relationship with banks did not vary with ownership. In fact, over 80 per cent of the firms in each ownership category rated their relationship as excellent. For both business advice and business services offered, the distribution of firms was roughly equal between excellent and good, with the exception of foreign firms in which 70 per cent rated business services as very good.

As a corollary to Table 6, firms' perception of several commonly held opinions about banks was analyzed. These may be divided broadly into positive and negative opinions. Regarding positive opinions 92 firms (59 per cent) agreed that banks always or often provide modern services, 12 firms thought this seldom or never true. Less than half of the firms (43 per cent) found that banks were sensitive to their particular needs, whereas 18 firms (12 per cent) indicated that this was very seldom the case. Fifty one (51) per cent of the firms surveyed felt that it was always or often the case that banks were flexible and accommodating, while 38 per cent saw this as sometimes true. Few firms, only 7.1 per cent, found that banks were seldom/never flexible and accommodating while 6 firms did not respond.

In general, large firms tended to have a more favourable opinion of banks based on the high percentages recording always/often true for positive opinions. When firms were classified by industrial grouping, however, there was no discernible pattern; when firms were classified by ownership and years in operation the result was consistent with the overall distribution.

In respect of negative opinions, 50 firms or 32 per cent found that it was always/often the case that banks' decision making process was too slow. In terms of their risk behaviour, 57 per cent of the firms

TABLE 6: RATING OF BANKING RELATIONSHIP BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

(Based on "excellent or very good")

Size, Industry Group, Ownership and Years In Operation	Rating of Banking Relationship					
	General Relationship		Business Advice		Business Service	
	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	126	81	64	41	83	54
SIZE OF FIRM						
Small	36	73	15	31	22	45
Medium	59	82	27	38	38	53
Large	31	91	22	65	23	68
INDUSTRY GROUP						
Petroleum	12	71	7	41	7	41
Manufacturing	53	88	26	43	36	60
Other Goods Producing	5	100	4	80	4	80
Distributive	34	76	17	38	23	51
Other Services	22	79	10	36	13	46
OWNERSHIP						
Local	99	81	48	39	63	52
Government	11	85	6	46	6	46
Foreign	16	80	10	50	14	70
YEARS IN OPERATION						
Under 9 years	33	79	13	31	18	43
10-25 years	44	80	20	36	27	49
Over 25 years	44	88	28	56	34	68
Not Stated	5	63	3	38	4	50

perceived banks as being too cautious. Only 9 firms stated that this was very seldom/never the case. It can be observed from Table 7 that large firms were less numerous in percentage terms, among those indicating always/often true for negative opinions. As an example, 11 firms representing 32 per cent of the large firms found the decision making process often/always over centralised, compared with the

TABLE 7: GENERAL PERCEPTIONS OF COMMERCIAL BANKS BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION
(Based on always or often true)

Size, Industry Group, Ownership and Years In Operation	Positive Perceptions						Negative Perceptions					
	Provide Modern Services		Sensitive		Flexible and Accommodating		Too Cautious		Decision Making Too Slow		Overcentralized	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	92	59	66	43	79	51	89	57	50	32	74	48
SIZE OF FIRM												
Small	25	51	16	33	21	43	28	57	15	31	27	55
Medium	43	60	32	44	38	53	41	57	28	39	36	50
Large	24	71	18	53	20	59	20	59	7	21	11	32
INDUSTRY GROUP												
Petroleum	9	53	7	41	7	41	13	76	9	53	7	41
Manufacturing	36	60	27	45	29	48	33	55	22	37	31	52
Other Goods Producing	5	100	3	60	4	80	2	40	1	20	3	60
Distributive	26	58	19	42	25	56	25	56	12	27	20	44
Other Services	16	57	10	36	14	50	16	57	6	21	13	46
OWNERSHIP												
Local	73	60	50	41	58	48	75	61	41	34	61	50
Government	8	62	5	38	9	69	8	62	2	15	6	46
Foreign	11	55	11	55	12	60	6	30	7	35	7	35
YEARS IN OPERATION												
Under 10 years	20	48	14	33	18	43	24	57	14	33	19	45
10-25 years	37	67	21	38	22	40	36	65	20	36	31	56
Over 25 years	32	64	27	54	34	68	26	52	14	28	23	46
Not Stated	3	38	4	50	5	63	3	38	2	25	1	13

TABLE 8: CONSTRAINTS TO SCALE OF OPERATIONS BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION
(Based on "important")

Size, Industry Group, Ownership and Years In Operation	Constraints											
	Market Size		Management		Technical Staff		Availability of Finance		Cost of Finance		Other	
	Number	Per cent	Number	Per cent	Number	Per cent	Num ber	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	145	94	129	83	127	82	135	87	135	87	18	12
SIZE OF FIRM												
Small	45	92	38	78	37	76	39	80	38	78	5	10
Medium	71	99	66	92	64	89	66	92	67	93	10	14
Large	29	85	25	74	26	76	30	88	30	88	3	9
INDUSTRY GROUP												
Petroleum	15	88	13	76	14	82	15	88	14	82	3	18
Manufacturing	57	95	52	87	56	93	58	97	55	92	6	10
Other Goods Producing	5	100	3	60	4	80	5	100	5	100	0	—
Distributive	44	98	41	91	34	76	38	84	41	91	5	11
Other Services	24	86	20	71	19	68	19	68	20	71	4	14
OWNERSHIP												
Local	117	96	107	88	103	84	110	90	112	92	16	13
Government	10	77	9	69	10	77	11	85	11	85	0	—
Foreign	18	90	13	65	14	70	14	70	12	60	2	10
YEARS IN OPERATION												
Under 10 years	37	88	33	79	32	76	38	90	36	86	3	7
10-25 years	53	96	48	87	48	87	47	85	50	91	7	13
Over 25 years	49	98	43	86	42	84	44	88	43	86	8	16
Not Stated	6	75	5	63	5	63	6	75	6	75	0	—

TABLE 9: FACTORS LIMITING BUSINESS EXPANSION BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

(Due to multiple responses, the percentages may add to more than 100)

Size, Industry Group, Ownership and Years In Operation	Factors													
	Loanable Funds		Banks querying Feasibility of Projects		Lack of Collateral		Chose All		Not Affected		Not Stated		Total Responses	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	22	38.6	22	38.6	13	22.8	5	3.2	102	65.8	13	8.4	155	100.0
SIZE OF FIRM														
Small	9	39.1	10	43.5	4	17.4	3	6.1	27	55.1	8	16.3	49	100.0
Medium	10	43.5	9	39.1	4	17.4	2	2.8	51	70.8	4	5.6	72	100.0
Large	3	27.3	3	27.3	5	45.5	0	—	24	70.6	1	2.9	34	100.0
INDUSTRY GROUP														
Petroleum	0	—	4	100.0	0	—	0	—	12	70.6	1	5.9	17	100.0
Manufacturing	9	42.9	7	33.3	5	23.8	4	6.7	45	75.0	2	3.3	60	100.0
Other Goods Producing	0		2	40.0	3	60.0	0		2	40.0	0		5	100.0
Distributive	8	50.0	5	31.3	3	18.8	1	2.2	25	55.6	8	17.8	45	100.0
Other Services	5	45.5	4	36.4	2	18.2	0	—	18	64.3	2	7.1	28	100.0
OWNERSHIP														
Local	22	43.1	20	39.2	9	17.6	5	4.1	78	63.9	8	6.6	122	100.0
Government	0	—	2	40.0	3	60.0	0	—	9	69.2	1	7.7	13	100.0
Foreign	0	—	0	—	1	100.0	0	—	15	75.0	4	20.0	20	100.0
YEARS IN OPERATION														
Under 10 years	6	31.6	7	36.8	6	31.6	2	4.8	26	61.9	5	11.9	42	100.0
10-25 years	11	42.3	11	42.3	4	15.4	3	5.5	28	50.9	7	12.7	55	100.0
Over 25 years	5	41.7	4	33.3	3	25.0	0	—	41	82.0	1	2.0	50	100.0
Not Stated	0	—	0	—	0	—	0	—	7	87.5	0	—	8	100.0

medium and small firms, for which 36 (50 per cent) and 27 firms (55 per cent) respectively indicated always or often true.

Both local private and government firms found banks too cautious, as is evident by over 60 per cent of each of these groups stating that banks were always/often too cautious. This compares with the 20 foreign firms where only 6 or 30 per cent claimed to have found banks always or often too cautious.

Constraints to Business

Most of the factors offered were identified as constraints to firms' scale of operations. The most significant, however, was market size, which was indicated by 94 per cent of reporting firms. This was followed by the availability of finance and the cost of finance both of which recorded 87 per cent (135 responses), and the availability of management which recorded 83 per cent. Firms were also asked if they had difficulty in expanding their business over the five (5) years prior to the survey. Of the total number of firms surveyed, 13 firms did not respond, while 102 (66 per cent) had no difficulty expanding business. Of the three (3) factors identified as limiting expansion, the two most important were the unavailability of loanable funds and banks querying project feasibility. For each of these two factors, 22 firms (38.6 per cent) indicated these factors as constraints. While a total of 13 firms (22.8 per cent) were affected by lack of collateral, only five (5) firms were affected by all three (3) factors.

Among small firms, queries regarding project feasibility was the most common factor as indicated by 10 firms (43.5 per cent) followed by the unavailability of funds. A total of 24 of the 34 large firms found none of these factors limiting expansion. Five (5) firms (45.5 per cent), however, were limited by a lack of collateral.

Of responding firms, whether classified by years in operation, ownership or industry group, the responses were largely similar. Where they differed significantly in percentage terms, however, the number of firms involved was very small. Moreover, firms were mostly unaffected by these factors, and in those instances where they were affected queries regarding project feasibility and the unavailability of loanable funds remained the most common response.

SOURCES OF FUNDS

The sources of finance available to firms have been traditionally classified as either internal or external. For the purposes of this survey internally generated funds are defined as funds from operating profits before depreciation and other non-cash expenses. The availability of such funds reflects current and past profit levels, as well as depreciation provisions, taxation and the companies' dividend policy. The major external sources of funds have traditionally been: bank borrowing, trade credits, share issues and long term debt issues. Choosing among these instruments depends on the desired capital structure of firms as well as their relative cost and availability. In this section, we begin with an analysis of the internal funds ratio — defined as the ratio between internally generated funds and total sources of funds. We also undertake a more detailed analysis designed to highlight the role of commercial banks in the funding of businesses. Unfortunately, the response rates for items on sources and uses of funds were generally lower than for some of the other items analyzed, and readers are asked to bear this in mind as they examine the data.

Internal Sources

Table 10 shows the internal funds ratio analyzed by size of firm, industry grouping, ownership and years in operation. For the sample as a whole, the median internal funds ratio was 30.6 per cent. An analysis of the grouped data reveals that 17.4 per cent of the respondents had an internal fund ratio below 10 per cent, 42.6 per cent had a ratio between 10 and 50 per cent while almost 24 per cent generated over half their funds internally. Generally, larger firms displayed greater reliance on internal funds than smaller firms. The median internal funds ratio for large firms was 37.9 per cent, for small firms the ratio was 32.9 per cent while the average for medium-sized firms was 23.9 per cent. The relatively low median for medium sized firms resulted from the fact that seven of the medium sized firms reported negative internal funds ratios.

The internal funds ratio also exhibited some variability when analyzed by industry grouping. Firms in the Other Services sector were most reliant on internal funds as the average for this cohort was 44.6 per cent. Indeed, 7 firms (25 per cent) in this sector reported internal funds ratios over 70 per cent. On the other hand, firms in the

TABLE 10: INTERNAL FUNDS RATIO BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Internal Funds/Total Sources of Funds												Total all Firms		
	Under 10%		10-25%		26-50%		51-70%		Over 70%		Not Stated				
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Median
TOTAL, ALL FIRMS	27	17.4	31	20.0	35	22.6	11	7.1	26	16.8	25	16.1	155	100.0	30.6
SIZE OF FIRM															
Small	7	14.3	8	16.3	11	22.4	2	4.1	9	18.4	12	24.5	49	100.0	32.9
Medium	15	20.8	17	23.6	15	20.8	6	8.3	10	13.9	9	12.5	72	100.0	23.9
Large	5	14.7	6	17.6	9	26.5	3	8.8	7	20.6	4	11.8	34	100.0	37.9
INDUSTRY GROUP															
Petroleum	3	17.6	2	11.8	7	41.2	1	5.9	3	17.6	1	5.9	17	100.0	38.2
Manufacturing	8	13.3	12	20.0	16	26.7	6	10.0	10	16.7	8	13.3	60	100.0	33.0
Other Goods Producing	2	40.0	1	20.0	1	20.0	0	—	0	—	1	20.0	5	100.0	9.7
Distributive	11	24.4	12	26.7	5	11.1	3	6.7	6	13.3	8	17.8	45	100.0	20.9
Other Services	3	10.7	4	14.3	6	21.4	1	3.6	7	25.0	7	25.0	28	100.0	44.6
OWNERSHIP															
Local	23	18.9	25	20.5	29	23.8	9	7.4	14	11.5	22	18.0	122	100.0	26.8
Government	3	23.1	1	7.7	3	23.1	1	7.7	3	23.1	2	15.4	13	100.0	41.5
Foreign	1	5.0	5	25.0	3	15.0	1	5.0	9	45.0	1	5.0	20	100.0	51.0
YEARS IN OPERATION															
Under 10 years	7	16.7	10	23.8	10	23.8	3	7.1	5	11.9	7	16.7	42	100.0	27.3
10-25 years	11	20.0	9	16.4	16	29.1	1	1.8	8	14.5	10	18.2	55	100.0	28.0
Over 25 years	8	16.0	9	18.0	9	18.0	7	14.0	10	20.0	7	14.0	50	100.0	39.2
Not Stated	1	12.5	3	37.5	0	—	0	—	3	37.5	1	12.5	8	100.0	20.9

Other Goods Producing sector appeared to be most reliant on external funds, reporting a median internal funds ratio of 9.7 per cent. As expected, firms in the Petroleum sector exhibited relatively high internal funds ratios as their median ratio was 38.2 per cent. An analysis of the grouped data reveals that 5 firms (29.4 per cent) in this sector had internal funds ratios below 25 per cent, while 41.2 per cent of those in the sector relied on internal funds for between 26 and 50 per cent of total sources of funds. In a manner similar to the Other Goods Producing sector, firms in the Distributive sector were generally more reliant on external funds. The average for firms in this sector was 20.9 per cent while 51.1 per cent of the firms in Distribution reported internal funds ratios below 25 per cent.

An analysis of the internal funds ratio by ownership, revealed that local private sector firms relied less on internal funding than firms classified as government controlled or foreign owned. The median internal funds ratio for locally owned firms was 26.8 per cent while for government controlled and foreign firms the ratio was 41.5 and 51 per cent, respectively. It should be noted that the typical government-controlled firm that responded to the survey had been successful over the last three years, which may have accounted for relatively high internal funds ratios for these firms. The extent of the foreign firms' reliance on internal funds can be gauged by the fact that 45 per cent or nine of the foreign firms reported internal funds ratios that exceeded 70 per cent; however, this may reflect the greater profitability of foreign firms as well as past Central Bank restrictions on lending to these firms.[1]

Finally, the more mature firms among the respondents to the survey appeared to be less reliant on external funds than the more recently established firms. The median internal funds ratio for firms established over 25 years was 39.2 per cent, while the internal funds ratios for firms operating for under 10 years and between 10 and 25 years were 27.3 per cent and 28 per cent, respectively. Few of the more mature firms had internal funds ratios that were below 25 per cent (34 per cent), in contrast to 40 per cent of the firms operating for less than 10 years and 36.4 per cent for firms operating between 10 and 25 years which all had internal funds ratios below 25 per cent.

TABLE 13: REASONS FOR CHOICE OF MOST UTILIZED LOAN FACILITY BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Reasons for Choice of Most Utilized Loan Facility														Total Responses	
	Cost of Funds		Immediate Access		Flexibility		Too much Collateral		Choose All		None		Not Stated			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	44	21.4	73	35.4	77	37.4	12	5.8	2	1.6	10	8.2	2	1.6	122	100.0
SIZE OF FIRM																
Small	10	17.9	24	42.9	20	35.7	2	3.6	0	—	1	3.2	1	3.2	31	100.0
Medium	20	18.5	38	35.2	44	40.7	6	5.6	2	3.1	6	9.4	1	1.6	64	100.0
Large	14	33.3	11	26.2	13	31.0	4	9.5	0	—	3	11.1	0	—	27	100.0
INDUSTRY GROUP																
Petroleum	5	25.0	5	25.0	7	35.0	3	15.0	0	.0	1	8.3	0	—	12	100.0
Manufacturing	19	20.2	33	35.1	35	37.2	7	7.4	2	3.8	2	3.8	2	3.8	53	100.0
Other Goods Producing	2	28.6	3	42.9	2	28.6	0	—	0	—	0	—	0	—	4	100.0
Distributive	10	18.2	21	38.2	24	43.6	0	—	0	—	4	11.8	0	—	34	100.0
Other Services	8	26.7	11	36.7	9	30.0	2	6.7	0	—	3	15.8	0	—	19	100.0
OWNERSHIP																
Local	34	19.4	65	37.1	67	38.3	9	5.1	2	2.0	8	7.8	1	1.0	102	100.0
Government	4	33.3	3	25.0	3	25.0	2	16.7	0	—	2	20.0	1	10.0	10	100.0
Foreign	6	31.6	5	26.3	7	36.8	1	5.3	0	—	0	.0	0	—	10	100.0
YEARS IN OPERATION																
Under 10 years	9	22.0	12	29.3	16	39.0	4	9.8	1	3.4	4	13.8	2	6.9	29	100.0
10-25 years	14	18.4	28	36.8	27	35.5	7	9.2	1	2.4	1	2.4	0	—	41	100.0
Over 25 years	19	24.1	30	38.0	29	36.7	1	1.3	0	—	3	6.7	0	—	45	100.0
Not Stated	2	20.0	3	30.0	5	50.0	0	—	0	—	2	28.6	0	—	7	100.0

External Sources

Firms identified bank funds (bank loans and decreases in cash and bank balances) as well as trade credit as their major sources of external funds. The median external funds ratio for the entire sample was 69.4 per cent. However, there was considerable variation in this ratio. Indeed, it was observed that some of the more successful firms seemed to be quite conservative when it came to the direct use of bank funds. Thus, while the mean bank funds ratio was 26.3 per cent, the median was only 7.7 per cent. The ratio of trade credits to total sources of funds was also positively skewed and this median was 7.7 per cent. An analysis of the grouped data revealed that the majority of firms (87 firms or 56.1 per cent) reported that bank resources represented less than 25 per cent of total sources of funds. While 14 firms (9 per cent) reported that the ratio of bank funds to total sources of funds was between 26 and 50 per cent, 20 firms (12.9 per cent) reported that it was between 51 and 70 per cent, while 9 firms (5.8 per cent) indicated that the ratio exceeded 70 per cent. An analysis of ownership pattern showed that 21.4 per cent of the locally-owned firms reported a ratio of bank funds to total sources of funds to be over 50 per cent, while 75 per cent of foreign-owned firms and 53.8 per cent of the government-controlled respondents reported that this ratio was under 10 per cent.

Bank Financing

In order to obtain a clearer picture of the use of commercial bank credit, the firms were asked to list by type of loan, the total value of commercial bank credit outstanding as at May 31, 1992. Thirty firms (19.4 per cent) indicated that they had no commercial bank credit outstanding. More than half the firms (17) that had no commercial bank outstanding were small firms, a similar number were locally-owned although these firms represented only 13.9 per cent of all locally-owned firms. Foreign owned firms did not seem to utilise the local commercial bank financing facilities as half of the foreign owned firms reported that they had no commercial bank credit outstanding. Thirteen (31 per cent) of the firms that had been in operation for less than 10 years reported that they had no commercial bank credit outstanding as of May 31, 1992. Of firms in operation between 10 and

25 years and over 25 years, 21.8 and 10 per cent respectively, reported no outstanding bank credit for the same period.

Among firms which had bank credit, overdraft credit appeared to be the most popular instrument of bank borrowing. The median ratio for overdraft credit to total bank credit was 58 per cent. When analyzed by size of firm there was a marked preference for this form of financing among small firms, as the median small firm reported that overdraft credit represented 100 per cent of total bank credit. It was further observed that 18 of the small firms (36.7 per cent) responding, reported overdraft credit as representing over 70 per cent of total bank credit. On the other hand, the average for large firms was 23.5 per cent, while 26.5 per cent of these firms reported a ratio of less than 10 per cent. Firms in the Distributive sector seemed to favour this form of credit. The median proportion of overdraft credit to total credit outstanding was 72 per cent and 21 firms (46.7 per cent) reported that overdraft loans accounted for more than 70 per cent of total loans. In contrast, firms in the Petroleum sector reported an average ratio of only 28.7 per cent and 35.2 per cent of the firms in this sector reported a ratio of less than 25 per cent. The preference for overdraft credit was also significant in the Other Services sector where the median ratio was 71.2 per cent , and in the Manufacturing sector where the ratio averaged 57.7 per cent.

Firms were also asked to give the reasons why they opted for the financial instrument they were utilizing the most as at May 31, 1992. The most popular reason given was flexibility indicated by 37.4 per cent, followed by immediate access to funds which accounted for 35.4 per cent of the responses. One interesting finding was that only 21.4 per cent of the respondents indicated that cost factors were important in the choice of the credit instruments, while only 5.8 per cent of the respondents indicated that the cost of using alternative instruments had an important effect on their choice of instrument.

USES OF FUNDS

The survey also sought to determine how the funds from the various sources were being put to use by firms. A key concern of development economists has been the efficiency of the financial system in channeling financial resources to firms in the real sector. Economists believe that the more efficient the financial system, the higher

TABLE 14: FIXED INVESTMENT RATIO BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Fixed Investment/Total Sources of Funds												Total all Firms		
	Under 10%		10-25%		26-50%		51-70%		Over 70%		Not Stated				
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Median
TOTAL, ALL FIRMS	52	33.5	33	21.3	28	18.1	5	3.2	12	7.7	25	16.1	155	100.0	15.4
SIZE OF FIRM															
Small	21	42.9	5	10.2	7	14.3	1	2.0	3	6.1	12	24.5	49	100.0	6.5
Medium	23	31.9	18	25.0	13	18.1	3	4.2	5	6.9	10	13.9	72	100.0	15.4
Large	8	23.5	10	29.4	8	23.5	1	2.9	4	11.8	3	8.8	34	100.0	19.6
INDUSTRY GROUP															
Petroleum	3	17.6	3	17.6	5	29.4	2	11.8	3	17.6	1	5.9	17	100.0	27.1
Manufacturing	16	26.7	18	30.0	9	15.0	2	3.3	6	10.0	9	15.0	60	100.0	16.8
Other Goods Producing	2	40.0	0	.0	2	40.0	0	—	0	—	1	20.0	5	100.0	15.4
Distributive	22	48.9	9	20.0	6	13.3	1	2.2	0	—	7	15.6	45	100.0	6.5
Other Services	9	32.1	3	10.7	6	21.4	0	—	3	10.7	7	25.0	28	100.0	19.4
OWNERSHIP															
Local	43	35.2	22	18.0	22	18.0	4	3.3	9	7.4	22	18.0	122	100.0	12.7
Government	1	7.7	5	38.5	3	23.1	1	7.7	1	7.7	2	15.4	13	100.0	24.4
Foreign	8	40.0	6	30.0	3	15.0	0	—	2	10.0	1	5.0	20	100.0	14.0
YEARS IN OPERATION															
Under 10 years	10	23.8	8	19.0	10	23.8	1	2.4	5	11.9	8	19.0	42	100.0	18.4
10-25 years	23	41.8	9	16.4	8	14.5	2	3.6	4	7.3	9	16.4	55	100.0	10.4
Over 25 years	18	36.0	13	26.0	8	16.0	2	4.0	2	4.0	7	14.0	50	100.0	16.1
Not Stated	1	12.5	3	37.5	2	25.0	0	—	1	12.5	1	12.5	8	100.0	16.3

TABLE 15: INVESTMENT IN PLANT AND MACHINERY AS A PROPORTION OF TOTAL INVESTMENT BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Plant and Machinery/Total Investment										Total all Firms		
	Under 30%		30-49%		50-80%		Over 80%		Not Stated				
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Median
TOTAL, ALL FIRMS	66	42.6	15	9.7	25	16.1	28	18.1	21	13.5	155	100.0	30.9
SIZE OF FIRM													
Small	20	40.8	2	4.1	4	8.2	9	18.4	14	28.6	49	100.0	8.2
Medium	35	48.6	6	8.3	18	25.0	10	13.9	3	4.2	72	100.0	29.4
Large	11	32.4	7	20.6	3	8.8	9	26.5	4	11.8	34	100.0	41.0
INDUSTRY GROUP													
Petroleum	6	35.3	0	—	3	17.6	7	41.2	1	5.9	17	100.0	76.0
Manufacturing	18	30.0	8	13.3	17	28.3	13	21.7	4	6.7	60	100.0	54.3
Other Goods Producing	2	40.0	1	20.0	0	—	1	20.0	1	20.0	5	100.0	30.6
Distributive	24	53.3	3	6.7	5	11.1	5	11.1	8	17.8	45	100.0	9.9
Other Services	16	57.1	3	10.7	0	—	2	7.1	7	25.0	28	100.0	8.2
OWNERSHIP													
Local	57	46.7	11	9.0	16	13.1	21	17.2	17	13.9	122	100.0	28.2
Government	1	7.7	4	30.8	2	15.4	4	30.8	2	15.4	13	100.0	50.6
Foreign	8	40.0	0	—	7	35.0	3	15.0	2	10.0	20	100.0	55.3
YEARS IN OPERATION													
Under 10 years	14	33.3	6	14.3	4	9.5	10	23.8	8	19.0	42	100.0	40.5
10-25 years	22	40.0	3	5.5	12	21.8	9	16.4	9	16.4	55	100.0	38.5
Over 25 years	27	54.0	5	10.0	8	16.0	8	16.0	2	4.0	50	100.0	26.3
Not Stated	3	37.5	1	12.5	1	12.5	1	12.5	2	25.0	8	100.0	36.6

TABLE 16: PROPORTION OF INVESTMENT FINANCED BY INTERNAL FUNDS BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Investments/Internal Funds												Total all Firms	
	Nil		1-35%		36-80%		Over 80%		Not Stated		Not Applicable			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	55	35.5	10	6.5	9	5.8	54	34.8	19	12.3	8	5.2	155	100.0
SIZE OF FIRM														
Small	14	28.6	2	4.1	0	—	19	38.8	9	18.4	5	10.2	49	100.0
Medium	33	45.8	5	6.9	8	11.1	18	25.0	7	9.7	1	1.4	72	100.0
Large	8	23.5	3	8.8	1	2.9	17	50.0	3	8.8	2	5.9	34	100.0
INDUSTRY GROUP														
Petroleum	7	41.2	0	—	1	5.9	7	41.2	2	11.8	0	—	17	100.0
Manufacturing	25	41.7	4	6.7	5	8.3	21	35.0	3	5.0	2	3.3	60	100.0
Other Goods Producing	3	60.0	0	—	0	—	0	—	2	40.0	0	—	5	100.0
Distributive	13	28.9	4	8.9	3	6.7	15	33.3	6	13.3	4	8.9	45	100.0
Other Services	7	25.0	2	7.1	0	—	11	39.3	6	21.4	2	7.1	28	100.0
OWNERSHIP														
Local	47	38.5	8	6.6	8	6.6	38	31.1	14	11.5	7	5.7	122	100.0
Government	2	15.4	1	7.7	0	—	7	53.8	3	23.1	0	—	13	100.0
Foreign	6	30.0	1	5.0	1	5.0	9	45.0	2	10.0	1	5.0	20	100.0
YEARS IN OPERATION														
Under 10 years	12	28.6	4	9.5	0	—	17	40.5	6	14.3	3	7.1	42	100.0
10-25 years	20	36.4	2	3.6	5	9.1	18	32.7	7	12.7	3	5.5	55	100.0
Over 25 years	21	42.0	4	8.0	3	6.0	17	34.0	3	6.0	2	4.0	50	100.0
Not Stated	2	25.0	0	—	1	12.5	2	25.0	3	37.5	0	—	8	100.0

the levels of investment and as a consequence increased economic growth and development. In this section we focus our attention on the fixed investment ratio and also examine the relationship between the type of capital investment undertaken and how it was financed.

Investment in Fixed Assets

The survey results indicated that the median respondent invested 15.4 per cent of total funds in fixed assets. Analaysis of the grouped data reveals that 33.5 per cent of the respondents had fixed investment ratios below 10 per cent, 39.4 per cent had ratios between 10 and 50 per cent, while for 10.9 it was over 50 per cent.

When analyzed by size, the median small firm invested about 6.5 per cent of total funds in fixed assets, while medium-sized and large firms were investing 15.4 per cent and 19.6 per cent respectively. Further, while 42.9 per cent of the small firms had fixed investment ratios below 10 per cent, only 23.5 per cent of the large firms had fixed investment ratios below this level.

Analyzed by industry grouping, firms in the Petroleum sector were the heaviest investors as expected, while firms in the Distributive sector had the lowest fixed asset ratios. The median firm in the Petroleum sector had a fixed investment ratio of 27.1 per cent while for the Distributive sector this ratio was only 6.5 per cent. It was also observed that while 29.4 per cent of the firms in the Petroleum sector had fixed investment ratios above 50 per cent, 17.6 per cent had fixed investment ratios below 10 per cent.

The survey results also suggest that the proportion of funds invested varied with ownership. The median fixed investment ratio for government-controlled firms was 24.4 per cent while for locally-owned and foreign firms the median averaged 14 per cent.

Types of Investment

The survey revealed that expenditure on plant and machinery was the most popular type of investment although there were significant variations across size, industry grouping and ownership. The median firm invested about 30 per cent of its budget for fixed assets in plant and machinery. Expenditure on plant and machinery made up less than 30 per cent of investment expenditure for 42.6 per cent (66 firms) of

the 155 captioned firms, while 18.1 per cent reported that over 80 per cent of the investment budget was utilized for plant and machinery.

Some variability was observed in the ratio of investment in plant and machinery to total investment when the data were analyzed by size of firm. Small firms typically spend less on plant and machinery when compared to medium size and large firms. Indeed, the data revealed that the median small firms spent a greater proportion (11.3 per cent) of its investment funds on office equipment than firms in the other size groups. Results indicate that 26.6 per cent of the small firms were spending more than 50 per cent of total investment funds for plant and machinery. In contrast, almost 40 per cent of the medium-sized firms spent over 50 per cent of funds allocated for investment on plant and machinery. Although a relatively smaller proportion of the large firms fell into this cohort (35.3 per cent), about one third of these firms reported that they were investing under 30 per cent of total investment funds in plant and machinery.

An analysis by industry grouping indicated that 58.8 per cent of firms in the Petroleum sector spent over 50 per cent of investment funds on plant and machinery. Further, 41.2 per cent spent over 80 per cent of their investment funds in this manner. Firms in the Manufacturing sector also reported high rates of investment in plant and machinery with 50 per cent reporting investment expenditure in excess of 50 per cent on plant and machinery. By contrast, firms in the Distributive and Other Services sectors typically invested proportionately less on plant and machinery and only 22.2 per cent and 7.1 per cent of these firms respectively were spending more than 50 per cent of investment funds on plant and machinery.

Financing of Capital Investments

The survey instrument requested information on the various sources of finance used for investment in fixed assets. From the analysis, it was evident that the most popular method of financing investment was by internal funds. The survey revealed that 35.5 per cent of the respondents did not use internally generated funds to finance investments, for 6.5 per cent of the firms used less than 35 per cent of such funds to finance investments and 34.8 per cent financed over 80 per cent of their investment in this manner.

Analysis across size of firms indicated that medium sized firms were most numerous among those not utilizing internal funds for investment expenditure while large firms seemed to prefer this method. In fact, 50 per cent of the large respondents reported that internal funds financed more than 80 per cent of their expenditure.

Foreign firms displayed a marked preference for financing investments from internally generated funds as 45 per cent of these firms reported that internal funds financed over 80 per cent of their investment. Government-controlled firms also seemed to prefer internal funding of investment as 53.8 per cent of these firms reported that this accounted for more than 80 per cent of investment funding. In contrast, locally owned firms utilized external funding and only 31.1 per cent of these firms were represented in the 80 per cent and over cohort.

The firms that responded to the survey did not generally utilize overdraft credit to finance investment. However, in the Distributive and Other Goods producing sectors overdraft credit was an important alternative to internal funding. External funding appeared to be an important means of financing investment among firms in the Other Goods Producing Sector.

BUSINESS FINANCIAL STRUCTURE

The financial structure of firms was analyzed utilizing some key financial ratios calculated from balance sheet information for 1991. The response rate was generally good as only 5 firms did not supply any information while 10 firms supplied information for 1990 and 140 firms supplied data for the period requested. Nevertheless, it should be noted that the usual caveats with respect to inference apply in this case.

Gearing

The relationship between medium and long-term debt to net worth or shareholder's equity (Issued Capital plus Reserves) and total assets normally referred to as the gearing of a firm is conventionally used as a measure of financial soundness. The debt to equity ratio indicates the relative importance of external funds to financing the operations of the firm. Preliminary analysis revealed that the median debt to equity ratio for the respondents to the survey was 127.3 per cent.

However, the level of gearing was significantly higher for small firms when compared to larger firms. The median debt to equity ratio was 143.7 per cent for small farms, 130.9 per cent for medium-sized firms and 88 per cent for large firms. Analysis of the grouped data by size of firm indicated that 55.5 per cent of the medium-sized firms surveyed had ratios over 100 per cent, 55.1 per cent of the small firms and 38.2 per cent of the large firms registered ratios over 100 per cent.

When analyzed by ownership, government controlled firms emerged with the lowest median debt to equity ratios (45.1 per cent) while locally-owned and foreign-owned firms had median debt to equity ratios of 163 per cent and 75 per cent, respectively. In terms of years in operation, firms in operation between 10 and 25 years had the highest median debt to equity ratios averaging 163.6 per cent debt to assets ratio of 63.1 per cent. Firms operating more than 25 years registered higher debt to equity ratios than firms operating less than 10 years.

Of the 155 responding firms, 51.6 per cent (80 firms) had a debt to equity ratio of over 100 per cent, 27.1 per cent registered a ratio between 40 and 100 per cent and 13.5 per cent or 21 firms were under 40 per cent. Of the 80 firms which had a gearing ratio over 100 per cent, 11.6 per cent had ratios of over 500 per cent, the other firms had ratios between 100 and 500 per cent. The non-response rate for this section of the questionnaire was 7.7 per cent (12 firms).

Analysis by industry grouping indicated that firms in the Distributive sector had the highest median debt to equity ratio which stood at 169.7 per cent while the lowest rate recorded was 78.5 per cent from the Petroleum sector. A cross-sectional analysis highlights that of the 80 firms which registered a ratio over 100 per cent, 37.5 per cent were in the Manufacturing sector and 36.3 per cent in the Distributive sector. Taken together, they account for almost 75 per cent of the firms registering a ratio of over 100 per cent. Of the 27.1 per cent which had ratios between 40 per cent and 100 per cent, 21 were in the Manufacturing sector and 7 in the Distributive sector. In the Petroleum sector 64.7 per cent (10 firms) had debt to equity ratios below 100 per cent while 11.8 per cent had ratios which exceeded 500 per cent. Eighty firms (51.6 per cent) had debt to equity ratios of over 100 per cent, and of these, 92.5 per cent (74 firms) were locally-

TABLE 17: COMPARATIVE GEARING RATIOS BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION
(Per Cent)

Size, Industry group Ownership and Years In Operation	Debt/ Equity Ratio	Equity/ Assets Ratio	Debt/Assets
	Median	Median	Median
TOTAL, ALL FIRMS	127.3	40.4	59.6
SIZE OF FIRM			
Small	143.7	37.7	62.3
Medium	130.9	37.8	62.2
Large	87.9	47.4	52.6
INDUSTRY GROUP			
Petroleum	78.5	46.9	53.1
Manufacturing	118.6	43.7	56.3
Other Goods Producing	136.8	17.9	82.1
Distributive	169.7	28.7	71.3
Other Services	101.8	42.9	57.1
OWNERSHIP			
Local	163.0	36.4	63.6
Government	45.1	61.9	38.1
Foreign	75.0	54.4	45.6
YEARS IN OPERATION			
Under 10 years	86.2	37.1	62.9
10-25 years	163.6	36.9	63.1
Over 25 years	94.4	47.2	52.8

owned while 5 were foreign-owned. The lone government controlled firm which fell in this group registered a ratio over 500 per cent.

The behaviour of the equity to assets and debt to assets ratios displayed a similar pattern to that of the debt equity ratio. The highest gearing ratios were seen in the locally-owned firms within the Manufacturing and Distributive sectors which had been operating for over 10 years. However, foreign-owned companies were not as highly geared. Of the twenty foreign firms surveyed, only 5 registered debt to equity ratios over 100 per cent, 11 firms had ratios between 40 and 100 per cent and 4 firms had ratios of under 40 per cent.

TABLE 18: DEBT/EQUITY RATIO BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Debt/Equity Ratio										Total all Firms	
	Over 500%		101-500%		40-100%		Under 40%		Not Stated			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	18	11.6	62	40.0	42	27.1	21	13.5	12	7.7	155	100.0
SIZE OF FIRM												
Small	6	12.2	21	42.9	8	16.3	8	16.3	6	12.2	49	100.0
Medium	7	9.7	33	45.8	21	29.2	8	11.1	3	4.2	72	100.0
Large	5	14.7	8	23.5	13	38.2	5	14.7	3	8.8	34	100.0
INDUSTRY GROUP												
Petroleum	2	11.8	5	29.4	5	29.4	5	29.4	0	—	17	100.0
Manufacturing	5	8.3	25	41.7	21	35.0	7	11.7	2	3.3	60	100.0
Other Goods Producing	0	—	3	60.0	0	—	1	20.0	1	20.0	5	100.0
Distributive	10	22.2	19	42.2	7	15.6	6	13.3	3	6.7	45	100.0
Other Services	1	3.6	10	35.7	9	32.1	2	7.1	6	21.4	28	100.0
OWNERSHIP												
Local	15	12.3	59	48.4	25	20.5	14	11.5	9	7.4	122	100.0
Government	1	7.7	0	—	6	46.2	4	30.8	2	15.4	13	100.0
Foreign	2	10.0	3	15.0	11	55.0	3	15.0	1	5.0	20	100.0
YEARS IN OPERATION												
Under 10 years	6	14.3	12	28.6	12	28.6	10	23.8	2	4.8	42	100.0
10-25 years	7	12.7	28	50.9	13	23.6	2	3.6	5	9.1	55	100.0
Over 25 years	4	8.0	19	38.0	16	32.0	7	14.0	4	8.0	50	100.0
Not Stated	1	12.5	3	37.5	1	12.5	2	25.0	1	12.5	8	100.0

TABLE 19 : EQUITY/ASSET RATIO BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Investments/Internal Funds												Total all Firms	
	Over 70%		51-70%		26-50%		10-25%		Under 10%		Not Stated			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	18	11.6	37	23.9	49	31.6	18	11.6	26	16.8	7	4.5	155	100.0
SIZE OF FIRM														
Small	9	18.4	6	12.2	18	36.7	4	8.2	9	18.4	3	6.1	49	100.0
Medium	5	6.9	19	26.4	24	33.3	12	16.7	10	13.9	2	2.8	72	100.0
Large	4	11.8	12	35.3	7	20.6	2	5.9	7	20.6	2	5.9	34	100.0
INDUSTRY GROUP														
Petroleum	3	17.6	5	29.4	3	17.6	4	23.5	2	11.8	0	—	17	100.0
Manufacturing	10	16.7	17	28.3	24	40.0	2	3.3	5	8.3	2	3.3	60	100.0
Other Goods Producing	0	—	0	—	2	40.0	1	20.0	2	40.0	0	—	5	100.0
Distributive	3	6.7	7	15.6	15	33.3	6	13.3	13	28.9	1	2.2	45	100.0
Other Services	2	7.1	8	28.6	5	17.9	5	17.9	4	14.3	4	14.3	28	100.0
OWNERSHIP														
Local	12	9.8	21	17.2	47	38.5	17	13.9	20	16.4	5	4.1	122	100.0
Government	4	30.8	5	38.5	0	—	0	—	2	15.4	2	15.4	13	100.0
Foreign	2	10.0	11	55.0	2	10.0	1	5.0	4	20.0	0	—	20	100.0
YEARS IN OPERATION														
Under 10 years	7	16.7	11	26.2	8	19.0	5	11.9	10	23.8	1	2.4	42	100.0
10-25 years	4	7.3	9	16.4	23	41.8	7	12.7	9	16.4	3	5.5	55	100.0
Over 25 years	6	12.0	16	32.0	18	36.0	3	6.0	5	10.0	2	4.0	50	100.0
Not Stated	1	12.5	1	12.5	0	—	3	37.5	2	25.0	1	12.5	8	100.0

TABLE 20: DEBT/ASSET RATIO BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Debt/Asset Ratio												Total all Firms	
	Over 70%		51-70%		26-50%		10-25%		Under 10%		Not Stated			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	54	34.8	39	25.2	44	28.4	9	5.8	2	1.3	7	4.5	155	100.0
SIZE OF FIRM														
Small	17	34.7	14	28.6	9	18.4	5	10.2	1	2.0	3	6.1	49	100.0
Medium	25	34.7	21	29.2	21	29.2	3	4.2	0	—	2	2.8	72	100.0
Large	12	35.3	4	11.8	14	41.2	1	2.9	1	2.9	2	5.9	34	100.0
INDUSTRY GROUP														
Petroleum	6	35.3	3	17.6	6	35.3	1	5.9	1	5.9	0	—	17	100.0
Manufacturing	13	21.7	18	30.0	22	36.7	5	8.3	0	—	2	3.3	60	100.0
Other Goods Producing	3	60.0	2	40.0	0	—	0	—	0	—	0	—	5	100.0
Distributive	23	51.1	11	24.4	7	15.6	3	6.7	0	—	1	2.2	45	100.0
Other Services	9	32.1	5	17.9	9	32.1	0	—	1	3.6	4	14.3	28	100.0
OWNERSHIP														
Local	47	38.5	37	30.3	26	21.3	6	4.9	1	.8	5	4.1	122	100.0
Government	2	15.4	0	—	7	53.8	1	7.7	1	7.7	2	15.4	13	100.0
Foreign	5	25.0	2	10.0	11	55.0	2	10.0	0	—	0	—	20	100.0
YEARS IN OPERATION														
Under 10 years	19	45.2	4	9.5	13	31.0	5	11.9	0	—	1	2.4	42	100.0
10-25 years	18	32.7	21	38.2	13	23.6	0	—	0	—	3	5.5	55	100.0
Over 25 years	12	24.0	14	28.0	17	34.0	3	6.0	2	4.0	2	4.0	50	100.0
Not Stated	5	62.5	0	—	1	12.5	1	12.5	0	—	1	12.5	8	100.0

Importance of Commercial Bank Credit

The relative level of firms' indebtedness to commercial banks was also surveyed. It should be noted that the following analysis probably understates the importances of commercial bank credit in the financial structure of firms as the category "other liabilities" typically includes items such as trade credits which may have been facilitated mainly through commercial bank financing.

Overall, commercial bank liabilities as a proportion of total assets averaged 13.5 per cent while the ratio of commercial bank liabilities to total liabilities averaged 25 per cent (see Table 21). Analysis of the grouped data reveals that 6.4 per cent of firms surveyed recorded a ratio of commercial bank liabilities to total assets of over 50 per cent, 20 per cent (31 firms) a ratio between 26 and 50 per cent and 69.1 per cent were below 25 per cent. In the case of the commercial bank liabilities as a proportion of total liabilities, 7.7 per cent or 12 firms were over 70 per cent, while for 47.1 per cent of the respondents (73 firms), this ratio was under 25 per cent.

The most significant source of variability in these ratios was observed when the data were analyzed by ownership. In the case of the commercial banks liabilities to total assets ratio, the median for locally owned firms stood at 15.6 per cent while, for government firms this ratio averaged 5.48 per cent. The median foreign owned firm had no commercial bank credit outstanding as foreign owned firms were then restricted from accessing domestic credit. Grouped data analysis revealed that the 69.2 per cent of the government-controlled firms and 80 per cent of the foreign-owned firms had bank liabilities to total asset ratios of under 10 per cent. This pattern also applied to the ratio of bank liabilities as a proportion of total liabilities. The median for locally-owned firms was 30.4 per cent with 25.4 per cent of the locally-owned firms reporting that this ratio exceeded 50 per cent. By contrast, for government controlled firms, commercial bank liabilities as a proportion of total liabilities averaged 6.9 per cent, with 46.2 per cent of these firms recording ratios less than 10 per cent. In line with the financial institution hypothesis, the average for foreign firms was zero per cent with 80 per cent of these firms reporting ratios below 10 per cent (see Table 21 and 22). Interestingly, for locally-owned firms the median ratio of long term commercial bank liabilities to total liabilities stood at 15.6 per cent.

TABLE 21: IMPORTANCE OF COMMERCIAL BANK CREDIT BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION
(Per Cent)

Size, Industry group, Ownership and Years In Operation	Commercial Banks Liabilities/Total Assets	Commercial Banks Liabilities/Total Liabilities
	Median	Median
TOTAL, ALL FIRMS	13.49	25.03
SIZE OF FIRM		
Small	7.83	16.81
Medium	16.55	31.47
Large	12.63	18.38
INDUSTRY GROUP		
Petroleum	9.92	26.56
Manufacturing	14.47	31.29
Other Goods Producing	20.34	11.98
Distributive	15.19	20.09
Other Services	3.64	10.76
OWNERSHIP		
Local	15.61	30.39
Government	5.48	6.86
Foreign	—	—
YEARS IN OPERATION		
Under 10 years	14.92	31.59
10-25 years	9.38	15.08
Over 25 years	14.72	29.43

Analyzed by industry grouping, the data revealed significant differences in the relative importance of commercial bank credit. Firms in the Other Services sector recorded the lowest ratios for commercial bank liabilities to total assets (3.6 per cent) as well as commercial bank liabilities to total liabilities (10.7 per cent). By contrast, firms in the Manufacturing and Petroleum sectors reported averages for the ratio of commercial bank liabilities to total liabilities of 31.3 per cent and 26.6 per cent, respectively. Indeed, analysis of the grouped data indicates that for twelve of the 28 firms in the Other Services sector commercial bank liabilities constituted less than 10 per cent of total long term liabilities, while in the Manufacturing and Petroleum sectors this cohort was occupied by 25 per cent and 35.3 per cent respectively of the firms in these sectors.

The survey results also revealed that the importance of commercial bank credit in the financial structure of firms appeared to vary considerably with the age of the firm. The variation was most pronounced for the ratio of commercial bank liabilities to total liabilities where the ratio for the most recently established firms was 31.6 per cent, with 28.6 per cent (12) of these firms reporting ratios above 51 per cent. In the case of firms operating between 10 and 25 years, the median was 15.1 per cent largely on account of the number of firms (38.2 per cent or 21 firms) reporting that commercial bank liabilities represented less than 10 per cent. By contrast, for the longest established firms the ratio of commercial bank liabilities to total liabilities averaged 29.4 per cent as the modal class was between 26 and 50 per cent.

SECTION V

Summary and Conclusion

The foregoing represents an attempt to garner current information on the extent to which firms were utilizing commercial bank credit to finance their operations, the preferred choice of financing instrument and the factors that may have influenced this choice. In addition, the survey also probed the quality of bank-firm relationships, constraints to expansion and the use of funds, both internally and externally generated.

The results indicate that multiple banking relationships were not typical as most firms dealt with one or two banks. Firms maintaining multiple banking relationships advanced flexibility and prudence as the two main reasons for so doing. In terms of the quality of bank-firm relationships, small firms tended to have a lower assessment of the quality of their relationship with banks, compared to large firms. In fact, a similar pattern was observed for firms' perception of their general relationship, the business advice given and the business services provided. In proportionate terms, large firms, followed by those of medium size, gave a more positive rating for all three areas of bank relations surveyed. It is important to note, however, that while for the general relationship over 80 per cent of the respondents indicated excellent or very good, for business advice and business services 41 and 54 per cent, respectively, gave this response.

TABLE 22: LIABILITIES OF COMMERCIAL BANKS AS A PROPORTION OF TOTAL ASSETS BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Liabilities to Commercial Banks/Total Assets												Total all Firms	
	Over 70%		51-70%		26-50%		10-25%		Under 10%		Not Stated			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	3	1.9	7	4.5	31	20.0	41	26.5	66	42.6	7	4.5	155	100.0
SIZE OF FIRM														
Small	1	2.0	3	6.1	7	14.3	8	16.3	27	55.1	3	6.1	49	100.0
Medium	2	2.8	2	2.8	19	26.4	23	31.9	24	33.3	2	2.8	72	100.0
Large	0	—	2	5.9	5	14.7	10	29.4	15	44.1	2	5.9	34	100.0
INDUSTRY GROUP														
Petroleum	0	—	2	11.8	1	5.9	5	29.4	9	52.9	0	—	17	100.0
Manufacturing	1	1.7	1	1.7	12	20.0	19	31.7	25	41.7	2	3.3	60	100.0
Other Goods Producing	0	—	1	20.0	1	20.0	2	40.0	1	20.0	0	—	5	100.0
Distributive	1	2.2	1	2.2	13	28.9	13	28.9	16	35.6	1	2.2	45	100.0
Other Services	1	3.6	2	7.1	4	14.3	2	7.1	15	53.6	4	14.3	28	100.0
OWNERSHIP														
Local	2	1.6	6	4.9	30	24.6	38	31.1	41	33.6	5	4.1	122	100.0
Government	0	—	1	7.7	1	7.7	0	—	9	69.2	2	15.4	13	100.0
Foreign	1	5.0	0	—	0	—	3	15.0	16	80.0	0	—	20	100.0
YEARS IN OPERATION														
Under 10 years	1	2.4	2	4.8	12	28.6	9	21.4	17	40.5	1	2.4	42	100.0
10-25 years	1	1.8	3	5.5	10	18.2	11	20.0	27	49.1	3	5.5	55	100.0
Over 25 years	1	2.0	1	2.0	8	16.0	18	36.0	20	40.0	2	4.0	50	100.0
Not Stated	0	–	1	12.5	1	12.5	3	37.5	2	25.0	1	12.5	8	100.0

TABLE 23: LIABILITIES OF COMMERCIAL BANKS AS A PROPORTION OF TOTAL LIABILITIES BY SIZE, INDUSTRY GROUP, OWNERSHIP AND YEARS IN OPERATION

Size, Industry Group, Ownership and Years In Operation	Liabilities to Commerical Banks/Total Liabilities												Total all Firms	
	Over 70%		51-70%		26-50%		10-25%		Under 10%		Not Stated			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
TOTAL, ALL FIRMS	12	7.7	22	14.2	41	26.5	25	16.1	48	31.0	7	4.5	155	100.0
SIZE OF FIRM														
Small	5	10.2	8	16.3	7	14.3	5	10.2	21	42.9	3	6.1	49	100.0
Medium	6	8.3	9	12.5	25	34.7	15	20.8	15	20.8	2	2.8	72	100.0
Large	1	2.9	5	14.7	9	26.5	5	14.7	12	35.3	2	5.9	34	100.0
INDUSTRY GROUP														
Petroleum	0	—	3	17.6	6	35.3	2	11.8	6	35.3	0	—	17	100.0
Manufacturing	4	6.7	9	15.0	21	35.0	9	15.0	15	25.0	2	3.3	60	100.0
Other Goods Producing	0	—	1	20.0	1	20.0	1	20.0	2	40.0	0	—	5	100.0
Distributive	5	11.1	5	11.1	11	24.4	10	22.2	13	28.9	1	2.2	45	100.0
Other Services	3	10.7	4	14.3	2	7.1	3	10.7	12	42.9	4	14.3	28	100.0
OWNERSHIP														
Local	10	8.2	21	17.2	34	27.9	23	18.9	29	23.8	5	4.1	122	100.0
Government	1	7.7	1	7.7	2	15.4	1	7.7	6	46.2	2	15.4	13	100.0
Foreign	1	5.0	0	—	5	25.0	1	5.0	13	65.0	0	—	20	100.0
YEARS IN OPERATION														
Under 10 years	6	14.3	6	14.3	12	28.6	4	9.5	13	31.0	1	2.4	42	100.0
10-25 years	4	7.3	8	14.5	7	12.7	12	21.8	21	38.2	3	5.5	55	100.0
Over 25 years	2	4.0	6	12.0	20	40.0	7	14.0	13	26.0	2	4.0	50	100.0
Not Stated	0	—	2	25.0	2	25.0	2	25.0	1	12.5	1	12.5	8	100.0

Similar to the findings of Farrell et al (1986), the most binding constraint to firms' scale of operations was market size. In order of importance, this was followed by the cost of finance and the availability of finance. In the previous study, however, the availability of management was the next most important factor to market size as a binding constraint. Of the factors offered as limitations to business expansion, few firms were affected by any, while those affected identified the availability of loanable funds and queries of project feasibility.

The survey disclosed that over the past 10 years since the last survey, the relative importance of internal funds in financing corporate activities has remained virtually unchanged, when measured by the median. The 1982 Corporate Financing Study found that the median firm generated 32 per cent of its funds internally while in 1992 the ratio obtained was 30.6 per cent. Farrell et al ascribed their observed ratio to fairly buoyant conditions, a high liquidity environment and therefore relatively easy access to credit. The stability of the ratio, notwithstanding successive years of negative economic growth and much less liquidity, suggests that there is a preference for external funding which is invariant to prevailing economic conditions.

The observed similarity of the median internal funds ratios with those of the 1986 study extended to the classification by size. Again, the ratio for small and large firms were highest with medium size firms registering the lowest. Although large firms in 1992 displayed the greatest reliance on internal funds, compared with small funds in 1982, the changes involved are quite small, making any conclusions drawn about this shift, tenuous at best. Further, the choice of external financing instrument reflected some conservatism on the part of the more successful firms regarding the use of bank credit. Almost half the firms reported bank funds ratios of under 10 per cent. These firms were predominantly medium sized, manufacturing firms, locally owned and operating in the private sector (see Table 11).

While it was noted that many firms did not have bank credit at the end of their last financial year, bank overdraft accounted for the single largest component for firms with outstanding credit.[2] In fact, one-third of the firms had over 70 per cent in overdraft credit, while for an almost equal amount, overdrafts accounted for between 25 and 70 per cent. Clearly, the results indicate flexibility and the imme-

diacy of access as the overriding reason for such heavy utilization of overdraft credit.

Just about half of the firms surveyed applied 25 per cent or less of their total funds to fixed assets, while the median firm invested approximately 15 per cent. As would be expected, Petroleum firms were the most heavy investors in fixed investments. Categorized by ownership, government controlled firms applied twice as much, in proportionate terms, in fixed assets than was the case for either private or foreign controlled firms.

An examination of firms' financial structure was undertaken to determine the extent of owners/shareholders financial stake in their businesses. The results were similar to the Farrell et al study, and it was found that firms were relatively highly geared, with small firms registering higher ratios than medium size or large firms. Whereas the 1981/1982 study found that newly established firms registered higher gearing ratios than their more mature counterparts, our survey found the opposite. This may be attributed to the declining economic conditions and extreme caution on the part of banks in extending credit to new businesses.

Another point of divergence between the current survey and the Farrell et al report relates to the ownership structure of firms. In this survey the median government controlled firm was observed to be less geared when compared to the foreign owned firms, however the results of the 1982 study found the reverse to be true. Nevertheless, firms continue to have a high ratio of debt to shareholders' equity as demonstrated in the 1982 survey.

As already noted, declining economic conditions had little impact on firms' financing strategy. The shortage of bank funds (characterized by very high interest rates) has not been an important enough deterrent for firms to seek alternative financing. Admittedly, Trinidad and Tobago does not have a developed capital market and firms have limited scope for raising additional capital to finance their operations hence their heavy reliance on debt.

In general, the results of both surveys were quite similar, though it is recognised that these may not be strictly comparable on account of the different sampling technique employed. Although there were few anomalies in the data, these were indicative of the need to further refine the survey instrument. The experience suggests that it may also be useful to institutionalize surveys of this type so as to monitor

changes in corporate financing structure and to facilitate an assessment of the impact of monetary policy on this structure.

NOTES

1 Largely, foreign owned firms operating locally were subsidiaries or affiliated companies, thereby enabling them to access resources from foreign based parent companies. In addition, the high turnover-low operating cost nature of their activities enhanced their capacity to generate funds internally. It is also possible that local banks may have been unable to meet the highly specialized and sophisticated needs of some foreign owned firms, especially firms in the petrochemicals industry. More importantly, however, Central Bank restrictions, then in force, inhibited access to the domestic financial market by foreign owned firms.

2 This may not be representative of their true state of affairs as it is the practice of many firms to "tidy up" their accounts at the financial year's end to meet disclosure requirements.

REFERENCES

Bourne, C. "Business Financial Behaviour and the Credit System in Guyana". Paper presented at the Regional Monetary Studies Conference, Nassau, 1972.

Farrell, T., Najar, A., and Marcelle, H. (1986). "Corporate Financing and Use of Bank Credit in Trinidad and Tobago", *Social and Economic Studies*, Vol. 35, No. 4.

Greenwald, B., Stiglitz, J.E., and Weiss, A. (1984). "Information imperfections in the capital market and macroeconomic fluctuations", *American Economic Review*, Vol. 74.

Mains, M. "Recent Corporate Financing Patterns", *Federal Reserve Bulletin*, September 1980.

Mark, A.A. "Public Companies, Private Companies and Disclosure: How the Non-Disclosure of Financial Information Affects the National Economy", U.W.I., St. Augustine, 1973.

Mayer, C.P. (1987). "Financial Systems and Corporate Investment", *Oxford Review of Economic Policy*, p. 3.

Modigliani, F. and Miller, M.H. (1958). "The Cost of Capital, Corporate Finance and the Theory of Investment", *American Economic Review*, 48, pp. 201-297.

Myers, S. (1977). "Determinants of Corporate Borrowing", *Journal of Financial Economics*, 5, pp. 147-75.

Palmer, R. "Financing Corporate Investment in Jamaica", *Social and Economic Studies*, September 1967.

Financing The "People's Sector":[1] Credit Delivery For Small Business Development In Trinidad-Tobago

Deryck R. Brown

Within recent times, the government of Trinidad-Tobago has begun anew to promote and actively encourage entrepreneurial attitudes and Small-Scale Enterprises (SSEs) as a matter of deliberate public policy. The fact that many multilateral financial institutions, international aid donors and NGDOs (Non-Governmental Development Organisations) are prepared to make funds available for this purpose no doubt contributes to this recent upsurge in the popularity of the small business sector. In 1987, for instance, the American Congress passed legislation mandating the USAID — which had always emphasised the expansion of the private sector, including small and micro-enterprises — to spend at least US$50 million of its budgeted funds for fiscal 1988 on a programme of credit and other assistance specifically to micro-enterprises in developing countries (Economic Impact, 1988: 63/2).

Small and micro-enterprises are promoted because they are said to present a range of self-employment opportunities with scope for significant backward linkages with agricultural and basic goods sectors. They are labour intensive, viz. there is a low capital/labour ratio. Creating one job in the small business sector costs a mere fraction of what it costs to create a job in the large-scale sector. Small firms are likely to be substantially less import-dependent than their larger counterparts, making constructive use of local raw materials and traditional skills. In fact, products from the small-scale sector can contribute to export earnings while at the same time conserving foreign exchange. Moreover, small producers can supply cheaper goods to the domestic consumer, which is important when real incomes are falling. Increased incomes among small entrepreneurs will stimulate domestic demand for a wide range of goods and services, thereby contributing to the increased pace of economic activity. It is for these

reasons that governments seek to implement small business promotion policies.

For decision-makers concerned with the promotion of small businesses, providing the financial resources needed to start up firms and keep them going is an important issue. Finance is arguably THE KEY ISSUE in small business development. Financial support for the sector may be supplied through the employment of a variety of policy instruments. Ultimately, the objective is to channel a greater share of scarce resources to small entrepreneurs with viable and bankable projects. Yet, by and large, there is a fair consensus that the single greatest hurdle facing the small entrepreneur is access to capital.

That financial resources and their efficient allocation generally present a problem for policy-makers in undeniable. Money is a problem whether it is in short supply, whether it exists in adequate quantities, and perhaps especially when it is in abundance. Capital is not equally available to everyone in society. Some enjoy privileged access to institutional credit, either because of government policy or because of long-standing relationships with commercial banks. Large firms tend to have a decided advantage in this regard. Anderson (1982), for example, points to "the exceedingly unequal ways in which industrialization and financial policies have favoured large scale in most developing countries"; while FitzGerald (1989) argues that obtaining investment funds is easier for large rather than small-scale enterprises since larger enterprises and conglomerates have closer contacts with bank managers and directors. According to FitzGerald:

> Preferential access to funds is not the result of financial repression, but of a perfectly rational capitalist accumulation strategy on the part of large-scale enterprises....

There is an impressive humanist argument which views credit as a human right which creates entitlement to resources. The more credit one can receive, the more resources one can command and the more powerful one is. Credit equips a dispossessed person to give fight against the economic odds around him. According to this viewpoint, there is nothing in the nature of credit that keeps it away from the poor (see Yunus, 1988).

This paper attempts to address the issue of small business financing in Trinidad-Tobago. In particular, it seeks to establish the existence of an "access problem" and examines the problem in a way that the "blockage points" are revealed more sharply. It assesses the

effectiveness and efficiency of policy instruments adopted since the declaration of Small Business Year in 1970 to funnel increased financial resources into the sector. Two approaches are identified and discussed: the programme approach and the financial market approach. The paper is concerned to show not only that the demand for finance exists, but that the more critical policy challenge is to find the more effective channel(s) of supply, given the government's stated objective of bringing about "the widest possible public participation in business enterprise".

In the first section, there is a theoretical discussion of the role of finance in economic development. Then the "access problem" is defined and its dimensions described. Section 3 examines the programme approach to small business financing. Specifically, it hones in on the IDC's assistance programme. The more recent financial market approach is the subject of the fourth section. Some conclusions and alternative policy directions are presented at the end.

FINANCIAL DEVELOPMENT, ECONOMIC DEVELOPMENT AND THE SMALL BUSINESS SECTOR

The role of finance and the financial system in economic development is of paramount importance. Gurley, Shaw and Goldsmith,[2] among others, have long ago pointed to the intimate relationship between financial development - usually considered in terms of enhanced financial intermediation - and economic development. They argue that financial development contributes to the process of capital accumulation and, by extension, economic growth as it facilitates the transfer of resources from capital-rich to capital-short sectors of the domestic economy. Resources are directed into sectors, normally expected to be the high-productivity sectors, where the return is likely to be highest. The importance of finance to enterprise growth is underscored by Jackelen (1988), who observes that:

> While capital is not the only factor that allows for the growth or creation of enterprises, it is the most vital as without it creativity, drive and innovation cannot be transformed into material actions.

The function of the financial system is to collect the savings of surplus units and to allocate funds to deficit units. This is what is meant by financial intermediation. It is claimed that financial development in the form of enhanced financial intermediation stimulates growth because it separates savers from investors, thereby allowing funds to

be shifted to people with superior investment opportunities. One critical assumption is that financial institutions or intermediaries will allocate resources carefully, according to the anticipated profitability of projects.

Another aspect of financial development implicit in the theoretical arguments is that it changes the allocation of funds away from own-investments and informal credit markets towards official, formal sector financial institutions. For developing countries, this typically means the removal of funds away from own-investments (primarily in small firms or low-yield agriculture) and the unregulated money market (which may finance consumption as well as small firms), which funds are then assigned to banks and used largely to finance bigger, formal sector firms predominantly in urban areas. Financial development is thus likely to make more funds available for industrial finance, albeit mostly for large-scale producers.

Industrial finance ought to be of major concern to development planners, both in the broad sense of financing the overall industrial effort and in the more narrow objective of locating the resources to facilitate the creation and/or expansion of the industrial corporation. Firms require two types of financing. The first requirement is for investment or fixed capital which is long-term in nature and is used for the purpose of installing productive capacity (i.e. plant and equipment). Secondly, firms require working capital which is short-term in nature and is necessary to finance the production and distribution cycles. Both needs can be satisfied from a variety of sources: owner's capital (such as equity shares or retained savings), bank loans, traders' credit, or unorganized, informal money markets.

Mainstream finance theory suggests that long-term assets (i.e. investment capital) should be financed using long-term debt or owner's capital, while short-term assets are to be financed with short-term capital. As Kitchen (1988) points out:

> A general principle of finance is to match the maturity of assets and liabilities. Thus it is desirable to finance long-term assets with long-term financing, whether it be long-term debt or equity (which in principle is indefinite).... The corollary of the general principle is that short-term assets (current assets of working capital) can, and generally should be financed with short-term funds.

Unfortunately, in many developing countries it is not always possible to match long-term assets and debt. This is so in part be-

cause the commercial banking sector has traditionally avoided long-term debt financing and risk-taking. They have generally tended to be financiers of trade rather than financiers of industry, as commercial credit is usually short-term in nature.[3] As a consequence, gearing ratios tend to be fairly high, particularly in small and medium-size industrial enterprises.

The difficulty of matching long-term assets and liabilities in developing countries is compounded by chronic shortages of financial resources and by the narrowness and imperfection of capital markets. It is this latter point which leads Meyer (1988) to write that:

> .... a sound financial system is necessary for economic development. The development challenge is to create a competitive, viable financial market in which entrepreneurs of all income levels with appropriate projects will find loans, and all entrepreneurs and households will find suppliers for their checking, deposit and savings needs.

In the context of Trinidad-Tobago in 1970, there was no "sound financial system" which could be relied upon to mobilize savings for investment in manufacturing enterprises of whatever size, large or small. The financial landscape was dominated by foreign banks which extended loans and advances primarily to finance trade, as evidenced by the fact that the commercial houses made up the greater part of their corporate clientele.[4] From 1970 onwards, the government sought to exert greater local control over the financial sector through a policy of localization and the establishment of indigenous commercial banks, but the behaviour of the banking sector still reveals an insuperable aversion to high-risk ventures. Small firms especially continue to have a problem of access to adequate supplies of capital.

THE "ACCESS PROBLEM"

Studies done on the role of lending institutions, and especially commercial banks, in providing capital to the corporate sector, reveal the relative unavailability of long-term debt or 'seed' capital to start up business enterprises. Farrell *et al* (1983) in a study of corporate financing and business use of bank credit in Trinidad-Tobago, use survey data to show that most firms have access to some form of bank credit, mainly by way of overdraft facilities. Overdraft borrowing is used primarily for stock purchase and other working capital requirements in most firms; it is not expected that overdrafts will be em-

ployed to any great extent in the financing of fixed assets. Nonetheless, 31 per cent of the firms included in the sample had used overdraft borrowing to finance some portion of capital investment. Thus not all firms are able to gain access to long-term capital when necessary, and so are unable to match asset and liability maturity.

Mortgage loans and other longer-term bank borrowing were not found to be significant for most firms; fixed investment has usually been financed by internally-generated funds, though external financing was found to be important in a few cases. Also worth noting is that 49 per cent of the firms sampled had capital projects either deferred, scaled down or completely abandoned due to inadequate collateral support, unavailability of finance or the high cost of credit.

Farrell *et al* conclude that, generally speaking, bank financing has been relatively insignificant in the overall financing of firms, and particularly small firms. Their evidence suggests that such credit as is obtained, is used for specific purposes which other forms of financing may be unable to adequately cover. Availability of finance also appears to be more important than its cost to most firms, though other factors such as market size, management and technical capabilities also bear significantly on the scale of operations.

Henry's (1990) findings seem to support the case advanced by Farrell *et al* (1983). He acknowledges that long-term debt or 'seed' capital is an indispensable requirement for establishing a business. Of the firms included in his survey, 34 per cent had received start-up capital from friends and relatives; 52 per cent used debt capital obtained from commercial banks. Other sources of capital included government programmes and "social capital", the latter referring to resources of the social group, loans from church and other organisations (e.g. credit unions), as well as the informal credit market.

Henry's conclusion is that there is a shortage of long-term 'seed' capital while working capital is easier to come by. This constitutes a serious barrier to an effective small business development strategy. From the study, it is obvious that small firms must tap multiple sources of finance, so that debt capital to start up an enterprise is often made up by a combination of loans from friends and relatives, and one or more other source(s).

The I.S.E.R. studies conducted under the auspices of the *Future of the Caribbean Project* reveal a similar pattern (cf. Ryan and Barclay,

1992; Ramsaran,1993). Out of a total of 168 small firms included in the sample, 36 per cent identified capital as the major hurdle in setting up a business. Some 41 per cent of respondents got start-up capital from commercial banks; 26 per cent used personal savings; 23 per cent were assisted by family members; and 11 per cent used "other sources". Personal savings could include severance payments, sou-sou "hands" or spouse's savings. Some even organized public dances (fetes) to raise the necessary capital.

Interestingly, Afro-Trinidadian and East Indian respondents complained more than other ethnic groups about access to start-up capital. Many had difficulty in securing loans, and where they did, the amount of the loan was inadequate. Afro-Trinidadians also depended least on the commercial banks for working capital requirements and tended to use profits and accumulated savings to keep their businesses going. Others used the banks for working capital, particularly through overdraft facilities. Thus Ramsaran (1993) writes:

> It seems, therefore, that once the business is established, obtaining capital becomes lesss of a difficulty since the commercial banks tend to make funds available to keep the business running.

Barring methodological and definitional differences, the findings of the three studies referred to above would seem to indicate that the problem of small firms is access to long-term debt or 'seed' capital for starting up the business. This initial capitalization is applied to the purchase of plant and equipment and is therefore quite essential, for without it there is no business. Banks appear unwilling to grant long-term loans to finance capital investment. On the other hand, it seems that credit is available to existing small firms mainly in the form of overdraft facilities which are used for working capital requirements. These funds are short-term in nature and relatively expensive, interest being charged by the day against the outstanding balance. Problems arise when short-term capital is applied to long-term investments, resulting in firms being too highly geared.

If we accept that small firms have difficulty getting debt or 'seed' capital out of commercial banks, then we must also accept that there is an "access problem". For although commercial banks are only one of an array of financial institutions in the financial system, they are a dominant force in the system. According to Bourne (1988c):

> Commercial banks are the pivot of the Trinidad-Tobago financial system. Apart from being the largest established formal financial institutions, their provision of financial services extends to the widest range of economic activities, economic transactions, and geographical areas. As a group, commercial banks account for more than one-half of financial asset holdings of the non-financial liabilities. Although subject to the regulatory control of the Central Bank, the sheer dominance of their size creates a countervailing power, making the regulatory authorities responsive to the banks' perceptions of their own needs.

Bourne also illustrates statistically that commercial banks are the main source of loans and advances in the financial system, accounting for 77 per cent of total loans and advances in 1984 (Bourne, 1988a). Moreover, they are the major source of credit to the local corporate sector (Bourne, 1988b).

Indeed, commercial banks have quite a decentralized network of branches throughout the country (118 offices in 1989); provide the safest depository for savings, accounting for the largest share of savings in the financial system (80 per cent in 1991); and are the main source of loans (80.7 per cent in 1991). In terms of the latter, the private sector has consistently received the largest allocation, on average about 50 per cent. Of the total of all loans to the private sector between 1980 and 1992, three activities — manufacturing, construction and distributive trades — on average accounted for some 64 per cent (see Table 1).

Sectoral demand for credit depends not only on the deposit capacity of the banking system, but also on the cost of credit to the borrower. This refers to both interest rates and attendant loan charges. Bourne (1988c) has shown that loan rates have been uniform among banks and fairly high throughout the late seventies and eighties. He argues that price uniformity implies either collusion or some kind of price leadership, and suggests that because of the oligopolistic nature of banking in Trinidad-Tobago there is a tendency towards collusive loan pricing.

High interest rates have worked to the advantage of large firms over small ones. Banking is one sector in which scale economies apply absolutely, as there is a minimum sum below which cost covering charges are no longer attainable. From a lender's viewpoint, the cost of a loan is composed of the interest paid on the sources of funds, the costs of appraisal and screening as well as loan administration, and a

TABLE 1: COMMERCIAL BANKS' LOANS TO THE PRIVATE SECTOR BY PURPOSE, 1980-NOV. 1992 ($m)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Private Financial Institutions	79.3	92.7	118.2	132.3	133.1	142.7	127.5	166.4	170.5	180.4	173.6	214.2	182.7
Manufacturing	499.4	546.3	574.2	713.8	796.4	810.5	1,078.1	1,208.0	1,053.3	906.8	990.0	977.5	1,024.8
Construction	329.0	445.4	456.2	578.6	537.9	505.0	419.7	399.8	361.9	353.3	257.4	311.1	266.5
Petroleum	64.7	126.8	107.7	143.1	106.4	118.7	134.4	104.8	71.6	81.3	87.7	120.4	59.2
Agriculture	90.9	79.8	61.3	71.6	77.9	82.7	78.7	83.1	90.2	87.7	100.2	123.8	121.9
Distribution	453.6	539.7	532.0	698.0	733.3	736.4	914.6	1,004.6	862.8	792.9	753.1	894.5	859.3
Transportation	132.7	186.8	214.0	252.8	249.9	175.8	114.7	101.2	89.7	76.7	85.0	116.9	146.3
Hotels/Guest Houses	32.6	40.0	40.6	59.9	61.9	60.1	39.2	49.6	53.9	32.5	45.3	28.7	45.2
Miscellaneous	205.8	258.6	403.8	414.5	648.0	679.4	796.0	914.0	764.7	837.8	832.2	1,035.6	951.0
	1,888.0	2,316.1	2,508.0	3,064.6	3,344.8	3,311.3	3,702.9	4,031.5	3,518.6	3,349.4	3,324.5	3,832.7	3,656.9

Source: Central Bank of Trinidad and Tobago

provision for credit risks. Regardless of the size of a loan, these costs, and especially the cost of project appraisal, are more or less constant, with the result, that for smaller enterprises requiring relatively small loans, there are higher costs per dollar loaned. UNIDO (1989) estimated that the costs of administering small loans are approximately 2.6 - 2.7 per cent of the total costs of the loan, compared with 0.3 - 0.5 per cent for larger loans.

Project appraisal costs in particular serve to drive up interest rates on loans to small firms. At the heart of loan appraisal costs is the cost of collecting information. Because less is known about some borrowers and about some sectors, and because more needs to be known about unfamiliar or particularly risky proposals, appraisal costs differ sectorally according to the sectoral distributions of prior and required knowledge. In addition, if delinquency rates differ by sector, then so too will collection costs (Bourne, 1988c). The end result is that the price of bank credit to small firms is beyond their capabilities.

Kitchen (1986) emphasizes the unprofitability of small loans for commercial banks, using the example of a bank which lends $1000 to a small firm with a 5 per cent margin between its borrowing and lending rates to demonstrate his point. The loan will yield a return of $50 per annum which is "less than the cost of one man-day of professional employee's time, yet has to cover the cost and time of visits, and the cost and time of record-keeping, even assuming that no difficulties arise with the loan". Jackelen (1988) rationalizes this by arguing that formal sector financial institutions are designed to handle much larger individual transactions than those required by small firms; the overheads of even the most efficient bank make this type of lending prohibitively expensive and it cannot be compensated for by adequate spreads over the cost of funds.

Quite apart from high interest rates, small firms' access to capital is blocked at other points. Unaccustomed to dealing with banks beyond the bounds of perhaps a savings account, with little or no experience in preparing project proposals and loan applications, and possibly even intimidated by the very atmosphere of a bank, small entrepreneurs have great difficulty in fulfilling the banks' requirements. Interviews and informal discussions held with credit personnel at two of the largest banks in Trinidad-Tobago in 1990 revealed that the most common problem is the paucity of the project proposals

submitted by applicants. These are often unable to stand up to even the most cursory scrutiny of loan officers.

Another problem has to do with the financial management and accounting practices employed by small businessmen, who previously had to satisfy no one but themselves in this regard. Bank officials complain that small businessmen are unable to perform what they consider the most elementary accounting exercises, such as simple profit-and-loss accounts, flow-of-funds analyses and forecasts. Thus small entrepreneurs cannot supply adequate information to the banks' loan appraisal staff to enable them to form an accurate opinion of the financial position of their firms. A further complication arises because of the failure to distinguish between the activities and assets of the firm and those of the entrepreneur and his family.

The lack of managerial expertise is really a sore point with the banks. Small entrepreneurs may be skilful technicians, craftsmen and artisans, but few have managerial know-how which would inspire confidence among bankers. Absence of a satisfactory track record of managerial competence and business success easily qualifies the venture as a high-risk undertaking, and disqualifies it for bank credit. This is likely to be a greater hurdle for newcomers who are approaching the bank for the first loan rather than for entrepreneurs who are already known to the bank.

This question of risk is critical. It is because of the perception that small firms are more likely to fail that banks are reluctant to deal with them. As I indicated earlier, commercial banking in Trinidad-Tobago has historically been allied to trade, not industry. Risk avoidance was always the hallmark of the local, conservative banking community.

There is no doubt that the mortality rate for small firms is high. Levitsky (1989) accepts that "there are real risks in lending to SSEs, not because borrowers are inherently dishonest but because of the instability and high mortality of SSEs". But this merely begs the question. Why is the small-scale sector characterised by instability and high failure rates? One plausible reason could very well be the problem of access to capital. In other words, because small firms have unreliable access to financial assistance, they may be more prone to collapse; but because they are more prone to collapse, their access to capital is blocked.

As a consequence of the perception of greater risk, the collateral requirements are exceptionally high. The I.S.E.R. studies, for example, confirmed my own earlier finding that excessive collateral is demanded, sometimes as much as 100 per cent of the loan amount (cf. Ryan and Barclay, 1992). However, self-employed or potentially self-employed people in the neediest category are seldom able to provide the type of security most preferred by banks, usually real estate, and may not have accumulated savings equal to the amount of the loan. In fact, small entrepreneurs of this category most often go to the bank with nothing but an idea.

The perception of high risks combined with disproportionate transaction costs also causes the banks to invent, as it were, a number of punitive charges which must be met by the borrower. These charges have as their net effect further increases in the cost of capital, as Levitsky (1989) points out:

> It is not surprising that even where commercial banks are prepared to lend to small enterprises, they aim to cover the high transaction costs through special payments for loan application, additional commissions, compensating deposits, collection of interest in advance, all of which is more a way of raising the effective rate of interest to cover high transaction costs than to cover the higher risk perceived in such lending.

Clearly, some of the problems identified above spring from the misconceptions and misunderstanding of the banks. Small entrepreneurs believe that it is the credit officers who are at fault, arguing that they are insensitive to the needs of small firms. This may be true, and recently one notices that there are orientation seminars for credit personnel from the commercial banks and other financial institutions, aimed at breaking down the myths and creating a sense of sympathy and understanding for the peculiar problems and needs of small firms. What is necessary is a mechanism which introduces bank officials to small entrepreneurs and their world; officials need to be aware of the special characteristics, psychology, experience and profile of small businessmen, which is entirely different from that of big businessmen. Indeed, the banks' appraisal procedures should be designed to take greater account of the "quality" of the small entrepreneur.

But to lay the blame solely at the feet of the credit personnel is surely a mistake, for they are merely "cogs in a wheel" within the banking system. The more serious problem pertains to the preferen-

tial access enjoyed by a privileged elite, to bank credit. The banks in Trinidad-Tobago have special, carefully nurtured and cherished relationships with large-scale industrial and commercial enterprises, and especially the conglomerates. Directors of the major companies listed on the stock exchange, for instance, also sit on the boards of the banks, forming an unbreakable network of interlocking directorates. These companies perforce have preferential access to capital. Moreover, the directors and upper-level executives of the banks share a common background with their counterparts in industry: old boys' networks, masonic lodges, clubs such as the Queen's Park Cricket Club, the Country Club and Union Club, associations such as the Chamber of Commerce. Finally, they are bonded by family, kinship and ethnic ties. Here I am inclined to agree with Schmitz (1982) when he poses the following question:

> The main question here is whether the higher interest rates paid by the small producers and their difficulties in gaining access to credit merely reflect an underlying reality of unstable and risky conditions of production (and hence repayment defaults) or whether they are due to *distortions in the views and practices of those in charge of the credit institutions*. (Emphasis mine).

Access to long-term 'seed' capital is therefore a genuine problem for the small-scale entrepreneur, and for a variety of reasons. Access is blocked by privileged elites in the large-scale sector who "squeeze out" the smaller firms. The perception of greater risk in lending to small firms motivates the commercial banks to introduce unreasonable collateral requirements and high interest rates. In policy terms, the problem has accordingly been defined as a problem of access to cheap capital. The programme approach which forms the basis of the discussion in the following section is premised on the assumption that providing long-term capital to small-scale enterprises at concessionary rates of interest is the best way of fostering a vibrant small-scale sector.

THE PROGRAMME APPROACH

Where private lending institutions such as commercial banks prove unreliable, the typical response has been to set up special windows at state-owned banks or, alternatively, to establish development banks and other institutions exclusively to provide financial support to small firms. In the literature as well as in practice, the term "development

bank" is commonly used to refer to investment banks for the financing of private projects which deserve to be promoted on general economic grounds. Their task is usually to provide medium- and long-term funds; other bank transactions, especially of a short-term nature, and debit business, are not normally offered. Complementary consultative functions such as management and marketing guidance and technical assistance are often offered as part of an integrated package of assistance.

Programmes of this type service a specific target population consisting of those sectors and categories — geographically or sectorally determined — which are deemed to be important to the overall development strategy, but which lack adequate alternative sources of capital. Financing is offered in suitable forms to borrowers whose credit standing or credit worthiness does not meet conventional banking criteria or who, for one reason or another, are denied access to the formal credit market. Thus:

> .... development banks apply a major part of their potential capacity for the performance of banking functions to the aim of narrowing down the qualitative gap between the latest demand for banking services and the supply of such services by the rest of the banking system.... (Jonas, 1975).

In Trinidad-Tobago, the instrument adopted to pursue the policy objective of creating a "People's Sector" was a programme of assistance to small firms based upon a triad of institutions, namely, the Industrial Development Corporation (IDC), the Development Finance Company (DFC) and the Agricultural Development Bank (ADB). None of these institutions was concerned exclusively with the promotion of small businesses. The IDC, originally established in the 1950s when the Lewis model was very much in vogue, was to facilitate industrial development in the widest sense. Its task was envisaged in terms of providing industrial infrastructure — factory shells on industrial estates — and financial assistance to fledgling industrial enterprises, both foreign and local. It was to offer guidance through the bureaucratic maze and was expected to play a particularly important role in the introduction of pioneer industries. From 1970 when Small Business Year was declared, the IDC's mission also included the provision of long-term finance of up to $50,000 (later increased to $150,000) to small-scale enterprises. It is therefore reasonable to assume that the IDC dealt with the very smallest of small firms.

The DFC was established in July 1970 to supplement existing official and private institutional sources of finance by providing medium- and long-term capital to industry, commercial fishing and tourism. Firms with requirements in excess of the IDC's upper limit of $50,000 were referred to the DFC. Finally, the ADB is a specialized agricultural credit institution set up in 1968 for the purpose of supplying medium- and long-term loans on a concessionary basis, with interest rates substantially below those prevailing on the private commercial credit market and repayment periods of up to 30 years.

In this paper, I concentrate on the IDC. Bourne (1991) discusses the performance of DFCs not only in Trinidad-Tobago but in the CARICOM area generally. The ADB is more thoroughly examined by Crawford (1984). My decision to focus largely on the IDC's programme of support and financial assistance stems from the fact that (a) it was the main instrument of the triad to deal with small firms, and (b) its target population or beneficiaries was intended to be the very smallest (and poorest) of entrepreneurs.

THE INDUSTRIAL DEVELOPMENT CORPORATION

From 1970 when the government announced Small Business Year, a special Small Business Unit was set up within the IDC in accordance with a Cabinet directive. This unit was responsible for the implementation of the programme from 1970 to 1989, at which time a new Small Business Development Company (S.B.D.C.) was established.

With the formation of the Small Business Unit came the first meaningful attempt to define a small business.[5] As a rule of thumb, business units whose capital investment did not exceed $50,000, represented by land, buildings, leasehold property, machinery, plant and equipment, stock-in-trade, work-in-progress and, in some special cases, furniture, were to be considered small businesses and could accordingly qualify for loans under the programme. Highly innovative and "desirable" enterprises with a maximum capitalization of $100,000 could qualify if it was demonstrated that they had tremendous growth potential and could generate substantial employment.

Over a period of nearly twenty years, the sum total of money loaned (principal) by the IDC's Small Business Unit was $124,869,882, an average of $6.57 million per annum. Of this, some $62,330,247 (approx. 50 per cent) was repaid by the time the programme was discontinued in 1989. The value of the loan portfolio

in that year was $70,037,612. As at October 31st, 1989, the total number of customers comprising the loan portfolio was 2,053, of whom 1,948 or 94 per cent were in arrears. In fact, of a total of 3,980 loans approved over the period under review, only 403 were ever repaid *on time*.

Some insight into the IDC's small business programme may be gleaned from the tabular data presented below. These show the number of loans approved from 1970 to 1989 by sector, the average amounts of loans, and their regional/geographic distribution.

Table 2 contains data on the number of loans approved by the IDC for small business development during the 20-year period under review. Out of a total of 3,980 loans approved,[6] 1,343 (approx. 33 per cent) were for manufacturing projects of one kind or another. Garment manufacturing, a labour-intensive activity, accounted for the highest percentage (27 per cent) of all manufacturing loans, while concrete and clay products received the smallest number of all loans to manufacturing enterprises (2 per cent). Furniture and woodworking enterprises comprised 20 per cent of loan recipients, while food and beverage manufacture accounted for 18 per cent. The two latter categories, together with garment manufacturing, made up as much as 65 per cent of the total number of loans approved for manufacturing. (See Table 2).

Under the heading 'non-manufacturing', there were some 2,637 loans approved in the period under consideration, almost twice the amount for manufacturing. 'Business and Personal' loans made up 37 per cent of all non-manufacturing loans; when considered as a percentage of the overall number of IDC loans to small businesses, however, this amorphous category represents an alarming 25 per cent. The distributive trades (wholesale and retail) received 31 per cent of non-manufacturing loans, while automotive and industrial spare parts and equipment received 25 per cent. Respectively, these two categories accounted for 21 per cent and 16 per cent of all IDC small business loans. Unfortunately, data were not available to show the sizes of loans going to these categories, but it is not implausible that the ambiguous 'Business and Personal' category which accounted for the largest number of loans overall could have been made up of many small loans of under $10,000 each.

The extensive use of the category 'Business and Personal' left the way open for massive abuse of the programme. When IDC loans

TABLE 2: INDUSTRIAL DEVELOPMENT CORPORATION LOANS APPROVED BY TYPE OF ENTERPRISE — MAY 1970 — DECEMBER 31, 1989

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total
Manufacturing																					
Garments	9	12	6	6	3	6	11	9	21	20	25	29	31	22	27	9	41	12	36	28	363
Footwear & Handicraft	5	7	10	9	3	7	8	4	5	6	1	5	7	5	2	—	6	3	4	8	107
Metal Fabricating	—	3	6	4	—	3	4	2	11	9	5	3	14	13	6	2	9	—	4	7	105
Concrete & Clay	5	3	3	2	—	1	2	3	6	6	6	9	8	9	7	1	4	—	2	5	82
Furniture and Woodworking	7	3	15	9	1	7	10	5	22	30	24	19	25	24	43	6	11	5	5	5	274
Food & Beverage	5	11	8	14	1	2	12	1	2	18	23	23	9	6	24	9	31	13	14	17	248
Miscellaneous	4	9	7	12	—	7	8	5	13	4	18	15	—	11	11	10	16	3	5	8	166
SUB TOTAL	35	48	55	56	8	33	55	29	80	93	102	108	92	90	120	37	118	36	70	78	1343
Non Manufacturing																					
Business & Personal	6	7	8	14	2	13	8	33	76	69	57	111	107	109	154	31	149	15	19	11	999
Automotive and Industiral	6	11	15	11	3	5	10	10	22	29	122	154	69	55	51	25	40	12	13	7	670
Wholesale & Retail Distribution	11	19	30	22	7	28	33	23	37	70	62	89	110	88	66	51	71	17	—	—	834
Printing & Allied	1	1	7	4	1	1	6	5	6	4	9	11	12	8	13	9	16	2	4	3	123
Quarrying	—	—	—	1	—	—	—	—	1	3	4	2	—	—	—	—	—	—	—	—	11
SUB TOTAL	24	38	60	52	13	47	57	71	142	175	254	367	298	260	284	116	276	46	36	21	2637
TOTAL	59	86	115	108	21	80	112	100	222	268	356	475	390	350	404	153	394	82	106	99	3980

Source: Evaluations Division, Industrial Development Corporation

to small businesses are examined by size (Table 3), we see that 27 per cent of them were between $5,001 and $15,000. In fact, almost half of all IDC loans were under $15,000. From 1978, small businesses were defined as enterprises in which total employment did not exceed 6 workers or total capitalization of $150,000. The upper limit of loans was accordingly increased from $50,000 to $150,000, so that Table 3 shows loans in excess of $50,001 only from 1978. By 1979, such loans accounted for roughly 20 per cent of all loans. Middle-range loans, i.e. loans between $15,000 and $50,000, made up about 30 per cent of approved loans.

By 1979, after the first decade of the programme, the IDC's Small Business Unit had granted soft loans totalling $20.9 million to 1,171 small firms of which 492 (or 42 per cent) were in manufacturing. During the second decade, on the other hand, more than twice as many loans were approved. Out of a total of 2,809 loans approved between 1980 and 1989, 851 (or 30 per cent) were for manufacturing. Over $100 million was involved.

Regionally, loans tended to be concentrated in the major urban population centres, namely Port of Spain and San Fernando. The rapidly expanding population centre of Caroni, which includes the town (now borough) of Chaguanas and many new housing settlements, received the third highest number of loans. Together, these three areas accounted for roughly 78 per cent of all IDC loans for small business development. Not surprisingly, an extremely small number of loans went to enterprises in non-urban counties and to Tobago, which always considered itself to have been excluded from the oil boom largesse of the '70s and early '80s. Nevertheless, Tobagonian firms received 394 loans in all, 9.8 per cent of the total, and it is unfair to comment that Tobago, with a population of roughly 40,000 makes up about 3 per cent of the national total, so that it could be argued that the smaller island did in fact receive far more than its proportionate share of IDC credit. Table 4 below presents statistical illustration of the foregoing.

What can we infer from all these tables and numbers? They suggest that the IDC's programme of support and assistance to small-scale enterprises loaned a not insignificant amount of capital to a fairly reasonable number of small entrepreneurs spread over Trinidad-Tobago, but with a tendency to concentrate on urban population centres. Several sectors benefitted from IDC loans, though the amor-

TABLE 3: INDUSTRIAL DEVELOPMENT CORPORATION LOANS APPROVED BY SIZE OF LOANS — MAY 1970 — DECEMBER 31, 1989

Amount	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total
$ 5,000 & under	29	27	68	59	11	50	53	52	66	69	55	58	43	33	36	16	60	21	24	18	858
$ 5,000 — $ 15,000	20	28	23	25	6	19	30	27	82	68	66	130	122	92	126	49	86	21	33	32	1085
$ 15,001 — $ 25,000	7	10	12	11	1	4	7	6	24	33	52	48	51	58	68	25	70	14	15	12	528
$ 25,001 — $ 40,000	2	8	7	9	1	2	9	7	21	19	27	40	54	42	56	16	52	10	7	11	401
$ 40,001 — $ 50,000	1	3	5	4	2	5	13	8	22	15	17	20	30	35	36	16	40	5	3	6	285
$ 50,000 — $120,000	—	—	—	—	—	—	—	—	7	63	113	141	61	58	57	17	46	6	13	12	594
$120,000 and over	—	—	—	—	—	—	—	—	—	1	26	38	29	32	25	14	40	5	11	8	229
	59	86	115	108	21	80	112	100	222	268	356	475	390	350	404	153	394	82	106	99	3980

Source: Evaluations Division, Industrial Development Corporation

VELOPMENT CORPORATION LOANS APPROVED BY
— MAY 1970 — DECEMBER 31, 1989

1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total
75	64	77	137	165	252	214	148	191	82	199	41	55	38	2024
12	9	60	39	41	44	49	63	64	20	6	19	15	17	567
7	13	29	27	27	57	27	32	42	13	40	7	10	9	394
5	4	12	15	26	26	23	35	40	13	38	8	7	21	294
2	—	8	6	11	6	7	8	6	2	4	—	1	1	67
3	2	10	9	11	19	7	10	9	3	9	1	7	3	113
8	8	26	35	75	71	63	54	52	20	48	6	11	10	521
112	100	222	268	356	475	390	350	404	153	394	82	106	99	3980

ances and consumer durables. Indeed, some even absconded permanently to the U.S.A. and Canada with loan funds. These instances point to critical weaknesses in the IDC's credit technology as well as lack of control and proper loan supervision. Moreover, they suggest an almost total absence of evaluative safeguards, as no effort was apparently made to link disbursement of funds to performance and the achievement of predetermined targets.

The programme was not only characterized by ineffectiveness; inefficiency was also its hallmark. The use of subsidized credit seems to explain much of this. Concessionary interest rates, once seen as the ideal way to provide finance capital to small firms, had an overall negative effect on the programme. Subsidies seem to breed incompetence and complacence, in addition to inviting political intervention and corruption. Entrepreneurs are not motivated to repay their loans and little energy is spent on loan recovery.[7] It comes as no surprise

ing procedures to maintain repayment discipline. Jackelen (1988) also favours commercial interest rates on the grounds that the long-run equity effect is likely to be greater:

> While in a moral sense it seems extremely unfair to charge less to the rich and more to the poor, in a commercial sense it is logical and ultimately fair if it dramatically expands the access to capital in a society.

A related issue which must be mentioned is the failure of the IDC's small business programme to link credit delivery with savings mobilization. This shortcoming was common to the DFC and the ADB as well, although there was provision for savings in the latter institution. On the other side of a loan, after all, stands a deposit, and it is myopic not to connect the two. Several writers (e.g. Seibel, 1988; Meyer, 1988; FitzGerald, 1989) have commented on this tendency for credit programmes to ignore savings as a means of internal resource mobilization, and savings habits as a psychological basis for investment and repayment behaviour. Obligatory contributions to a savings fund by small borrowers helps develop desirable attitudes of thrift and instills discipline. At the same time, it also reduces the programme's dependence on the Treasury, if only marginally. As Meyer (1988) points out:

> Low loan rates imply low rates paid on deposits; this thwarts an institution's ability to mobilise deposits. Without deposits, a lender is dependent on donor and/or government funds.

My own view is that this failure to address the question of savings, combined with the availability of special funds at concessionary rates of interest, is at the crux of the high default and mortality rates described earlier.

"Galloping bureaucracy" also became very closely associated with the IDC programme, thereby creating a new "access problem". Simply put, many small entrepreneurs in search of funds found the IDC's procedures too cumbersome and drawn out. Many respondents in the I.S.E.R. studies complained that after months of filling in forms, visiting the IDC offices and answering the many questions of programme officials, they abandoned the IDC in favour of speedier (sometimes informal) alternatives. Some abandoned their projects altogether. And, as one observer commented in the press, getting a loan from the IDC was not the end of it; there were also licensing,

adjustment. An important element of the latter is financial liberalization and the deregulation of capital markets. It involves the removal of administrative controls on interest rates and the borrowing and lending of financial intermediaries. Usually accompanied by a fiscal package designed to increase personal and corporate savings, the ultimate goal of financial liberalization is to mobilize savings out of the informal sector through enhanced financial intermediation — including higher interest rates — and to improve efficiency in the allocation of resources for investment. In some countries, this strategy has actually led to an increase in the private savings rate, but it is doubtful whether it has altered the sectoral allocation of resources in favour of small firms (see FitzGerald, 1989).

Institutionally, the new approach has heralded the introduction of a new implementing agency, the Small Business Development Company Ltd. (SBDC), which has assumed central responsibility for the portfolios previously administered by the IDC, DFC and ADB. Its primary objective as stated in its Memorandum of Association is "to promote and encourage business awareness with a view to the establishment and development in Trinidad and Tobago of small businesses and micro-entrepreneurs and by extension to assist in the economic development of Trinidad and Tobago". The SBDC provides four major services : business advice and extension services; entrepreneurial development and training; an information bureau for prospective entrepreneurs; and a loan guarantee plan. It is this latter function which is of immediate relevance.

THE LOAN GUARANTEE PLAN

One of the major problems identified earlier as a barrier to small businessmen's access to long-term bank capital was the lack of adequate collateral. A loan guarantee fund is designed to address precisely that problem. It works like a sort of risk insurance in which a certain specified portion or, in some cases all, of a loan is covered by the guarantee. In the event of non-repayment or default, the guarantor, in this case the government through its agent the SBDC, will undertake to repay the lender the outstanding balance of the loan. Guarantees enable lending institutions to minimize their exposure to risk and possible losses involved in extending credit to doubtful customers, and therefore serve as a substitute for collateral on loans to individuals and small firms who have no convincing track record and

are otherwise denied access to bank credit. In essence, the guarantee is intended to widen access to institutional credit.

The Guarantee Plan is backed by a fund, initially targeted to reach TT$50 million. In point of fact, however, after more than two years in existence, the fund has a capital value of TT$19 million which is invested in government-backed securities and fixed deposits. Apart from the government's initital equity contribution of $5 million, it has contributed a further $7.5 million towards the fund. A public sector corporation, the National Gas Company, put up a $1 million subscription specifically for micro-enterprise development. Otherwise the response of the domestic private sector has actually been quite poor, with a total subscription of only about $3 million. Efforts to attract funding from external sources have so far yielded no fruit: the USAID, which is heavily involved in credit guarantee programmes in developing countries, has not supported the SBDC largely because of the country's relatively high per capita income. Both the World Bank and the Inter-American Development Bank (IDB) were approached for assistance. The latter institution is not known to favour supporting guarantee plans. Table 5 below shows projected and actual contribution to the SBDC's guarantee fund as at the end of 1992.

TABLE 5: S.B.D.C. GUARANTEE FUND:
ACTUAL AND PROJECTED CONTRIBUTIONS

Scurce	Projected	Actual
Local Private Sector (incl. banking/financial)	$20.0m	$ 3.0m
S.B.D.C. (Equity)	$ 5.0m	$ 5.0m
Government	$15.0m	$ 7.5m
Multilateral Lending Institutions	$10.0m	—
National Gas Company	—	$ 1.0m
Interest on Investments	—	$ 2.5m
Total	**$50.0m**	**$19.0m**

On the surface, the Guarantee Plan appears very simple to operate. The banks act as lenders and consider loan applications for small entrepreneurs in the same way that they would consider any other loan application. They are mandated to exercise the usual degree of

care in project appraisal and screening. If an application is found to be suitable, it is passed along to the SBDC for guarantee approval which must be granted within one week. Thus an attempt is made to tackle the issue of the timeliness of loan disbursement. The banks monitor the loans but report regularly on the status of each loan to the SBDC.

Under the new arrangements, the term "small business" is used in a generic sense and for the purposes of the activities of the SBDC includes medium-size businesses and micro-enterprises. The overriding definition is that to qualify as a small business the entity must not possess fixed assets exceeding $500,000, exclusive of the value of land and buildings. For guarantee coverage, a distinction is made between new enterprises and existing ones. Small and medium-size firms already in operation for over one year are eligible for a guarantee of up to 50 per cent of the amount of the loan. Loans for business start-ups or for small or micro-enterprises in operation for less than one year qualify for a maximum guarantee of 85 per cent. It is assumed that existing enterprises would be in a better collateral position and able to put up the security for the remaining 50 per cent of the loans. In any event, the SBDC will not guarantee to a lending institution more than $150,000 per loan, with repayment periods of between 5 and 7 years.

Interest charges on loans under this facility cannot exceed the base commercial lending rate by more than one per cent. The practice of using 'special' funds has not been adopted. Borrowers must also meet the legal fees of the transaction, a 1 per cent charge towards defraying the administrative costs of the SBDC, and a further 0.5 per cent per annum on the outstanding balance as a guarantee premium. The latter also goes to the SBDC. Apart from those mentioned here, banks are prohibited from levying any additional fees or service charges.

The success of the Guarantee Plan ultimately depends on the extent and eagerness of the banks' participation. It would be sheer folly, however, to expect traditionally conservative — some would say unimaginative — banks to suddenly change their attitudes towards small entrepreneurs simply because the government has put a guarantee system in place. Their initial approach to the Guarantee Plan was extremely cautious, as evidenced by the length of time which elapsed before the banks actually signed the agreement which set it up. In the end, the signatories to the agreement included all but one of

the eight commercial banks (Citibank, the only wholly foreign bank in the country, did not sign), the Cooperative Credit Union Bank, and a finance company which is associated with the Maritime Insurance Group.

By the middle of 1992, there were 13 participating lending institutions. Three additional lenders became involved during the course of 1991: the ADB, as well as two domestic NGOs. Another insurance company also expressed an interest in becoming a lender under the Guarantee Plan.

From the inception of the Guarantee Plan in 1990 to the end of 1992, over 1200 guarantees were issued to small and micro-entrepreneurs in a range of economic activities. In 1990, there were a total of 98 guarantees issued at a value of $2.1 million. In 1991, the Plan's first full year of operations, 758 guarantees were issued at a value of $9.6 million. Unlike 1991, however, 1992 was a year of tight liquidity in the financial system as the Central Bank sought to use monetary policy instruments to reduce the money supply. Commercial banks' borrowings, especially from the Central Bank, were forced down. Borrowing from the Central Bank dropped from a high of $684.1 million in February 1992 to as low as $250 million in July. The Central Bank called in outstanding loans and increased the cost of borrowing (i.e. the rediscount rate) from 9.50 per cent in the third quarter of 1991 to 11.5 per cent in the fourth quarter, and eventually to 13 per cent by the end of the first quarter of 1992, where it remained for the rest of that year.

Tight monetary policy throughout 1992 resulted in a liquidity crisis and conspired to bring about a slowing down of lending from 1991 levels. Thus in 1992, the second full year of the Guarantee Plan, there was an observable decline of about 50 per cent overall in guarantee portfolio activity, with a total of just 385 guarantees being issued at a value of $5.2 million. (See Table 6).

TABLE 6: SBDC GUARANTEE PORTFOLIO (JULY 1990 — DECEMBER 1992)

Year	No. of Loans	Amount ($) Guaranteed
1990	98	2,165,925
1991	758	9,671,184
1992	385	5,203,628
Total	1,241	17,040,737

Source: SBDC

In addition, interest rates went from 12.88 per cent to 13.50 per cent and then to 14.50 per cent in 1991 alone. In 1992, the basic prime rate moved from 14.50 to 15.50 per cent. Lending by the financial system taken as a whole declined considerably in 1992, and it is not surprising that funds flowing to small firms decreased. Interest rate increases have made small business lending unattractive to the major lenders, and especially the banks, since the agreement establishing the Plan sets a constraint on the interest rate as one per cent above prime. Thus, the rate of return to the lender may not be commensurate with the costs involved in loan supervision, resulting in only the more risky projects being sent to the SBDC for guarantee coverage.

The constraint on the interest rate is significant here. As pointed out above, one of the main reasons for banks' avoidance of SSE's is the intrinsically high transaction costs, i.e. the cost of appraisal, screening and loan administration, relative to the size of the loan itself and the profits which would accrue to the bank from interest payments. While the Guarantee Plan certainly reduces the risk which would otherwise have to be borne by the bank alone, the costs incurred in appraisal and monitoring remain unchanged. Moreover, the banks also have the additional responsibility of furnishing the SBDC with information on loan performance at regular intervals, something which could only result in a further increase in administrative costs. These costs can perhaps only be defrayed by applying higher interest rates.

There is no reason to suppose that commercial banks in Trinidad-Tobago will relax their rigid appraisal procedures for small firms either. On the contrary, indications are that they have tightened up on appraisal methods, meaning that it is more rather than less difficult for small firms to gain access to bank funds. The tight liquidity situation in the financial system attendant upon the increases in the cash reserve requirement and the rediscount rate also work against smaller establishments. Commercial banks are likely to show a marked preference for doing business with large-scale industry in spite of the guarantee offered. One is reminded of a statement by Levitsky (1989) that:

> The disappointing experience of guarantee schemes in developing countries until now have been that most of these schemes have not been able to cover the costs incurred in administration and claims, and encountered great difficulty in attaining the confidence of the commercial banks.

On the whole, there are somewhat mixed views of the efficacy of credit guarantee programmes as a means of inducing banks to grant loans to small businesses. Some writers (e.g. Meyer, 1988) doubt their capacity to increase lending to the sector in any meaningful way. The consensus of a conference held in Lusaka, Zambia, to discuss the issue of small business financing in Africa was that guarantee programmes are unsuitable. They are generally costly and complex to design and manage. Others (e.g. Dadkhah, 1984; Kitchen, 1986; Levitsky, 1989), while recognizing the inherent drawbacks of guarantee plans, are more optimistic about their potential for increasing the flow of funds from the formal financial system to small-scale enterprises.

In the case of Trindiad and Tobago, it is perhaps too soon to determine whether the introduction of a loan guarantee has induced the banking sector in particular to increase lending to small firms. The evidence is far from conclusive. For the two full calendar years in which the Guarantee Plan has been operating, the participating commercial banks have loaned approximately TT$28.2 million to small and micro-enterprises under the SBDC's guarantee, $18.3 million in 1991 and $9.9. million in 1992. This represents a miniscule portion of the total loans outstanding to unincorporated business for the same years, $819.3 million in 1991 and $1,119.6 million up to the end of the third quarter in 1992.[10] Nevertheless, these loans would probably not have been approved in the absence of the guarantee.

When we compare outstanding loans of the incorporated and unincorporated business sectors, the data reveal that although the unincorporated businesses seem to be getting a larger share of loans, it is very small in relation to the loans of the incorporated businesses. This is really no surprise. The difficulty is in isolating that part of total loans to the unincorporated sector that goes to small firms, a difficulty which is compounded by the tendency of some banks (e.g. Royal Bank) to treat small business loans as personal loans. Table 7 shows the total loans outstanding from commercial banks to incorporated and unincorporated businesses for the period 1987 to the end of the third quarter of 1992.

It is therefore difficult to conclude by saying that the loan guarantee plan is either successful or unsuccessful. This will require more rigorous analysis. However, $28.2 million over a two-year period is certainly better than nothing at all. In the final section, some sugges-

TABLE 7 COMMERCIAL BANKS — TOTAL LOANS OUTSTANDING: INCORPORATED AND UNINCORPORATED BUSINESSES, 1987 — NOVEMBER 1992 ($M)

Year	Incorporated Businesses	Unincorporated Businesses
1987	3,020.4	787.9
1988	2,741.6	721.1
1989	2,592.7	686.7
1990	2,556.5	682.5
1991	2,906.6	819.3
November 1992	2,976.5	1,119.6

Source: Central Bank of Trinidad and Tobago

tions are made for increasing the flow of loan funds from the commercial banks to the small-scale sector, and for broadening the options available to small businessmen for raising capital.

CONCLUSION

I have attempted within the given constraints to discuss, albeit perhaps in a preliminary way, some of the major issues of small business financing in Trinidad and Tobago. The paper is premised on the assumption that promoting small business is a worthwhile endeavour with tangible benefits to society. I have argued that capital is an essential prerequisite for business start-up, growth and development. The long-run success of small firms depends on their being able to receive adequate amounts of both start-up or 'seed' capital for initial investment in plant and equipment, and working capital to finance recurrent expenses. The former is long-term in nature, the latter short-term. In the short-run, there is no business without capital, for without it the firm can never become a reality. Any policy aimed at stimulating entrepreneurship and small business development without addressing the critical question of access to finance is doomed to fail.

In this paper, I have sought to define the "access problem" and examine its scope. The findings of three separate studies show that while small firms, once established, have little difficulty in securing overdraft facilities at commercial banks, prospective entrepreneurs are unable to secure long-term loans to start their businesses. Some small businessmen use expensive overdraft facilities to finance capital investments, with the consequences that long-term investments are met with short-term funds and gearing ratios are high.

For almost twenty years there was a programme approach to providing financial services to small businesses. A special Small Business Unit was set up at the IDC for this purpose in 1970. Although the IDC was not the exclusive implementing agency, it is the focus of the discussion in this paper. After almost twenty years, the programme had extended 3,980 loans worth a total (principal) of $124,869,882, of which $62,330,247 (roughly 50 per cent) was repaid by October 31, 1989. Several reasons have been adduced to explain why the programme failed to have the anticipated impact.

From 1989, in the context of a structural adjustment programme dictated by the major international financial institutions, the practice of lending special funds provided by the state at concessionary rates of interest was discontinued. The move to deregulate and liberalize the financial markets, typically associated with the neo-orthodox IMF/IBRD model, is expected to yield an optimal allocation of risk and resources. There was therefore in 1989 a shift from the programme approach to one which has been described as a financial market approach. At the heart of the latter approach is a loan guarantee plan offered by the new SBDC to participating lenders.

Initially, the Guarantee Plan was approached with caution and scepticism by the commercial banks. As the banks became more familiar with the workings of the Guarantee Plan, however, and as their confidence grew, they did make use of the system. In 1991, a year of fair liquidity in the financial system, the banking sector extended $18.3 million in loans under the SBDC's guarantee; while in 1992, tight monetary policy (a situation unlikely to change in 1993) resulted in a significant decline in guarantee activity. The total amount loaned by the commercial banks to small firms under the Guarantee Plan was actually halved in 1992 to $9.9 million.

The tight liquidity situation has taught us an important lesson. It suggests that the commercial banks are not to be relied upon entirely to finance the small business effort. In times of scarcity, the banks are subject to many pressures and demands for funds from the public sector (including state enterprises) and the large-scale commercial and industrial sectors. In the competition for investment funds, larger and better connected firms will enjoy preferential access to capital and other economic inputs, and will probably "squeeze out" the smaller entrepreneurs.

Perhaps what is necessary is a regime of fiscal and other incentives aimed at inducing commercial banks to allocate a greater share of their loanable funds to small business lending. One bank, Republic Bank Ltd., has actually done that of its own accord. Other banks must be encouraged to follow suit. Removing the constraint (or 1 per cent above prime) on the interest rate which is contained in the agreement between the SBDC and participating lenders also appears desirable, since this would allow the rates on small business loans to be market-determined. Such measures would possibly result in increased lending to small and micro-enterprises under the SBDC's guarantee portfolio, but would undoubtedly also cause an increase in the price of capital to small firms.

Another option worth considering is to encourage the banking sector to establish a single organization for small business lending. Since there is an apparent incompatibility between the way banks operate and small business lending, then it might be necessary to structure a new lending institution in such a way that it caters to the needs of small entrepreneurs. Collectively, the banking fraternity can become shareholders in this new institution, contributing equally to its capital and devoting a given sum to small business lending through this institution each year. By pooling resources and expertise, the banks can develop their evaluation and information-gathering capability and take advantage of scale economies.

The issue of high interest rates remains to be addressed. Higher interest rates can be countered by broadening the available options for small business loans. While the commercial banks are clearly the dominant lenders both in the financial sector as a whole and in the Guarantee Plan, there are other important sources of funds which need to be drawn out for the purpose of financing small businesses. The credit unions, for example, present a marvellous opportunity to channel greater resources to the small-scale sector. The Co-operative Development Bank (CODB), which is the sort of apex financing agency for the entire credit union movement, is a participant in the SBDC's Guarantee Plan. Although the CODB accounts for the fourth largest number of loans under the Guarantee Plan (119 — see Appendix I), it has not granted a single loan since 1991, and many of its existing loans are in arrears due to inefficient loan monitoring and recovery.

In the circumstances, it may well be a superior option to deal directly with some of the stronger credit unions by inviting them to become participating lenders under the Guarantee Plan. There were 172 active credit unions in Trinidad and Tobago in 1990 with total assets in excess of $1 billion. What is significant about the credit unions is that they are people's organizations which mobilize a not inconsiderable volume of household savings and extend cheap credit to members for a wide range of purposes, including some productive investments. Credit unions are therefore financial intermediaries: people's financial intermediaries, of the people and for the people. The 'People's Sector', it would seem, can be financed adequately by the people's financial institution. Table 8 presents summary data on the assets, liabilities, loans and investments of the credit unions.

To be sure, the credit union movement seems to be a natural for small business lending. Its borrowers must be members, and borrowing is linked to the amount held in shares (deposits). There is, therefore, that clear connection between loans and savings. Because it only lends to members, a credit union is on far more intimate terms with its clientele than most banks. The cost of collecting information and other overheads are likely to be less than for commercial banks, thereby allowing the credit unions to keep interest rates relatively low.

An analysis of credit union lending from a sample of six credit unions in 1987, reveals that loans for home improvement and renovations accounted for the largest amount of credit union loans, 28.6 per cent. Motor vehicle purchases and repairs were the second largest at 12.8 per cent. Alarmingly, 12.5 per cent of these loans went to debt consolidation and refinancing, which suggests that members were borrowing cheap money from their credit unions to pay off debts of expensive money borrowed elsewhere. It might well be argued that the availability of relatively cheap credit at the credit unions actually serves to encourage a culture of indebtedness. These data are presented in Table 9.

The essential point, however, is that the credit unions, if brought more directly into the Loan Guarantee Plan offered by the SBDC, have the potential to become the pivotal lender for small business financing. Such an arrangement would redound to the benefit not only of the small business sector, but the credit unions themselves. It is quite possible to envisage depositors migrating from weaker credit

TABLE 8: SELECTED CREDIT UNION DATA, 1979-1990

YEAR	No. of Registered Credit Unions	No. of Active Credit	No. of Credit Unions Reporting	TOTAL ASSETS/ LIABILITIES ($000)	AVERAGE ASSETS* ($000)	AVERAGE LOANS* ($000)	TOTAL LOANS OUTSTANDING ($000)	TOTAL INVESTMENTS ($000)
1979		104	104	139,088.74	1337.4	582.02	60,529.98	1,157.18
1980	420		95	104,116.87	1096.0	2023.0	192,184.50	2,771.00
1981	425		107	265,394.05	2480.3	1893.63	202,618.86	3,022.0
1982	431		108	392,860.73	3637.6	2379.6	256,997.17	6,976.2
1983	435		133	575,077.13	4323.9	3560.6	473,557.42	3,945.49
1984	372		126	1,115,259.80	8861.3	3736.5	470,793.44	7,082.61
1985	381		130	819,951.23	6307.3	4953.4	643,942.20	6,183.18
1986	387		142	760,143.13	5353.12	6388.6	907,177.38	12,653.28
1987	393	188	120	1,152,856.93	9607.1	8321.1	998,534.16	29,357.03
1988	397	175	102	1,142,233.60	11198.4	8870.9	904,832.22	17,497.91
1989	400	171	106	1,260,548.00	11892.0	9373.85	993,627.84	34,482.13
1990	404	172	73	1,460,931.00	20012.7	1463.1	1,063,108.70	73,658.16

Source: COOPERATIVE DEVELOPMENT 1992

Note 1. *Figures computed by dividing Totals by No. of Reporting units.

TABLE 9: CREDIT UNIONS[1] BREAKDOWN OF LOANS BY PURPOSE, 1987 ($000'S)

PURPOSE	1987	PER CENT OF TOTAL
Ceremonial	1,887,482	2.3
Consolidation of debts & refinancing	10,499,871	12.5
Education	2,643,674	3.2
Medical	3,743,907	4.4
Travel	8,064,943	9.6
Purchase of land & real estate	5,758,211	6.8
Home improvement/renovation	23,981,924	28.6
Motor vehicle including motor vehicle insurance and repair	10,812,861	12.8
Domestic Appliances & Furnishings	7,808,123	9.3
Insurance & Professional Services	1,471,491	1.8
Purchase of Financial Assets	630,084	0.8
Miscellaneous Personal Items	6,012,496	7.2
Other	560,484	0.7
TOTAL	**83,875,553**	**100.0**

Source: Annual Reports

[1] Sample of six credit unions. They include:
Port Employees Credit Union
Fed Chem Credit Union
Agricola Credit Union
Rhand Credit Union
St. Mary's Central Credit Union
Public Services Association Credit Union

unions and even from commercial banks, to stronger credit unions which show a predisposition to small business lending. Thus, those credit unions which are more adept at small business lending can possibly expect to see increases in the size of their membership.

A second advantage from the standpoint of the credit unions would be that their loan portfolios would undoubtedly be strengthened by the inclusion of productive, money-making investments. Small businesses could be a real potential source of income which, effectively harnessed, would ultimately lead to increased viability of the credit unions themselves.

In short, the SBDC's Loan Guarantee Plan can work effectively to induce increased levels of lending to the small-scale sector if there are policy measures to support it. Banks are perhaps the most efficient channel of supplying credit to small firms. They are, however,

motivated by the pursuit of profits and "bottom line" considerations. They are unlikely to increase lending to small firms unless it is demonstrably worth their while. Making it worthwhile could entail increasing the cost of capital. The credit unions offer an ideal option for those prospective entrepreneurs who are unable to cope with high interest rates.

APPENDIX I

PRINCIPAL LENDERS AND NUMBER OF LOANS UNDER THE SBDC's GUARANTEE PORTFOLIO, JULY 1990 — DEC. 1992

Lender	1990	1991	1992	Total
Republic Bank Ltd.	19	108	93	220
Fund-Aid	0	286	94	380
Agricultural Development Bank	0	44	92	138
Co-operative Development Bank	15	104	0	119
Royal Bank	11	42	31	84
National Commercial Bank	11	44	14	69
Bank of Commerce	15	34	25	74
Scotiabank	11	29	27	67
Total	**82**	**691**	**376**	**1151**
Total Overall	**98**	**758**	**385**	**1241**

Source: S.B.D.C.

NOTES

1 The notion of a "People's Sector" is a distinctly PNM one. In 1970, in explaining his government's vision of a "People's Sector", Prime Minister Eric Williams defined it as "the trades union, the co-operative, the small business, the small firm and the handicraft industry". The target population was to be "the historically deprived groups". In this paper, "People's Sector" is used as a synonym of the small business sector. Cf. "PNM's Perspectives in the World of the Seventies" in P.K. Sutton (ed.) *Forged from the Love of Liberty: Selected Speeches of Dr. Eric Williams*, Port of Spain, Longman, 1981.

2 Cf. Goldsmith, Raymond W., *Financial Structure and Development*, New Haven, Yale University Press, 1969; Gurley, John G., "Financial Aspects of Economic Development", *American Economic Review*, 45, 1955; and Gurley, John G. and Edward S. Shaw, *Money in a Theory of Finance*, Washington, D.C., The

Brookings Institute, 1960. See also McKinnon, R.I., *Money and Finance in Economic Growth and Development*, New York, Marcel Dekker Inc., 1976.

3 Cf. my *History of Money and Banking in Trinidad-Tobago from 1789-1989*, Port of Spain, Paria Publishers/Central Bank of Trinidad-Tobago, 1989.

4 See *Colonial to Republic: 150 Years of Business and Banking in Trinidad-Tobago, 1837-1987*, Port of Spain, Paria Publishers, 1987.

5 Dadkhah comments that "discussions about the definitions of small industries have produced more heat than light". He suggests that promotion agencies arrive at definitions which suit themselves in their own peculiar environments. Cf. Dadkhah, Kamran M., "Financing Small Business in Developing Countries: An Integrative Proposal", in *Managing Economic Development*, Vol. 1/4, 1984.

6 It is accepted that there may be a disparity between the number of loans approved and the number actually disbursed.

7 Ryan's conclusion on the Workers'Bank and the DFC appears relevant: that they "aided the demise of black business since they loaned money to these businesses without ensuring that the moneys were repaid". See Ryan, Selwyn and Lou-Anne Barclay, *Sharks and Sardines*, I.S.E.R., St. Augustine, 1992.

8 *Trinidad Guardian*, August 22, 1979.

9 Reliance on own and family capital seems to be more common among East Indians than Afro/Trinidadians.

10 The Central Bank of Trinidad and Tobago defines unincorporated businesses as business firms not registered as incorporated enterprises, branches or agencies of international organisations and self-employed operations. Most people would agree that small and micro-enterprises would fall in this category. Incorporated businesses are commercial and industrial firms, branches of foreign companies and organisations of companies which are Incorporated or Registered under the Trinidad and Tobago Companies Ordinance.

REFERENCES

Anderson, Dennis, (1982). "Small Industry in Developing Countries: A Discussion of Issues", *World Development*, Vol. 10/11, pp. 913-948.

Bates, James, (1971). *The Financing of Small Business*, London, Sweet and Maxwell.

Bourne, Compton, (1988a). "Contemporary Financial Structure in Trinidad and Tobago", in C. Bourne and R. Ramsaran, *Money and Finance in Trinidad and Tobago*, Kingston, I.S.E.R., pp. 3-20.

_____, (1988b). "Flow of Funds Analysis of Financial Changes: 1966-1978", in Bourne and Ramsaran, pp. 21-36.

_____, (1988c). "Structure and Performance of Commercial Banking in Trinidad and Tobago", in Bourne and Ramsaran, pp. 37-74.

Bourne, Compton and R. Ramsaran, (1988). *Money and Finance in Trinidad and Tobago*, Kingston, I.S.E.R.

Bourne, C., (1991). "The Role of Development Finance Corporations in the Commonwealth Caribbean", in Worrell, D., C. Bourne and D. Dodhia, *Financing Development in the Commonwealth Caribbean*, Warwick University Caribbean Studies, MacMillan.

Brown, Deryck R., (1989). *The History of Money and Banking in Trinidad and Tobago from 1789 to 1989*, Port of Spain, Paria Publishers/Central Bank of Trinidad and Tobago.

Central Bank of Trinidad and Tobago, (1989). *Handbook of Key Economic Statistics*, Port of Spain.

Dadkhah, Kamran M., (1984). "Financing Small Businesses in Developing Countries: An Integrative Proposal", *Managing International Development*, Vol. 1/4.

Farrell, T.W. *et al*, (1983). "Corporate Financing and Business Use of Bank Credit in Trinidad and Tobago", paper presented to the 15th Regional Programme of Monetary Studies Conference, Barbados.

FitzGerald, E.V.K., (1989). "The Impact of Macroeconomic Policies on Small-Scale Industry: Some Analytical Considerations", Money, Finance and Development Working Paper Sub-Series No. 29, The Hague, Institute of Social Studies. (Also published in *The Other Policy* edited by Frances Stewart *et al*).

Gosses, A. *et al* (eds.), (1986). *Financing Small Enterprises: Proceedings of a Conference held at Lusaka, Zambia*, Eschborn, G.T.Z.

Henry, C. Michael (1990). "Capital Availability, Small Business Formation and Performance in Barbados, Jamaica and Trinidad. A Preliminary Analysis," Working Paper No. 4772, St. Augustine, The University of the West Indies.

Jackelen, Henry R., (1988). "Banking on the Informal Sector: Suggestions for Using Financial Institutions to Reach Microenterprises in Developing Countries", paper presented to the World Conference on Support for Microenterprises, Washington D.C.

Jansen, Karel, (1989). Notes on Finance and Development, mimeo., The Hague, Institute of Social Studies.

Jonas, Rainer, (1975). "The Importance of Development Banks for the Financial Infrastructure", *Inter-Economics — Monthly Review of International Trade and Development*, No. 9, pp. 277-81.

Kitchen, R.L., (1986). *Finance for Developing Countries*, Chichester, John Wiley and Sons.

Levitsky, Jacob, (1985). "A Review of World Bank Lending to Small Enterprises", Washington D.C., World Bank.

_____, (1989). "Innovative Financing Systems", in A. Gosses *et al*, *Small-Scale Enterprise Development in Search of New Dutch Approaches*, The Hague, pp. 109-123.

_____ (1990). "Brazil: An Alternative to Direct Government-delivered Support to Small Industries" *Small Enterprise Development*, Vol. 1, No. 3, pp. 54-56.

Meyer, R.L., (1988). "Financial Services for Microenterprises: Programmes on Markets?" paper presented to the World Conference on Support for Microenterprises, Washington D.C.

Ramsaran, Dave, (1992). *The Sociology of Enterprise: A Survey of Entrepreneurs in Trinidad and Tobago*, St. Augustine, I.S.E.R.

Ryan, Selwyn and Lou-Anne Barclay, (1992). *Sharks and Sardines: Blacks in Business in Trinidad and Tobago*, St. Augustine, I.S.E.R.

Schmitz, Hubert, (1982). "Growth Constraints on Small-scale Manufacturing in Developing Countries: A Critical Review", *World Development*, Vol. 10, No. 6, pp. 429-450.

Seibel, H. D. (1988) "Financial Innovations for Microenterprises: Linking Informal and Formal Sector Financial Institutions in Africa and Asia", paper presented at the World Conference on support for Microenterprises, Washington, D.C.

Small Business Development Company, "Memorandum of Association."

_____, "Agreement Establishing Loan Guarantee Fund."

_____, "The S.B.D.C."

Stearns, K.E., (1988). "Assisting Informal Sector Micro-enterprises", *Economic Impact*, No. 63/2, pp. 18-22.

Trinidad-Tobago, Government of, (1988). "Strategies and Mechanisms for the Widest Possible Public Participation in Business Enterprise", Port of Spain, Ministry of Planning.

UNIDO, (1989). "Financing of Small and Medium-Scale Enterprises", discussion paper prepared for First Consultation on Small and Medium-Scale Enterprises Including Co-operatives, Bari, Italy.

Yunus, Muhammad, (1988). "The Poor as the Engine of Development", *Economic Impact*, No. 63/2, pp. 27-31.

Failed, Restructured and Problem Banks: The Performance of Government-Sponsored Indigenous Commercial Banks with Special Reference to Trinidad and Tobago

Augustine Nelson

INTRODUCTION

The demise of the Workers Bank of Trinidad and Tobago in April, 1989, followed by the Central Bank's dramatic takeover and merger of the National Commercial Bank, the Workers Bank (1989) Limited and the Trinidad Cooperative Bank in September, 1993, sparked widespread concerns over the relevance and contribution to economic development of indigenous banks, and the soundness of the financial system. Precipitating the Central Bank's actions was the weak performances of the indigenous banks, characterized by defaulting loan portfolios, declining profitability and liquidity crises. Conflicting views poured forth rationalizing the indigenous banks' difficulties. The dominant view contended that managerial incompetency was chiefly to blame. Other and more sophisticated views sought to question the effectiveness of the regulatory authority and the theoretical merit of financial sector intervention.

The Workers Bank, formed in 1971, and the National Commercial Bank (NCB), formed in 1970 were both government-sponsored indigenous commercial banks. Their formation was the direct result of political action to correct market failure. The then existing private expatriate banking system had failed to allocate bank credit to significant sectors and certain segments of the society. The indigenous banks were expected to blossom into vibrant financial institutions, and in the process force change in the banking system.

The spate of Central Bank takeovers, forced mergers and the difficulties experienced by the indigenous banks, seemed to have un-

Suppose there is a single time period and exogenous earning asset rates, after assuming away taxes, uncertainty and intertemporal expectations. Then let the overall objective of the simple depository firm be present period profit maximization. Profits Π consist of total revenue less the components of total cost:

$$\Pi \gamma_\alpha D - \gamma D - C(D) \tag{2}$$

In a perfectly competitive market and with efficient production technology, the depository firm maximizes profit with respect to the deposit rate, its choice variable. Using equations (1) and (2) obtaining the first order condition for a maximum and rearranging we obtain:

$$\gamma_\alpha = D \frac{\delta\gamma}{\delta D} + \gamma + \frac{\delta C}{\delta D} \tag{3}$$

Equation (3) states that the marginal revenue from the last deposit dollar equates the marginal interest and production cost, at the profit-maximizing deposit level. The marginal interest cost consists of the deposit cost γ and the added deposit cost paid to all existing depositors $D \frac{\delta\gamma}{\delta D}$. By using the deposit elasticity $\Sigma = \left(\frac{\delta D}{\delta \gamma}\right)\left(\frac{\gamma}{D}\right)$ equation (3) can be solved for the profit maximizing deposit rate:

$$\gamma^* = \frac{\varepsilon}{1+\varepsilon}\left(\gamma_\alpha - \frac{\delta C}{\delta D}\right) \tag{4}$$

The profit maximizing deposit rate γ^* depends on $\left(\gamma_\alpha - \frac{\delta C}{\delta D}\right)$ the net-revenue per deposit dollar, which is the difference between revenue per-deposit dollar γ_α and marginal production cost $\frac{\delta C}{\delta D}$. The proportion of this revenue passing through to depositors is determined by $\frac{\varepsilon}{1+\varepsilon}$. If the deposit elasticity $\varepsilon = 0$, then $\frac{\varepsilon}{1+\varepsilon} = 0$, if, $\varepsilon = \infty$, infinity, then $\frac{\varepsilon}{1+\varepsilon} = 1$. Infinite deposit elasticity implies that the depository firm is overwhelmed with deposits when it increases deposit rates. This reduces to the case of perfect competition. Clearly, the greater the competition the more revenue is passed through to depositors.

The spread between asset and deposit rates can be obtained using equations (3) and (4):

$$\gamma_\alpha - \gamma^* = \frac{1}{1+\varepsilon}\ \gamma_\alpha + \frac{\varepsilon}{1+\varepsilon}\ \frac{\delta C}{\delta D} \tag{5}$$

Equation (5) shows that the spread depends on the deposit elasticity and the marginal cost of production. In perfect competition the spread collapses to:

$$\gamma_\alpha - \gamma^* = \frac{\delta C}{\delta D} \tag{6}$$

The spread of equation (6) is equal to marginal production cost.

This simple model of the depository firm has been extended to cover multiple deposit classes, regulatory and other asset restrictions and vary economies of scale in production.[2] The key result, equation (6), is that profit maximization under competitive conditions yields an optimal deposit level at which marginal revenue per deposit dollar equals marginal cost per deposit dollar, resulting in a profit margin of zero for the last dollar. For deposit levels below the optimal, additional deposits contribute positive profits; expansion beyond the optimal results in deposits that generate negative contributions to profits, with total profits being positive over a range. Beyond that range the firm experiences current losses. This is the standard marginal cost equals marginal revenue results of micro-economics. The depository firm has operating discretion over a certain range that allows it to pursue alternative goals to profit maximization and not realise current losses.

INDIGENOUS BANKS AS SOCIAL WELFARE MAXIMIZERS FORMATION OF THE WELFARE OBJECTIVE

The indigenous banks' overall objectives throughout the major period of their existence was the maximization of social welfare. Socio-political forces were the decisive element in setting that objective. It was the "black power" movement and other pressure groups', strident denunciation of expatriate banking in early 1970, that led to the formation of the NCB.[3] Expatriate banks were accused of employing racial criteria in hiring practices and of credit policies that denied credit to entire sections of the population, and in which the

focus on collateral was obsessive. Calls were made for the nationalization of expatriate banks. The elected government responded by rejecting nationalisation, while reaffirming its policy of localization and indigenization envisaged in the Third Five Year Plan.[4] The policy of indigenization which meant the development of institutions independent of foreign ownership and control, gave birth to the NCB in July, 1970. The government had moved to purchase the assets and liabilities of the Bank of London and Montreal. The response also entailed a shift in the ruling party's philosophical outlook. It articulated a new perspective that called for an enlarged public sector, a people's sector and the development of the "smallman".[5] These factors led to the establishment of social objectives for the NCB.

Significant elements of the social objectives set for NCB can be siphoned from official pronouncements. Addressing the issue of national reconstruction, just prior to NCB's opening, the Prime Minister stated:

> ... The National Commercial Bank is one of the most important aspects of our present economic policy and programme involving the development of a larger network of financial institutions indigenous to Trinidad and Tobago...
> ... The main objective of our policy is the mobilization of the capital resources required for the fulfillment of the development process and the channelling of those resources into those areas where they would best assist the national development effort and make them available to those above all who until now may have been kept out of the business sector largely because they could not, or thought they could not, secure this essential element, namely credit. Our new bank is intended to give the small man his place in the sun.[6]

At the official opening of the NCB, the Prime Minister further pronounced:

> The establishment of this bank marks a new phase in the country's economic development.
> ... Fellow citizens we were not buying a major bank. It has, it is true, a location on Bankers' Row and this is valuable. So far, however, the bank has done just under two percent of the banking business in Trinidad and Tobago. It is our aim, our duty to convert this into a vibrant financial giant geared to the development needs of the country, of the existing business community, of the prospective investor, industrialists, farmer or trader. Here is your opportunity. Seize it with both hands.[7]

Evidently, the NCB was expected to widen the allocation of credit to sectors best conducive to economic transformation and to individuals hitherto denied credit. The NCB's 1972 Annual Report (p. 5) formalized this goal by stating:

> The bank intends to make the credit policies and practices of the banking system more favourable to the people of Trinidad and Tobago without endangering the deposits of its customers.

The Workers Bank was formed at the promptings of the Trade Union movement in 1972 and its social objectives were forcefully spelt out in the Workers Bank Act No. 32, as promoting and assisting in the:[8]

(a) Creation and expansion of employment opportunities;
(b) Development of housing, educational and cultural programmes;
(c) Creation and development of a capital market in Trinidad and Tobago;
(d) Economic and financial welfare of workers, trade unions and staff associations by providing banking facilities, especially designed to encourage thrift and the prudent utilization of savings;
(e) The development of all kinds of financial, commercial, industrial and economic activities likely to contribute to the development of Trinidad and Tobago or provide employment opportunities or opportunities for investments by workers, trade unions, staff associations and the public generally.

To guarantee the realization of these objectives two thirds of the authorized share capital were under the control of Trade Unions and their members. The Trade Union movement had campaigned for a bank to cater for the specific needs of the 'working people' — needs neglected by the expatriate banks.

A Conceptual Model

In reality, socio-political forces had conspired to reject the existing societal allocation of bank credit. It was deemed a less than socially optimal allocation of bank credit. The society, evidently, wanted a feasible allocation that maximized social welfare. Conceptually, the problem can be analyzed by postulating the existence of a social

welfare function as a function of the utility levels of all members of society:

$$W = W\ (U_1, \ldots\ldots, U_n) \tag{7}$$

W is the social welfare function and U_1 to U_n are the individual utilities for n individuals in the society.[9] The function provides a way to rank different allocations depending only on individual preferences, thus W is increasing in each individual's utility.

Having postulated a social welfare function, the society's welfare maximization problem is one of finding a feasible allocation that maximizes social welfare. What property should the maximal welfare allocation possess? It should be Pareto Optimal, meaning that no other allocation yielding higher utility for all individuals should exist. To make the solution tractable, we simplify the problem by assuming only two individuals in the society with utility functions:

$$U_1 = U_1 (L_{11}, Y_{12})\ \ U_2 = U_2 (L_{21}, Y_{22}) \tag{8}$$

L and Y are bundles of credit (bank loans) and income, respectively, that are available to both individuals. The individuals derive utility from bundles of credit and income that yield command over goods and services. Assume that society's supply of credit and income is given by the following production function:

$$F (L_{11} + L_{21},\ Y_{12} + Y_{22}) = o \tag{9}$$

Finally, assume that the social welfare function is:

$$W = W (U_1, U_2) \tag{10}$$

The goal of society is to maximize equation (10) subject to equation (9). We form the function W*:

$$W^* = W [U_1 (L_{11}, Y_{12}), U_2 (L_{21}, Y_{22})] + \lambda F (L_{11} + L_{21}, Y_{21} + Y_{22}) = 0 \tag{11}$$

Setting the partial derivatives of equation (11) equal to zero:

$$W_1 \frac{\delta U_1}{\delta L_{11}} + \lambda F_1 = o$$

$$W_2 \frac{\delta U_2}{\delta L_{21}} + \lambda F_1 = o$$

$$W_1 \frac{\delta U_1}{\delta Y_{12}} + \lambda F_2 = o$$

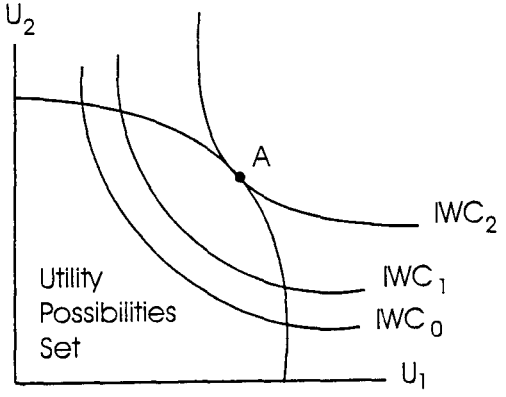
$$W_2 \frac{\delta U_2}{\delta Y_{22}} + \lambda F_2 = o$$

$$F(L_{11} + L_{21}, Y_{21} + Y_{22}) = o \qquad (12)$$

Assuming that the system of five equations given by (12) can be solved for its five variables and that the second-order conditions are satisfied. Then (12) upon division and rearrangement yields:

$$\frac{\delta U_1 / \delta L_{11}}{\delta U_1 / \delta Y_{12}} = \frac{F_1}{F_2} = \frac{\delta U_2 / \delta L_{21}}{\delta U_2 / \delta Y_{22}} \qquad (13)$$

Equation (13) yields the pareto efficient allocation. It states that the marginal rate of substitution of credit for income is the same for both individuals and equals the marginal rate of transformation. This condition is best understood diagrammatically. Define the utility possibilities set which indicates the set of possible utilities for the two individuals. The boundary of this set we call the utility possibilities frontier — the set of utility levels associated with pareto efficient allocations. Any allocation on the frontier yields the highest utility for both individuals.



In the diagram, the distributions of utility that yields the same levels of welfare are depicted by Isowelfare Curves (IWC). The point of tangency of the highest IWC and the utility possibilities frontier, point A, constitute the welfare maximum. Shifting the Isowelfare curve from say IWC_0 to IWC_2 was the objective mandated the indigenous banks. This objective, of social welfare maximization, is what the indigenous banks sought to pursue as against present period project maximization.

Credit Policies

The indigenous banks credit policy mirrored the objective of social welfare maximization. The Workers Bank credit policy was centered around this objective. The 1972 Annual Report (p. 5) specified the elements by declaring:

> ... we therefore decided to make a judicious selection of customers from among new business in certain key areas of development, some of which, e.g. low cost housing were hitherto neglected by the existing banking system, identify those customers as those with whom it was possible for our bank to grow.

The Workers Bank proceeded to construct a credit policy covering low income workers, small business, housing mortgages and education financing. Early concentration was low income, mostly daily paid workers whose only collateral tended to be wages and termination benefits. The 1972 Annual Report pointed out that the loans tended to be small and numerous, imposing large documentation requirements and per-unit staff output. Credit was also focussed on the small business sector, with consumer and producer co-operatives receiving selective emphasis. So much so, that the 1973 Annual Report in complaining about past-due and inactive accounts, made mention of "... our seemingly liberal policies towards a worker and small business clientele..." Education financing was provided through the Brain Wave Plan and the Tertiary Education Expenses Financing Plan. The Brain Wave Plan required fixed monthly deposits into an account over the plan's life which, in turn, yielded inflationary adjusted payments to meet educational commitments.

The Bank sought to provide credit for low cost housing and made major innovations in mortgage financing. It launched the Home Ownership Plan in 1973 which offered composite financing for the

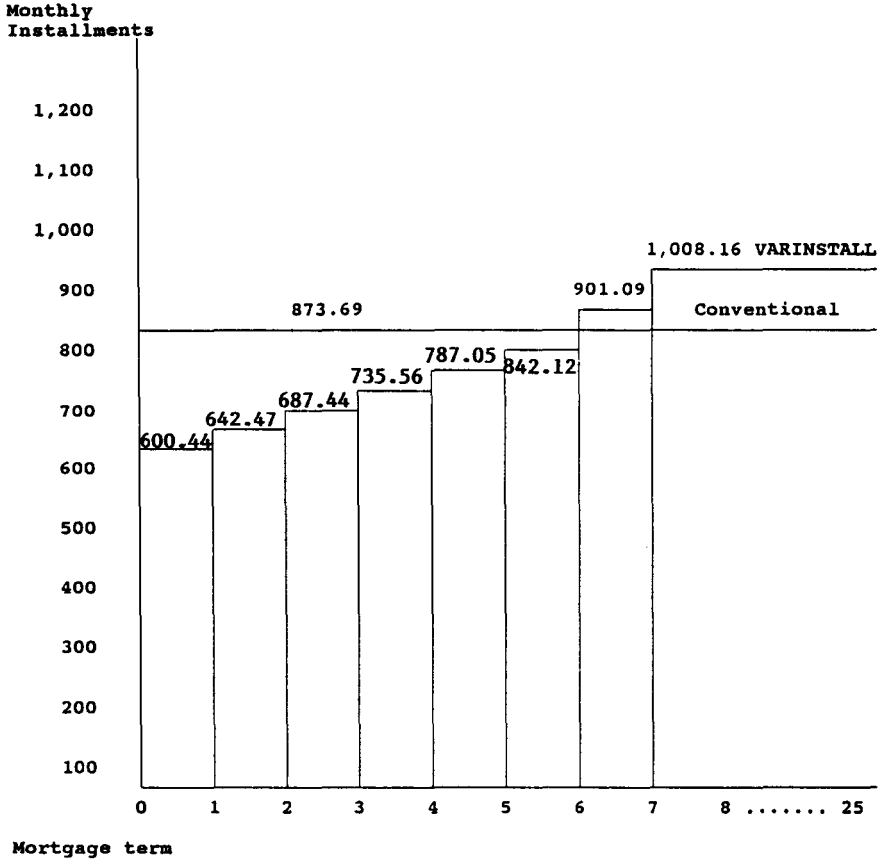
acquisition of furnished homes. The plan allowed for a cumulative deposit account to enable persons, without the required equity, to acquire such equity over an 18-month period. A series of Varinstall Graduated Mortgage Finance Plans beginning in 1978 was introduced. In rationalizing Varinstall the 1979 Annual Report (p. 8) argued:

> ... It was the common experience among mortgage lenders that the persistent inflationary trend rendered the utilization of conventional mortgage financing mechanism impractical, as borrowers were unable to afford the entry level for the long-term financing arrangements. Basically, the various configurations of our proprietary mortgage and composite financing plans provided for the deferment of the repayment of mortgage principal and for part payment of mortgage interest to a time when enhanced earnings of the borrower could provide the scope for amortization of such indebtedness.

A series of Varinstall based mortgage financing plans ensured the Workers Bank emergence as a leading mortgage financing institution. These include the Residential Property Expenses Plan and the Home Improvement Financing Plan (1979), the Base Rate Mortgage Finance Plan and Variable Interest Rate Mortgage Finance Plan (1980) and a New Home Improvement Plan (1981). The plans offered inflation adjusted funding of taxes, insurance, maintenance and furniture and appliance replacement. Other elements include use of initial base rate lower than prevailing prime lending rates, reduction of rates in periods of low or falling prime rates and possibilities for converting conventional mortgage loans. A typical Varinstall escalation profile for a 24-year term $100,000.00 mortgage loan is illustrated in Figure 1. It shows that a borrower can enter the market paying $600 monthly, compared to $874 under a conventional mortgage, in fact, paying $11,136 less over the first 7 years. From the 7th year monthly payments under Varinstall increases 15 per cent above the conventional mortgage. The assumption underlying Varinstall was that the borrower will experience future income growth.

The NCB sought to broaden the societal allocation of credit by fashioning a credit strategy centered around the creation of specialized subsidiaries targeting different market segments. These included the Trust Company formed at inception, Trin Finance formed in 1975 and the International Industrial Merchant Bank formed in 1981. The Trust Company was the medium for initiating change in the mortgage

FIGURE 1: THE WORKERS BANK VARINSTALL INSTALMENT ESCALATION PROFILE ($100,000.00 MORTGAGE LOAN)



Source: Workers Bank Ltd., *Annual Report,* 1979, p. 8.

market. The 1971 Annual Report informed that it offered up to 75 per cent of the value of property for house mortgages depending on location and the value of the house. This was a shift away from the traditional mortgage proportions of 60 per cent to 65 per cent of the property value. In addition to conventional lending, efforts were directed towards the provision of low cost housing. The 1973 Annual Report indicated that in this area NCB offered 90 per cent loans in areas previously classified as 60 per cent lending areas. Trin Finance provided funds for areas as diversified as hire purchase and insurance premium financing as well as leasing finance for the petroleum and petro-chemical sectors. The Merchant Bank sought to provide financial services geared at the society's industrial development.

The Bank itself attempted to broaden credit provision. The 1972 Annual Report points out that special concern was shown for firms that could not get bank financing due to small size and management inexperience. It also noted that the granting of loans to persons on the basis of earnings and personal character was increased significantly. In general, the bank actively sought to provide credit widely, to previously neglected groups, small and large business, regional governments and regional joint ventures, as the 1991 Annual Report (p. 1) asserted:

> The customer profile extends from the person with the small account to the transnational corporation with millions of dollars, and covers a wide range of professionals, trade and credit unions, small and medium size businesses, private and public sector firms, oil companies, conglomerates and even some Caricom governments.

Assets-liabilities Composition

The indigenous bank's effort to shift the isowelfare curve to the frontier, impacted on the structure of their assets and liabilities. A limited view of the Workers Bank loan portfolio composition is reported in Table 1. Loans are classified by types of loans. It is seen that real estate and housing related loans (Mortgages, Home-ownership and Interim Construction Finance) accounted for around 65 per cent of the total loan portfolio over the reported period. Consumer durable loans did not exceed 1 per cent, personal loans hovered around 5 per cent and commercial loans stood near 9 per cent.

TABLE 1: WORKERS BANK'S COMPOSITIONS OF LOANS AND ADVANCES, BY TYPE OF LOAN

(TTSm. %)

Loan Type/Year	July 1987	%	May 1988	%	February 1989	%
Commercial	60.566	9.76	61.811	9.37	55.697	8.03
Consumer Durable	2.186	0.35	2.805	0.42	3.047	0.44
Personal	31.640	5.10	29.943	4.54	36.381	5.24
Overdraft	74.780	12.06	75.778	11.49	90.763	13.09
Staff	1.128	0.18	1.551	0.23	1.508	0.22
Mortgage	398.479	64.28	420.669	63.79	434.079	62.59
Home Ownership	4.451	0.72	4.842	0.73	4.248	0.61
Interim Construction Financing	17.351	2.80	13.769	2.09	12.263	1.77
Classified	30.190	4.87	53.639	8.13	65.314	9.42
Non-performing	40.969	6.61	52.485	7.96	57.687	8.32
Provision for Loan Losses	41.815	6.74	57.845	8.77	67.455	9.73
Total Loans	**619.925**	**100.00**	**659.447**	**100.00**	**693.532**	**100.00**

Source: Data provided by Workers Bank (1989) Ltd.

Lack of data precludes a similar viewing of NCB's loan portfolio. However, the high proportion of real estate loans in overall indigenous banks loan portfolio, 65 per cent in 1990, suggest a high percentage share for NCB, given its large share of the indigenous loan portfolio. It is doubtful whether consumer, personal and commercial loans, occupied the kind of low percentage shares in NCB's loan portfolio seen in the Workers Bank's portfolio. The NCB had made systematic efforts to develop these portfolios. Attempts to broaden credit provision explain the concentration of credit in real estate portfolios. The prior neglect of low and middle income workers and the rapid growth in national income, over 1973-1982 period, offered strong incentives.

The deposit liabilities of the indigenous banks reflected the composition of the loans portfolio primarily through the financial requirement to match the maturity profiles of assets and liabilities - loans and deposits. The bulk of the Workers Bank's deposits were concentrated in time deposits. Table 2 indicates an over 70 per cent deposits concentration in time deposits throughout the period 1972-1988. The shares of demand deposits and savings deposits declined, secularly, over the period. Confirming that the bulk of its deposits were in long-term maturities as were its assets.

The absence of adequate data precludes any definitive conclusions in the case of NCB. However, a not unreasonable conjecture is that the major proportion of its deposits were term deposits. Relative shares in total industry deposits may sustain this conjecture. The relative shares of savings and demand deposits could hardly have attained the skewedness of the Workers Bank's shares. NCB had targeted all market segments, as evidenced by a corporate business focus.

The indigenous banks' basic objective was social welfare maximization, that of achieving a more societally optimal allocation of bank credit. The indigenous bank's management relentlessly pursued that objective. Clear risks were present. They were providing loans to highly risky sectors, loans based on character assessment and loans to small businesses and inexperienced management. Most of these areas of lending had been avoided by the risk averse expatriate and expatriate-inspired banks. The indigenous banks were constrained in their ability to minimize associated risks due to unsustained government support.

UNSUSTAINED GOVERNMENT SUPPORT THE EARLY PROBLEMS

Immediate difficulties confronted the indigenous banks upon their establishment. The indigenous banks did not possess a branch network system and one had to be built up from scratch. An acute shortage of trained and experienced personnel in the field of banking made staff recruitment difficult.[10] Indigenous banks were faced with the need to develop staff training facilities and to seek out and finance training locally and abroad for recruited members of staff.

TABLE 2: THE WORKERS BANK DEPOSIT STRUCTURE AND PERCENTAGE SHARES OF TOTAL DEPOSITS 1972-1988

($m. %)

Year	Demand Deposit	%	Savings Deposit	%	Time Deposit	%	Other Deposit	%
1972	0.397	5.71	1.149	16.53	5.403	77.75	—	—
1973	0.661	8.28	1.234	15.46	5.980	74.95	0.104	1.31
1974	0.833	7.05	2.610	22.10	8.122	68.77	0.246	2.08
1975	1.043	6.39	3.120	19.13	11.838	72.58	0.310	1.90
1976	1.615	6.40	4.182	16.58	18.748	74.34	0.674	2.68
1977	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1978	3.496	6.07	6.463	11.22	46.586	80.93	1.020	1.78
1979	6.356	6.87	8.229	8.90	67.582	73.09	10.290	11.14
1980	8.788	6.05	10.526	7.25	119.427	82.28	6.398	4.42
1981	17.275	7.79	13.873	6.25	118.454	84.94	2.267	1.02
1982	23.518	5.67	26.374	6.36	362.780	87.43	2.262	0.54
1983	21.854	4.75	26.992	5.87	364.577	79.28	46.408	10.10
1984	25.075	6.32	24.515	5.20	369.687	78.46	51.877	11.02
1985	10.657	2.28	24.571	5.26	422.233	90.39	9.658	2.07
1986	13.022	2.86	24.705	5.43	406.714	89.34	10.775	2.37
1987	11.501	2.04	29.551	5.25	493.989	87.84	27.337	4.87
1988	14.281	2.59	25.615	4.65	489.048	88.85	21.496	3.91

Source: Workers Bank Ltd., *Annual Reports* 1972-1988
N.A. — Not Available

The banks' efforts to engage in broad-base deposit mobilization were constrained by the difficulties. Free capital, the critical variable, required to finance plans for confronting the difficulties was in short supply. Unlike the expatriate-inspired banks, the indigenous banks were without the resources of a metropolitan parent bank. However, the banks faced generalized suspicions about their soundness and capabilities. The reason generally tendered was the society's revealed preference for foreign-owned institutions.

Nevertheless, the banks proceeded to develop competitive strategies to capture a share of the society's surplus. Four competitive strategies are available to indigenous banks, it is argued. They can advertise, engage in interest rate competition within the limits imposed by the Central Bank, compete by means of political propagandization and engage in competition centered around the quality of services.[11] The indigenous banks invariably pursued these and other competitive strategies over the course of two distinct periods. The first period covering the 1970's will be termed the development phase and the second, spanning the 1980's and beyond, the mature phase.

Interest rate competition in the form of higher deposit rates and lower loan rates was an essential plank in the indigenous banks competitive strategy. The extent of interest rate competition could not be guaged due to data limitations. However, scant evidence points to the Workers Bank in the last quarter of 1987 offering between 8.7 per cent and 10.2 per cent interest rates on fixed deposits, among the highest then available.[12] The NCB offered an effective rate of 7 per cent per annum on its Chaconia Accumulator Plan when launched in 1970, compared to a weighted average deposit rate of 5 per cent then prevailing for the banking system.[13] Indigenous banking officials have on past occasions emphasized the impact of interest rate competition. Political propagandization and strong advertising campaigns occupied central roles in their competitive strategies. Efforts were made to market the NCB around the theme that it was "your bank", the "bank of the nation" and the Workers Bank as the "bank of the workers". Aggressive financial product innovations were also part of the strategy. Both banks proceeded to rapidly build a network of branches, but capital shortages proved to be a major obstacle. The banks resorted to issued share capital and deposit liabilities.

Impact of Competitive Strategies

The banks' competitive strategies also imposed constraints on profitability and financial soundness. Interest rate competition meant the indigenous banks had to pay a higher premium for deposit funds and accept lower returns on loan portfolios, effectively squeezing interest margin spread and provoking competitive responses from competing expatriate inspired banks. Inevitably, this imposed further pricing sacrifices on the indigenous banks.[14]

The large fixed expenditure cost of developing branch networks further reduced indigenous banks' profitability and retained earnings, and also compromised capital adequacy provisions. Indigenous banks were forced to finance such bulky expenditures from profits and deposit inflows. Moreover, financial product innovation meant the development of loan portfolios yielding lower expected returns.

The joint effects of the competitive strategies and welfare maximization had exposed the indigenous banks to significant risks. Loan portfolio concentration in the real estate sector and among fixed and low income borrower groups and narrow interest margins meant that changes in macro-economic conditions could provoke liquidity shortages and insolvency.

Limited Government Support

The establishment of indigenous banks entailed initial government support. However, the support quickly dissipated leaving the indigenous banks without critical support in their establishment phase. The NCB was formed by government's purchase of the assets and liabilities of the Bank of London and Montreal. Preliminary expenses of the promoters, cost of the site and building of the Workers Bank's first branch were covered by government funds which were later converted to government shares. Support to Workers Bank included a corporation tax exemption status that ended in 1976. The indigenous banks received no additional support that could have mitigated the constraints on profitability and financial soundness. Decrying the situation, Chairman of the Workers Bank board of directors in the 1976 Annual Report (p. 4) complained:

> A further area of disappointment to me is the state's attempt to justify a policy of withholding support from the bank...

The NCB 1992 Annual Report (p. 3) sizes up the situation this way:

> ... the NCB enjoys no special privileges within the law. It operates under the law like any of the foreign banks. No tax concessions have been granted to NCB... It is not the banker to the Central Government, nor does it have any significant number of statutory boards or agencies of the government as its ordinary business customers.

The cessation of direct government support was accompanied by an absence of indirect support, that an appropriately constructed regulatory regime could have provided.

The system of bank supervision, regulation, the execution of monetary policy measures and the management of the development of the financial system as a whole, made no specific allowance for the indigenous banks' pursuit of social welfare maximization. Risky asset portfolios, narrow interest margin spreads and lower levels of profitability, it was noted, accompanied the pursuit of the Welfare Maximal. The implementation of monetary policy measures made no real distinction between the indigenous banks and the expatriate inspired banks' competitive position.

The failure of the regulatory regime to factor in the indigenous banks competitive position has been forcefully articulated by Prescod.[15] Utilizing "management accounting techniques" Prescod examined funding cost structure, interest margin spread, capital adequacy and the impact of statutory banking controls on the financial performance of indigenous banks relative to expatriate-inspired banks (localized enclave in Prescod's terminology).

The impact of the uniform application of statutory controls on banking behaviour could have been perverse, Prescod argued. The selective credit control guidelines of 1986, which restricted consumer loans to 30 per cent of total bank loans and advances, stipulated a measurement rule for computing the required ratio that excluded real estate mortgages. The definition of real estate mortgages included loans secured by real estate mortgage deeds and other liens on real estate made to finance real estate. The exclusion of real estate mortgages, Prescod believed, were significant for two reasons:

> Firstly, the greater the proportion of real estate mortgages in the loan portfolio, the greater the 'elbow room' for more consumer lending; the downside to this question, however, is that greater risks may then attach to such a concentration in real estate mort-

> gage financing. Secondly, once the optimum position has been reached (example, the 30 per cent limit) then the growth rate of the real estate mortgage portfolio sets the limit to the required rate of growth of consumer lending, if the 30 per cent is not to be exceeded...[16]

The preponde ^^ (+^U^^^S real estate loans in the indigenous bank's loan portfolio and the relatively smaller share in expatriate inspired banks' portfolio meant a bias in policy, Prescod concluded.

Indigenous banks funding cost exceeded that of the expatriate inspired banks, Prescod observed. This was due to the large share of high cost term deposits in indigenous banks portfolio, compared to the large share of low cost current account/demand deposits and savings deposits in expatriate inspired banks portfolio. Prescod demonstrated that the large share of term deposits also impacted on indigenous banks interest margin spread through the loan deposit ratio.

Defining interest margin as one less the ratio of interest payments to interest earnings $\left(IM = 1 - \frac{IP}{IE}\right)$ Prescod then argued that the larger IE the smaller would be the ratio $\frac{IP}{IE}$ and the bigger would be IM. Loans being the major earning assets implies that the higher the loan to deposit ratio the larger would be the interest margin spread. The marginal reserve requirement (MRR) imposed in 1980 by restricting the loan to deposit ratio penalized indigenous banks, Prescod contended. The MRR placed a 'penalty' of 15 per cent on every (marginal) deposit dollar raised above base date bank's deposit holdings of December, 1979. Prescod points out that over the reference period 1980 to 1984, indigenous banks recorded higher deposit growth rates.

Prescod rationalized the indigenous banks deposit portfolio structure in terms of the behaviour of the individual banking consumer. Invoking market analysis, he identified external factors of culture and lifestyle as determining banking consumer behaviour. He concludes, "it should therefore be understandable why the historical savings (i.e. deposit instrument) profile should be kept in tact, probably now to be defined in terms of `loyalty', vis-á-vis the localized enclave with the indigenous enclave having an immaterial impact on this low-cost savings (instrument) segment".

Such arguments may be flawed since they essentially assume that economic agents (the banking consumer) do not seek to maximize expected rates of returns on asset portfolios, so that gains and losses are not motivating incentives. Indigenous banks deposits and expatriate banks deposits are substitute assets. If economic agents perceive indigenous banks deposits as risky assets and expatriate banks deposits as riskless assets, then risk averse agents will hold expatriate bank deposits. Utility maximizing agents will hold a risky asset only if its expected rates of return exceeds that of the riskless asset. The logical implication is that faced with low return assets (current/demand deposits) of both the expatriate-inspired banks and indigenous banks yielding similar rates of return, agents will hold the expatriate bank's assets. The ability of the indigenous banks to offer earning assets yielding higher expected returns becomes the crucial variable. Management capabilities and efficiency, inescapably, enter the argument at this point.

Central Bank's Efficacy

The issue of the appropriateness of the regulatory regime inevitably raises the question of the efficacy of the Central Bank's system of bank examination. The process of bank examination includes the identification of problem banks, the institution of corrective measures and the provision of advice, so as to ensure the health and well-being of (individual members) the banking system. What is presumed is the existence of some kind of early warning capability. The essential concern is whether the system of bank examinations had failed to provide early warning signals on the deteriorating performances of the indigenous banks.

Evidence points to the existence of early warning signals for both NCB and Workers Bank. In the case of Workers Bank, the Minister of Finance informed "that from its inception the Inspector of Banks conducted several inspections of the group and identified over the ensuing years that the investment portfolio of the group was exposed to abnormal risks. He made certain recommendations and gave advice to the group over time as to measures to be taken to improve their performance".[17] The Inspector of Banks' report submitted in March, 1992, following a full scale examination of NCB which started in September 1991, summed up its overall condition as less than sat-

isfactory.[18] The report contended that since the last examination in 1987, there had been "continuous deterioration" in the quality of its loan portfolio, increased operating losses over the period, tightening liquidity, dilution of the capital base which had become insufficient to support its assets "and management failures to provide adequate information to the Board and to take corrective action where weaknesses are identified". The Inspector also found that "various areas of concern" of NCB's operations discussed since the 1987 examinations had remained "uncorrected".

Why the failure to implement recommendations and follow corrective advice? The greater operational risk associated with the indigenous banks pursuit of social welfare maximization logically required stringent enforcement of recommendations and corrective advice. The lack of stringency may be due to the absence of an enforcement capability in the system of bank examination which can be attributed to limitations on the 'powers' of the Central Bank. Repeal of the Banking Act (Chapter 74:01) and the enactment of the Financial Institutions Act, 1993, confirms this view. The new act, unlike the old, provides the Central Bank with the power to issue "cease and desist" orders that also covers engagement in any "unsafe or unsound" practice.

The arguments thus far suggest that the indigenous banks were denied the necessary direct and indirect government support. From the perspective of initial governmental enthusiasm the subsequent cessation of support is contradictory. What explains such contradictions? One explanation contends that government's anxiety to get indigenous banking off the ground somehow explained the lack of Special Charters and other assistance.[19] This argument is a virtual strawman. The sustained pursuit of a strategy of 'localization', starting in 1972, constituted the basis for the abandonment of the policy of indigenisation and with it indigenous banks. In April 1972 the Banking Act (1964) was amended.[20] This was followed in 1973 by the selling of 5 million shares to the public by the Royal Bank, Barclays Bank and the Bank of Nova Scotia, all expatriate banks. The sheer size of the localizing expatriate banks, their honing of strategies to meet the competitive challenge of the indigenous banks and to counter socio-political hostility, tilted the policy focus away from indigenisation. The argument has been posited that the policies of indigenisation and localization were not incompatible.[21] But policy

compatibility does not rule out policy dominance in a game theoretic sense. Localization constituted a dominant strategy. Why? Because the expected payoffs from localized expatriate banks were higher than expected payoffs from newly created indigenous banks. Policy players, in a policy game, will play only the dominant strategy, not the dominated strategy.

Naive conceptualization of financial development policy and domestic political realignment also contributed to unsustained governmental support. Financial development policy was broadly aimed at fostering the development of the financial sector through new financial institutions and instruments. Within this framework indigenous banks constituted new financial institutions. It appeared that the policy players simply believed that the creation of indigenous banks with a manager and a main office was sufficient. The need for a phased programme of assistance, with sequenced exposure to market forces and stringent regulatory supervision was not perceived — probably testimony to an unsophisticated and unthinking policy technocracy.

Nevertheless, political variables may offer a better explanation. By the mid-seventies, the alignment of political pressure groups centered around black power had unraveled. Political pressure from this alignment led to the formation of indigenous banks. The political pressure necessary to sustain policy focus on indigenous banks was now diminished. This was disastrous for two reasons. Firstly, indigenisation policy was a dominated policy strategy. Secondly, it left the managerial elite of the indigenous banks without the political support necessary to force policy change. Despite these factors, the managerial elite appeared to have been unable to sway policy changes in favour of indigenous banks. A coherent plan to confront policy neglect was neither fashioned nor articulated. When a plan was proffered in July 1992 to merge the indigenous banks, it came at a time when the room for manoeuver was circumscribed.

RENT-SEEKING BEHAVIOUR AND MANAGERIAL PERFORMANCE THE PERFORMANCE RECORD

The government-sponsored indigenous banks experienced phenomenal growth over their period of existence. In Table 3 it is revealed that Workers Bank's share of total banking system deposit grew from 1 per cent in 1972 to 7 per cent in 1988, while its loan share grew

TABLE 3: THE WORKERS BANK DEPOSITS LOANS AS A PERCENTAGE OF ALL BANKS DEPOSITS AND LOANS

(%)

Year	Total Deposit	Demand Deposit	Time Deposit	Savings Deposit	Total Loans
1972	1.06	0.30	2.41	0.37	1.56
1973	1.06	0.55	1.81	0.42	1.43
1974	1.18	0.45	1.47	0.54	1.54
1975	1.27	0.38	1.84	0.66	1.69
1976	1.48	0.41	2.92	0.62	1.91
1977	1.85	N.A.	N.A.	N.A.	2.09
1978	2.17	0.56	5.43	0.67	2.44
1979	2.62	0.79	6.41	0.69	3.24
1980	3.63	0.91	7.75	0.77	4.27
1981	4.53	1.44	9.03	0.86	5.44
1982	6.39	1.50	13.79	1.15	7.98
1983	6.49	1.53	11.23	1.12	9.06
1984	6.31	2.05	9.70	1.01	8.51
1985	6.19	0.83	11.07	1.00	9.10
1986	6.23	1.20	11.21	0.95	9.50
1987	7.36	1.05	12.46	1.14	9.66
1988	7.05	1.48	11.31	1.02	10.27

Source: Central Bank of Trinidad and Tobago — *Handbook of Key Economic Indicators.* Quarterly Economic Bulletin, *Operating Results of the Financial System,* June 1992.

from 1.5 per cent to 10 per cent. NCB's deposit share grew from 3 per cent in 1971, peaked at 22 per cent in 1988, then declined to 20 per cent in 1992. Its loan share moved from 3 per cent in 1971 to around 19 per cent for the 1983-88 period, later declining to 14 per cent in 1992 (see Table 4). Both Workers Bank and NCB started off with one bank office. By the time of their demise, Workers Bank branch offices totalled eight and NCB's branch offices totalled twenty-two. Tables 5 and 6 provide more data on the banks growth indicators.

Changed macro-economic conditions suggest that the banks were operating at the point where positive total profits were unsustainable. The collapse of oil prices ushered the economy into a long contraction. Macro-economic growth was negative from 1983 onwards and

TABLE 4: THE NCB DEPOSITS AND LOANS AS A PERCENT OF ALL BANKS DEPOSITS AND LOANS 1971-1992 — CONTINUED

YEAR	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Total Deposit	3	4	5	5	6	8	9	10	10	12	17
Total Loans	3	5	6	6	7	7	7	7	10	10	13

TABLE 4: THE NCB DEPOSITS AND LOANS AS A PERCENT OF ALL BANKS DEPOSITS AND LOANS 1971-1992 — CONCLUDED

YEAR	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Total Deposit	18	18	18	20	21	21	22	19	20	18	20
Total Loans	15	19	17	18	18	19	18	16	17	17	14

Source: NCB, *Annual Reports,* 1971-1972.
Central Bank of Trinidad and Tobago, *Handbook of Key Economic Indicators.*
Quarterly Economic Bulletin, Operating Results of the Financial System. June 1992.

TABLE 5: THE NATIONAL COMMERCIAL BANK GROWTH INDICATORS

(TT$million %)

Year	Number of Bank Offices	Total Deposits	Total Assets	Total Loans	Pre-tax Profits	Post-tax Profits	Number of Employees
1971	1	17.4	22.8	10.3	0.208	0.101	35
1972	1	25.6	31.7	19.9	0.356	0.176	44
1973	1	35.9	43.0	33.2	0.859	0.438	63
1974	2	50.0	67.1	42.8	0.819	0.522	90
1975	4	75.9	97.1	63.3	1.032	0.520	150
1976	4	139.3	179.5	83.2	2.112	0.905	210
1977	5	191.0	234.2	112.5	3.216	1.478	235
1978	7	265.6	352.5	170.9	5.432	2.348	333
1979	8	355.2	474.4	260.1	6.702	2.777	418
1980	12	485.5	631.8	346.9	4.858	2.809	562
1981	16	814.4	1,019.4	551.4	11.805	5.059	700
1982	21	1,145.8	1,322.4	758.0	11.557	5.767	854
1983	22	1,280.5	1,562.0	1,067.6	13.865	4.470	918
1984	22	1,365.5	1,727.8	1,069.3	13.733	6.467	947
1985	22	1,515.7	1,852.7	1,130.9	8.318	3.700	968
1986	22	1,536.0	1,730.2	1,181.8	12.557	7.801	910
1987	22	1,578.7	1,854.1	1.261.5	11.655	1.712	857
1988	22	1,691.9	1,859.7	1,209.2	3.975	2.318	890
1989	22	1,583.9	1,778.0	1,083.2	5.552	5.768	832
1990	22	1.670.1	1.867.8	1,188.1	6.237	6.092	712
1991	22	1,653.6	1,997.4	1,245.5	6.938	6.643	807
1992	22	1,655.3	2,064.0	1,143.9	7.980	7.815	903

Source: The National Commercial Bank, *Annual Reports,* 1971-1992

TABLE 6: THE WPRLERS BANK GROWTH INDICATORS 1972-1988

(TT$mn)

Year	Number of Bank Offices	Total Deposits	Total Assets	Total Loans	Pre-tax Profits	Post-tax Profits
1972	1	6.949	9.615	7.992	(0.485)	—
1973	1	7.979	11.884	9.125	(0.214)	—
1974	2	11.811	15.449	10.456	(0.749)	—
1975	—	16.311	22.206	14.923	0.052	0.050
1976	—	25.219	33.488	22.745	0.296	0.264
1977	—	40.061	52.475	34.914	0.960	—
1978	—	57.565	72.810	55.247	1.206	0.643
1979	—	92.457	119.329	85.998	1.756	0.863
1980	—	145.139	182.608	140.227	4.722	2.490
1981	—	221.869	282.077	220.782	7.814	3.940
1982	—	414.934	523.209	389.298	17.818	8.875
1983	5	459.831	608.465	515.458	17.445	8.028
1984	6	471.154	646.507	525.736	15.921	8.063
1985	6	467.119	670.374	560.079	10.620	5.028
1986	7	455.216	716.565	599.540	10.462	2.983
1987	8	562.378	838.393	637.715	6.840	4.757
1988	8	550.440	868.852	688.501	2.096	1.578

Source: Workers Bank, *Annual Reports*, 1972-1988

by 1988 tough adjustment measures were being implemented precipitating further contraction. The cumulative impact was accelerating unemployment, falling incomes and a collapsing real estate market.

The drastically altered economic conditions resulted in Workers Bank experiencing loan delinquency problems. At December 31, 1988, total non-performing loans numbered 432 and were valued at $190.4m, some 27.6 per cent of the loan portfolio. The sum of $24.4m (or 49 members) of the total non-performing loans represented borrowers who lost their jobs through redundancy.[22] The high incidence of loan non-performance was felt in a collection slow down of approximately $1.0m per month from the loans portfolio.[23] Significant deposit withdrawals by large institutional depositors developed. Such withdrawals totalled $52m in 1988, which worked out to be some $4.3m per month (see Table 7).

TABLE 7: INSTITUTIONAL DEPOSIT WITHDRAWALS 1988

Accounts Size	Number of Accounts	Withdrawals
$000		$000
250-500	14	5,800
501-750	9	5,200
751-1,000	12	11,300
1,000 - +	8	29,800
TOTAL	43	52,100

Source: Proposals for Restructuring Workers Bank Group

NCB similarly experienced loan delinquency problems. The Inspector of Banks report noted that there was "continuous deterioration" in the quality of its loan portfolio since the 1987 examination. Loans in arrears for three months and over increased to 37.5 per cent ($318.5m) of total loans at the end of June, 1991, with loans in arrears for over 24 months being 27.1 per cent ($230.3m) of the gross. A sharp increase in loans classified as loss had occurred.[24] The emergent delinquency problems mirrored the effects of deteriorating economic conditions on indigenous banks risky asset portfolios. The collapse of real estate values affected their huge real estate portfolio and reduced incomes constrained low and fixed income borrower groups' payment capacities.

Indigenous banks cost measures of risk and capital adequacy further points to an inability to sustain positive total profits. Operating cost as a percentage of total assets, the intermediation cost ratio, increased for Workers Bank after 1992 — a strong indicator of inefficiency in financial intermediation (see Table 8). As a proportion of total operating cost, labour cost declined over the period 1972-1988. Interest cost fluctuated, but, ultimately registered a decline by 1988. So that the major impetus to increased cost came from other operating costs, primarily loan loss provisions, net losses on loans and advertising expenses.

For NCB, Table 9 reveals a deterioration in the efficiency of financial intermediation up to 1989, some improvements in 1990 and renewed deterioration over 1991-92. In addition, NCB's liquid assets ratio and risk assets ratio points to increased risk and a decline in liquidity, especially over the 1982-92 period. The period also witnessed a decline in the capital to risk asset ratio (see Table 10).

Workers Bank's liquid asset ratio annual average size of 17 per cent over 1972-1982 declined to 7 per cent in the period 1983-1988. The variability range of the risk asset to total asset ratio increased over the period 1983-88 (see Table 11).

What emerges is a picture of deteriorating liquidity and heightened risk, especially over the period of contraction. Adjustment measures had cut incomes, reduced government expenditure and tightened monetary policy. Coupled with the fall in export earnings, the net-effect was to reduce borrowers' repayment capacities, make bank financed projects unviable and provoke collapse of the real estate market. It is these factors that explain previously noted patterns in risk, liquidity and efficiency.

Faced with liquidity shortages, the indigenous banks resorted to borrowings. Workers Bank balances due to other banks increased from $68.6m in 1986 to $87.6m in 1987 and by 1988 reached $196.2m. This was accompanied by the drawdown of its reserves and borrowings from the Central Bank. Advances from the Central Bank totalled $164.1m at year end 1988.

The Central Bank's increase of the reserve requirement rate in June, 1991, and then in the rediscount rate, provoked liquidity problems for NCB in common with other banks. At February 12, 1992, NCB's total borrowings from the Central Bank comprised a $20m loan and a $140m deficiency on the reserve requirement account. The

TABLE 8: THE WORKERS BANK OPERATING COST AND REVENUE (1972-1988) — (CONT'D)

($TTm, %)

Year	1972	1973	1974	1975	1976	1977	1978	1979	1980
Operating Cost $m	1.011	1.424	2.183	2.080	2.780	3.848	6.437	10.028	16.604
Operating Revenue $m	0.525	1.210	1.434	2.133	3.076	4.808	7.644	11.74	21.326
Net Operating Revenues $m	(0.486)	(0.214)	(0.749)	0.053	0.296	0.960	1.207	1.756	4.722
Percent of Total Assets									
Operating Costs	10.5	12.0	14.1	9.4	8.3	7.3	8.8	8.4	9.1
Operating Revenues	5.5	10.2	9.3	9.6	9.2	9.2	10.5	9.9	11.7
Net Revenues	(5.0)	(1.8)	(4.8)	0.2	0.9	1.8	1.6	1.5	2.6
Percent Structure of Costs									
Interests Costs	15.5	28.4	35.2	34.8	36.9	N.A.	48.6	54.2	62.6
Labour Costs	34.5	25.4	34.8	25.3	31.0	N.A.	25.3	25.8	20.5
Other	50.0	23.8	30.0	39.9	32.1	N.A.	26.1	20.0	16.9
Percent of Structure of Revenue									
Interest Income	89.9	81.1	88.1	85.0	81.6	N.A.	84.7	83.2	83.2
Fees and Services	2.7	1.7	1.7	10.1	15.0	N.A.	10.5	14.5	15.0
Commission	5.7	16.1	9.1	3.7	2.7	N.A.	3.9	1.7	1.3
Exchange	1.5	1.1	1.0	1.2	0.3	N.A.	0.4	0.5	0.3
Other	—	—	—	—	—	—	—	—	—

Source: Calculated from Workers Bank, *Annual Reports,* 1972-1988

TABLE 8: THE WORKERS BANK OPERATING COST AND REVENUE (1972-1988) — (CONCLUDED)

($TTm, %)

Year	1981	1982	1983	1984	1985	1986	1987	1988
Operating Cost $m	23.346	38.947	64.735	73.801	78.967	85.839	91.976	102.999
Operating Revenue $m	31.160	56.764	82.180	89.722	89.587	96.301	98.816	105.095
Net Operating Revenues $m	7.814	17.817	17.445	15.921	10.620	10.462	6.840	2.096
Percent of Total Assets								
Operating Costs	8.3	7.4	10.6	11.4	11.8	12.0	11.0	11.8
Operating Revenues	11.0	10.8	13.5	13.9	13.4	13.4	11.0	12.1
Net Revenues	2.8	3.4	2.5	2.5	1.4	1.5	0.8	0.2
Percent Structure of Costs								
Interests Costs	66.7	67.2	67.3	58.6	60.4	56.3	50.7	48.8
Labour Costs	16.8	15.0	11.7	13.4	13.1	14.0	14.7	13.1
Other	16.5	17.8	21.0	28.0	73.5	29.7	65.4	38.1
Percent of Structure of Revenue								
Interest Income	77.8	76.6	86.7	91.0	88.1	89.2	89.5	91.4
Fees and Services	16.3	17.6	10.4	7.6	9.8	9.4	8.7	6.8
Commission	1.2	1.2	1.3	1.0	1.0	0.7	0.4	0.5
Exchange	0.1	0.1	0.1	—	0.3	0.2	0.5	0.3
Other	4.6	4.5	1.5	0.4	0.8	0.5	0.9	1.0

Source: Calculated from Workers Bank, *Annual Reports*, 1972-1988.
[1]From 1981-1988 figures represents loan interest income.

TABLE 9: THE NCB OPERATING COST AND REVENUE (1985-1992)

Year	1985	1986	1987	1988	1989	1990	1991	1992
Operating Cost $m	183.227	197.426	210.976	223.141	219.225	196.724	222.720	252.548
Operating Revenue $m	191.544	209.983	222.631	227.116	224.777	202.961	229.658	260.528
Net Operating Revenues $m	8.317	12.557	11.655	3.975	5.552	6.237	6.938	7.980
Percent of Total Assets	—	—	—	—	—	—	—	—
Operating Costs	9.9	11.4	11.4	12.0	12.3	10.5	11.1	12.2
Operating Revenues	10.3	12.1	12.0	12.2	12.6	10.9	11.5	12.6
Net Revenues	0.4	0.7	0.6	0.2	0.3	0.3	0.3	0.4

Source: NCB, *Annual Reports*, 1985-1992.

TABLE 10: THE NCB RISK AND CAPITAL ADEQUACY INDICATORS 1971-1992 CONT'D

Year	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Liquid Asset % Total Asset	46	31	17	15	15	35	38	46	21	25	26
Risk Asset % Total Asset	56	71	85	88	90	69	67	76	87	82	88
Capital % Risk Asset	39	24	15	11	8	10	12	13	8	7	5

TABLE 10: THE NCB RISK AND CAPITAL ADEQUACY INDICATORS 1971-1992 — CONCLUDED

Year	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Liquid Asset % Total Asset	30	18	18	22	21	16	18	17	19	14	17
Risk Asset % Total Asset	89	95	95	92	93	94	90	93	92	94	88
Capital % Risk Asset	6	5	5	4	5	4	5	5	6	6	6

Source: Calculated using NCB, *Annual Reports,* 1971-1992

TABLE 11: THE WORKERS BANK RISK AND CAPITAL ADEQUACY INDICATORS 1972-1988

Year	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Liquid Asset % Total Asset	12	13	27	22	21	NA	15	19	15	13	18	5	9	9	5	11	5
Risk Asset % Total Asset	93	92	79	85	79	NA	92	88	89	79	93	99	99	98	98	97	97
Provision for Loss % Total Loans and Advances	2.5	3.3	2.9	1.4	0.9	NA	0.4	0.4	0.3	0.3	0.7	1.7	1.2	0.9	1.5	1..9	1.7

Source: Computed from Workers Bank, *Annual Reports*

Central Bank's insistence that all borrowed funds be repaid by February 28, 1992, served to bring NCB's liquidity pressures to a head.[25]

Citing the deterioration in Workers Bank's asset quality and loan portfolio, and the consequent impact on the liquidity and solvency of the Workers Bank, the Central Bank in April, 1988, suspended operations of the Workers Bank group, ostensibly to protect depositors and creditors. In September, 1993, the Central Bank took control of NCB and the two remaining indigenous banks, then moved to effect a merger of all three banks. The banks had agreed in July, 1992, to effect a merger, and a merger committee was created. The Committee's report detailed a plan for the merger of the banks and urged swift action. It warned "delay in implementing the corrections will give rise to reduced confidence and an expectation of further Central Bank intervention in the system, since the market is well aware of the problems faced by the Banks".[26] The Committee's report was rejected by the Central Bank and a new merger committee formed in March, 1993, as a prelude to the Central Bank's intervention and forced merger.

The Role of Management

We have argued that indigenous banks carried highly risky portfolios. The pursuit of social welfare maximization was identified as a causal factor. It was subsequently argued that macro-economic contraction provoked a deterioration of this risky asset portfolio and necessitated Central Bank intervention. Absent from the analysis was the role of the indigenous banks' 'managerial elite'. Did the quality of management at the indigenous banks play a significant role in explaining the difficulties that emerged?

Confronted with increased non-performance of the loan portfolio, Workers Bank's management made minimal loan loss provisions. It took the view that the economic contraction was of a temporary nature, that the government's economic measures would be successful and anticipated improved economic conditions. Concluding that loan loss provisions established taking one year with another required no extraordinary increase to cover loans being reported as non-performing.[27]

The naive perception of economic difficulties as temporary engendered inaction. The steep climb in Workers Bank accrued interest

and other assets from $30.9m in 1985 to $58.7m in 1986, and increases in balances due to other banks from $5.9m to $68.6m, over the same period, did not impel a revamping of the management and information systems to deal with rising accruals. As the problem deepened on through 1988 the proposed solution was to "meet with customers and restructure loans and strengthen recovery activities.[28] Virtually dependent on the Central Bank for liquidity, the 1989 Corporate Financial Plan finally sought to concertedly attack the problem. Time deposits under $50,000 were to be aggressively targeted. An active recoveries unit was to be developed to restructure the loan portfolio and a sale of a portion of the mortgage portfolio were key measures for solving the problem.[29] These measures and others to broaden the deposit portfolio, target consumer lending and actively manage the large defaulting mortgage portfolio, should have been instituted as early as 1987. The Workers Bank management had failed to act early and decisively.

Insights into the performances of NCB's 'managerial elite' can be gleaned from the Inspector of Banks report.[30] The Inspector attributed the deterioration of NCB's loan portfolio as being partly due to "certain deficiencies in credit administration". These major deficiencies were "the bank's failure to identify its problem loans on a timely basis, cease accruals of interest on such assets, make adequate provisions for loan losses and take decisive action where prospects for repayments are doubtful". The Inspector further noted that "there is no regular review by the Board of non-productive loans nor even of loans in arrears, a situation which the Inspector of Banks considers to be untenable, given the unsatisfactory condition of the loan portfolio". The continued deterioration of the loan portfolio he suggested reflected management's failure to adequately supervise the lending function, thus adversely affecting the bank's earning performance and capital adequacy. The Inspector found planning by management deficient, existing short-term plans based on unrealistic assumptions, lack of an effective system of internal controls, "weakness" in the electronic data processing system with the capacity to jeopardize the integrity of reports and gaps in credit information, which affected proper evaluation of borrowers ability to repay.

This assessment of the "managerial elite's" performance has been rejected. NCB's former managing director suggested that "much of what was being described as bad management was simply the

opinion of the Inspector of Banks". He noted that the bank had met its obligations, even in the run on the bank in 1989, when $100m was withdrawn in 10 days. A decision had to be taken whether to adopt a narrow traditional approach, so that as soon as a person was in three months arrears he was taken to court or his property put up for sale, the former managing director contended. The approach taken was to extend the payment period after determining if individuals were making genuine attempts to meet their obligations.[31] This explains why loans that in the Inspector's view should be classified as non-performing were considered active by the banks.[32] Further, the Inspector of Banks' conclusion, that directors were not properly informed of developments at the bank, came from reading the board minutes. However, the minutes were carefully written to ensure confidentiality. Directors of the bank also received verbal reports of developments.[33]

Indigenous banks management performances appeared less than optimal, despite sharply diverging interpretations. The efforts initiated by the First Citizens Bank to improve information systems and expand the functions of the board of directors, strengthen credit administration and recover bad debts, provided strong confirmation.[34] A plausible explanation for the poor management performances can be provided by the concept of rent-seeking.

The Rent-Seeking Management Elite

Theoretically, it is social welfare maximization that yields the rationale for rent-seeking behaviour.[35] Rents can be defined as payments to a factor over and above that which the factor could command in any alternative use. This notion of rent allows for the development of a simple model of managerial behaviour in the typical indigenous bank.[36] Lets associate three numbers with each member of the senior management, all expressed in dollars per annum. The first being, A, the member's actual salary, the second is, M, the amount of money below which the member would move to an alternative employment and thirdly, the salary, B, that she would obtain in her next best employment. Arguably, $A >/ M$, for all members, otherwise the member would move to an alternative employment. We also assume, $B >/ M$, due to the existence of positive cost to moving. These may include psychic cost of readjusting to a new work environment, having to accept a lower position and locational cost.

The parameter, S, is obviously directly observable. The parameter, B, and M, will generally be known, ex-ante, only to the individual member. The difference between A and M is defined as the "rent" accruing to the individual member (A - M = rent). What are the sources of this rent? Firstly, the pursuit of social welfare maximization as against profit maximization, means that the indigenous banks output will not be the output at which the demand for an additional deposit dollar will equal the cost of producing it. This divergence from the competitive outcome of marginal cost equals marginal revenue, implies that members may all be paid more than is necessary to retain their services. The most marginal members of the managerial elite may be paid a wage above the next best employment's wage. Secondly, the business of banking provides opportunities, through the provision of credit and banking services to enlarge total rents by capturing shadow rents which may be earned by providing credit, to say, close associates who later provides compensation in cash or kind. Let, S, be the number associated with shadow rents, then we obtain (A + S) - M = total rents.

Members of the managerial elite have an incentive to expand resources in seeking and protecting total rents. Expenditure of resources will take the form of expanding A and S. This expenditure of resources, to capture rents, is what constitutes rent-seeking behaviour. Possible rent-seeking strategies include investing time and efforts on manoeuvering within the organization to secure strategic positions. The concotion of investment schemes, linking relatives, close associates and former members of the elite, the use of creative accounting, selective disclosure of information and manipulation of management information systems are also possible strategies.

Rent-seeking diverts efforts, time and other productive resources away from managing and developing the indigenous banks. Because it produces nothing of net value, rent-seeking is socially costly. Rent-seeking activities flourished and imposed cost on both Workers Bank and NCB. Anecdotal evidence provides insights. One particular case is that of a former chairman of Workers Bank board of directors who was listed as director in five companies, owing the bank $5.9m in loans and interests. Further, he had separate loans of $0.7m. This person was also director of Temple Court Ltd. which borrowed a total of $12.8m under mortgage arrangements from the bank, and was owing

$23m in loans and interest by November 1992.[37] Interestingly, the bank was the principal tenant of the Temple Court properties.

Some indicators are available for NCB from the Inspector of Banks Report. It revealed that credit facilities was abused by senior management, that evidence existed of unauthorized excesses on overdraft limits and on absence of pertinent credit information in members' credit files. In one instance, the balance outstanding on a credit line of $15,000 was in excess of $700,000. Total indebtedness for this member on inspection date was $1.9m. A substantial portion of this indebtedness was unsecured and without definite repayment schedules.[38] These are strong indicators that rent-seeking behaviour may have been widespread. The cost of such rent-seeking can be roughly measured by the value of shareholders' losses, the weakening of confidence in indigenous banks and the cost of intervening and restructuring associated with intervention by the regulatory authorities.[39]

A seemingly valid argument would be that by the middle of the "mature phase" indigenous banks shares were trading on the stock exchange which meant the maximization of shareholders wealth and, hence, the pursuit of profit maximization. It is doubtful that the pendulum had swung decisively against welfare maximization. Statements by the former managing director points to the predominance of the Welfare maximizing ethos. He argued "that the traditional methodology they apply is inadequate to the task of evaluating the kind of enterprise that NCB was meant to be. It will inevitably produce grave distortions, the most glaring of which will be its loan portfolio, the heart of the difference between NCB and its geared-for-profit competitors".[40] The validity of the argument that significant rent-seeking behaviour by the managerial elite was a principal cause of the managerial deficiencies experienced by indigenous banks remains intact. Since the source of rent-seeking, in the divergence of marginal cost and marginal revenue, was occasioned by the objective of social welfare maximization.

CONCLUSIONS AND POLICY IMPLICATIONS

This study examined the difficulties experienced by government-sponsored indigenous commercial banks. It argued that the banks' pursuit of the objective of social welfare maximization took place in an environment of unsustained governmental support and was characterized by managerial rent-seeking behaviour. So that the banks pursuit of

this alternative objective, to present period profit maximization, exceeded the operational range over which total profits were positive.

Utilizing the theoretical construct of the depository firm, the standard marginal cost equal marginal revenue profit maximizing decision rule was derived. It implied that a depository firm can pursue alternative objectives to present period profit maximization over a given operational range. The indigenous banks, it was argued, pursued an alternative objective, that of social welfare maximization.

Socio-political forces centered around the 'black power' movement, it was suggested, had rejected the existing societal allocation of bank credit. Expatriate banks were accused of selectively providing credit. The attempt to realize the objective of social welfare maximization, it was argued, left the indigenous banks with risky portfolios. The deposit portfolio was dominated by long-term deposits. The loan portfolio was concentrated in the real estate sector and among risky borrower groups. These risks were seen to be compounded by shortage of capital, lack of branch offices and the need to build and train staff.

Government assistance which helped initiate the banks was seen to be unsustained. The regulatory regime, it was argued, did not accommodate the needs of the indigenous banks and the bank examination process appeared less stringent than was expected. Limitations on the Central Bank's power, localization policy and naive conceptualization of financial development policy were possible explanatory factors cited.

The lack of governmental support was accompanied by poor management performances. The pursuit of social welfare maximization, it was argued, constituted a source of economic rents. Members of the managerial elite, it was then contended, developed strategies to capture such rents. These investments of time and effort in strategies constituted rent-seeking behaviour. By diverting resources of time and effort from managing, it resulted in managerial inefficiency and poor quality management. The net result was sharp deterioration in performances that prompted Central Bank's intervention.

Clear policy implications emerged from this study and may be of some relevance given the merger of indigenous banks. Policy must set a clear objective for the indigenous bank. That is, it must distinguish between the objective of profit maximization, social welfare

maximization and combinations of both. Pursuit of these objectives would have differential impact on the riskiness of indigenous banks asset portfolios and profitability, thereby imposing different requirements on the bank's management and on the regulatory authorities.

If the bank's objective is present period profit maximization, competition and the bid for maximum profits will induce a different type of management response to loan portfolio management, information systems and internal routines and controls, than a social welfare maximization objective. This distinction is crucial and helps explain past management performances. It also clarifies the role of the regulatory regime. A profit maximizing indigenous bank will carry a less risky asset portfolio than a welfare maximizing of quasi-profit maximizing indigenous bank. The supervisory requirements of the two differ.

Irrespective of objectives, the indigenous bank faces two constraints. Firstly, economic agents' perception of indigenous banks' deposits as risky assets. The difficulties encountered by indigenous banks and the associated Central Bank takeovers reinforced this perception. Secondly, the inherited loan and liability portfolio concentration. The first implies that, more than ever, risk averse economic agents will perceive expatriate-inspired banks' deposits as a riskless asset relative to the indigenous banks'. Expected-utility maximizing behaviour suggests that the risky asset will have to yield higher expected rates of return. The ability of the indigenous bank to offer higher rates depends on its ability to achieve increased efficiency in financial intermediation. This will require adoption of the most efficient information technology systems, management systems and building a highly motivated staff. It also requires directors capable of establishing clear overall policies, reviewing expenditures properly, instituting and maintaining internal routines and controls, and who follow up directives.

Inherited loan portfolio concentration, in the real estate sector, means that the indigenous bank will be operating with an undiversified loan portfolio. This sector's susceptibility to changing macro-economic conditions is the source of the risk. The bank will have to aggressively target commercial, consumer and personal loan sectors to broaden the loans portfolio. Such sector loans tend to be short-term and self-liquidating, yielding quick cash flow and enhancing

liquidity. The low liquidity starting position of the bank makes this a first requirement.

The concentration in term deposits and the low savings and current account/demand deposit shares, implies high cost of financial inputs since the interest payments on term deposits exceed that on savings and low cost current account/demand deposits. Its ability to capture such deposits hinges on the quality of services and cost savings offered the consumer, which depends on increased efficiencies in financial intermediation and high quality management performance.

NOTES

1 Statement of the theory can be found in Pringle, John. "A Theory of the Banking Firm", *Journal of Money, Credit and Banking*, 5 November, 1973 and Spellman, Lewis J. *The Depository Firm and Industry.*

2 See Spellman, Lewis. *op. cit.*

3 Analyses of the events of 1970 can be found in Selwyn Ryan, *Race and Nationalism in Trinidad and Tobago.* University of Toronto Press, Toronto 1974; W.E. Riviere, "Black Power, NJAC and the 1970 Confrontation in the Caribbean", The UWI Mimeo, St. Augustine.

4 Williams, Eric. "Revolution and Dignity". Nationwide Radio and Television Broadcast of 23 March, 1970. In Sutton, Paul, ed. *Forged from the Love of Liberty: The Selected Speeches of Eric Williams*, Longmans Caribbean, 1981, p. 165.

5 Williams, Eric. "The People's Sector", in Sutton, Paul, *op. cit.*, p. 50.

6 Williams, Eric. "National Reconstruction". Nationwide Broadcast, Government Printery, Port of Spain, June 30, 1970, p. 9.

7 Williams, Eric. Address at the opening of the NCB, July 1, 1970 in Sutton, *op. cit.*, p. 52-53.

8 The proposal for a workers bank came from the Seamen and Water Front Workers Union (SWWTU) and was actively championed by the Trinidad and Tobago Labour Congress (TLC).

9 We are assuming that Arrow's Impossibility Theorem does not hold. It demonstrates that there is no ideal way to aggregate individual preferences into social preferences, since, the ideal will have to be imposed by a dictatorship.

10 At inception NCB had only one member of staff trained beyond secondary school level. See NCB *Annual Report*, 1986.

11 Bourne, Compton, "The Political Economy of Indigenous Commercial Banking in Guyana", *Social and Economic Studies*, Vol. 23, No. 1, 1974.

12 *Trinidad Guardian*, October, 1987.

13 See NCB *Annual Report*, 1972.

14 Lack of data prevented attempts at quantitatively gauging the interest rate cost of indigenous banks' competitive strategy. The impact of pricing sacrifices on the banks' performances is a point strongly made by Leonard Prescod in "The Arithmetic of Indigenous Banking in Trinidad and Tobago: 25 years ON", April, 1991.

15 Prescod. *op. cit.*

16 Prescod. *op. cit.*, p. 3.

17 *Trinidad Guardian*, April 22, 1989.

18 Maharaj Sunity, "What the Inspector Found", *Trinidad Express*, November 23, 1993, p. 2.

19 Victor, Roland, "Localization of the Financial Sector and Economic Development in Trinidad and Tobago". Unpublished paper. Research Department, Central Bank of Trinidad and Tobago, 1988.

20 A locally incorporated bank was permitted to extend unsecured credit in excess of 10 per cent of its paid up capital and reserve fund to incur deposit liabilities of an amount exceeding 20 times its paid up capital and reserve fund.

21 Comments by Roopnarine Oumadesingh on the first draft of this paper, December 1993.

22 Workers Bank Financial Statements, December 31, 1988.

23 "Proposals for Restructuring Workers Bank Group", 1989.

24 Maharaj Sunity, *op. cit.*

25 Maharaj Sunity, *op. cit.*

26 "Behind the Central Bank Tensions". *Trinidad Express*, November 25, 1993.

27 Workers Bank, Financial Statements, December 31, 1988.

28 "Proposals for Restructuring Workers Bank Group", 1989.

29 *Ibid.*

30 Maharaj Sunity, *op. cit.*

31 Cuffie, Maxie, "I am Innocent - Roachford", *Trinidad Express*, November 24, 1993.

32 "A Place in the Sun", *Trinidad Express*, November 24, 1994.

33 Cuffie, Maxie, *op. cit.*

34 Maderia, Jones, "FCB: None Shall Escape", *Trinidad Guardian*, November 24, 1993 and "Williams: FCB to Focus on Arrears", *Trinidad Guardian*, November 26, 1993.

35 The rent-seeking concept is developed in Buchanan, J., Tollison, D. and Tullock, G. (eds.) *Towards a Theory of the Rent-Seeking Society*, Texas A & M University Press, 1980.

36 The approach is similar to that used by Brennan, H. and Tollison, D. in "Rent-Seeking in Academia" in Buchanan, Tollison and Tullock (eds.) *op. cit.*

37 *Trinidad Guardian*, November 27 and 29, 1992.

38 Maharaj, Sunity, *op. cit.*

39 It is this cost that John Jardin captured when he said: The refinancing of this banking group through the formation of the first Citizens Bank has been at an enormous cost to the shareholders of the individual banks and to the taxpayers of the country" in Sita Bridgemohan, "Top Banker Hits Merger", December 1993, *Trinidad Express*.

40 "A Place in the Sun", *op. cit.*

The Trinidad and Tobago Stock Exchange

Market Performance and Suggestions for Further Development

Kelvin Sergeant

I. INTRODUCTION

Stock markets often are important institutions in the development of any country because they perform certain critical functions. One such function is that they act as a complement to other financial institutions in providing the economic function of financial intermediation, that is, ensuring that savings are garnered and allocated effectively and efficiently to investors. The ability of a stock market to raise new capital is important since the amount of capital raised determines how much investment can take place.

Stock markets also provide a liquidity function. The existence of an active secondary market affords investors the opportunity of switching portfolio for cash when necessary. Additionally, a stock market provides private investors and institutions with a range of financial instruments offering a spectrum of risks and expected returns. Savers therefore have a much wider choice of savings instruments than the banking sector can provide.

Even over the counter stock markets operated by development finance institutions can offer at least some variety of risk-expected return combinations to savers. Those willing to accept higher risk can then do so, whereas they cannot if limited solely to savings with deposit-taking institutions. Non-bank financial intermediaries, such as pension funds, investment trusts and unit trusts also require a stock market if they are to be able to offer the ultimate saver an opportunity to earn higher returns in exchange for the acceptance of higher risk, as offered by equities.

This paper attempts to analyze the Trinidad and Tobago stock market to see how it has been performing the above functions. A thorough analysis of market activity and market performance is conducted. The objective of the paper is to demonstrate the success of

the market in terms of raising new capital, or providing investors with a range of financial instruments offering investors varied risks and expected returns. The liquidity of the stock market will also be discussed. The efficiency of the stock market is briefly mentioned also in the paper, in order to ascertain whether investors are net gainers or losers by trading in equities.

In terms of the market's ability to raise new capital and the liquidity function, the volumes and value of stocks traded, new issues, bonus issues, and other indicators will be discussed. Market performance will then be assessed on the basis of the performance of the stock market index relative to the national economy, and other variables such as profits and dividend yield. Risk and return relationships will be discussed by reference to different instruments. Tests have also been conducted to measure the efficiency of the stock market.

II. THE TRINIDAD AND TOBAGO STOCK EXCHANGE: PROVISION OF NEW CAPITAL AND LIQUIDITY TO INVESTORS

Only two types of securities are traded on the Exchange. They are Ordinary (common) shares and Preference shares. In 1993, the Stock Exchange began trading in government bonds on behalf of the central government. There are four sectors on the Trinidad and Tobago Stock Exchange, namely, Banking, Manufacturing, Property and Trading.

Table 1 shows the number of listed companies on the Exchange and the number of securities (both ordinary and preference shares) traded on the Exchange from its inception. As can be seen from the Table, in 1981, 32 companies were listed on the exchange with 41 securities traded. This trend continued until 1985 where the number the number of companies listed increased to 35 and securities traded to 42. This situation continued until 1988 where the number of listed companies fell to 33 and thereafter declined to 31 by 1989. The securities traded also declined over this period to 37 and 35 in the respective years. By December of 1993, the number of companies listed stood at 26 and the corresponding number of securities traded were 30. This number of listed companies on the exchange could decline further with the number of recent takeovers and mergers now occurring as reported on the Exchange (assuming no new listings).

TABLE 1: NUMBER OF LISTED COMPANIES AND NUMBER OF SECURITIES TRADED (1981-1991)

Year End	No. of Listed Companies	No. of Securities Traded
1981	32	41
1982	33	41
1983	33	40
1984	34	41
1985	35	42
1986	35	42
1987	35	41
1988	33	37
1989	31	35
1990	30	35
1991	30	31
1992	28	31
1993	26	30

Sources: Trinidad and Tobago Stock Exchange

Given the small numbers of securities being traded, it may be argued that the Trinidad and Tobago securities markets therefore lacks breadth.

New Issues

The secondary market of the Trinidad and Tobago Exchange has always been quite active, since the 1970s before a formal securities market existed. The same cannot be said about the primary market since the market has never really been put to the test. Table 2 shows the number and value of new shares placed on the market by way of public issue only, during the period 1980 to 1991. During this period, seventeen companies placed a total of 111.9 million shares on the market. These shares had a combined face value of over $74 million and were issued at a total value of over $515 million.

In addition, there are few new listings in the stock market. In the life of the Exchange there have been only 17 new listings. With the exception of 1991, new securities are seldom listed on the market. The market for new securities can be said to be shrinking. It can also be observed from Table 2 that the sizes of the issues have been quite volatile over the period. In 1987 the most issues on the market came from one company, which issued over 26 million shares on the market. In 1991, a new company issued over 22 million shares on the market.[1]

TABLE 2 PUBLIC COMPANY SHARE ISSUES AND VALUES (1980-1991)

Year	Number of Issues Yearly	Number of New Shares Issued	Issue [1]Value ($TT'000)	Face Value ($ TT'000)
1980	3	11,670,000	19,690	1,670
1981*	2	9,500,000	9,500	9,500
1982	5	17,886,698	17,886,698	17,886,698
1983	4	16,320,000	21,000	16,320
1984	2	7,431,429	7,431,429	7,431,429
1987	1	26,236,207	26,236,207	26,236,207
1991	1	22,823,280	22 ,823,280	22,823,280
Total	**19**	**111,867,614**	**74,427,804**	**74,405,104**

* 1981 was the year in which the Stock Exhcange was formally constituted.

Sources: Central Bank of Trinidad and Tobago: Monthly Statistical Digest (Various Issues)

1 The issued value and face falue may be diferent because the rules of the Stock Exchange make it possible for the price of a share to change whether or not trading in that security occurred.

Apart from this the Trinidad and Tobago Stock Exchange's potential in raising new capital has not been fully realized, when compared with other countries. For example, in 1991 a total of 686 companies were listed on the Stock Exchange of Korea. Market Capitalization was U.S.$96.4 million. In 1991, the ten largest stocks held represented 31.2 per cent of market capitalization and 18.8 per cent of the share of value traded on the Stock Exchange. In Jamaica, 44 companies were listed on the Stock Exchange while market capitalization was US$1,034 million at year-end 1991. In Venezuela, market capitalization in 1991 was US$11.2 million for the 66 listed domestic companies on the Exchange. There are also a large number of foreign companies listed on the Exchange to date. In 1991, the ten largest stocks held 69.8 per cent of market capitalization and 89.4 per cent of the total value traded was held by the ten most active stocks.[2]

The extent of public companies participation in equity financing is still very limited in Trinidad and Tobago. Out of a total of more than 18,000 large companies registered with the Companies Registrar, only 17 companies have so far utilized the stock market to issue new shares, and only 26 companies were listed on the Exchange at year-end 1993. From the 17 companies which have used the stock market to issue shares, 7 companies were from the banking sub-sec-

tor, which have traditionally maintained actively traded high valued shares. Apart from this, the primary market remains very limited.

In terms of secondary market activity, Table 3 sets out the volume and value of transactions, and the number of shares sold for the period 1980 to 1993 to provide indicators of stock market size and growth. The number of transactions increased from 2,106 in 1980 to 28,736 by 1982, thereafter declined continuously and in 1990 was at 4,716. This figure rebounded to 6,379 in 1991 but declined to 4665 by 1993 (see Table). The number of shares sold increased from 16 million in 1980 to 90 million in 1982, and thereafter fluctuated widely. It stood at 77.9 million shares by 1993. Finally, market value increased from $87,598,000 in 1980 to $556,597 by 1982 and thereafter fluctuated. The shares traded on the Exchange at end of 1993 were valued at $301 million.

TABLE 3: TRINIDAD AND TOBAGO STOCK EXCHANGE: INDICES OF STOCK MARKET SIZE AND GROWTH (1980-1991)

Year	No. of Transactions	No. of Share Sold (Million)	Market Value $000	Composite Price Index*
1980	2,106	16.1	87.5	n.a.
1981	5,276	32.0	140.3	75.2
1981	28,736	90.3	555.5	146.0
1983	25,836	71.6	362.2	71.6
1984	18,557	53.7	182.9	59.6
1985	11,124	48.5	148.5	49.1
1986	9,994	85.0	186	38.3
1987	6,574	58.9	87.5	39.8
1988	5,818	62.9	117.7	32.4
1989	5,688	143.7	294.2	48.7
1990	4,716	66.4	235.3	83.1
1991	6,379	103.5	338.7	81.8
1992	4,405	34.2	94.6	60.2
1993	4,665	77.9	301.0	82.5

n.a: not available

* Composite Price Index: 1983 = 100

Sources: Central Bank of Trinidad and Tobaago: Monthly Statistical Digest and Annual Economic Reports (various Issues).

A point worth noting from Table 3 is that in 1982 there were 28,736 transactions taking place (the highest over the period) with only 90.3 million shares sold on the market, while in 1989 transac-

tions stood at 5,688 and the number of shares sold on the Exchange was 143.7 million shares, which represented the highest volume of shares traded on the exchange since its inception.

The reason for this phenomenon lies in the trading activities on the secondary market, and the ability of shares to change hands quickly in blocks. In this regard, therefore, while a large number of blocks may be traded, the actual number of shares available for trading is reduced since a substantial amount of securities offered are maintained or "held" in the portfolios of certain investors. For example, information from the Stock Exchange indicates that 35.73 per cent of the shares traded on the exchange are owned by companies, 15.91 per cent owned by trust companies and pension funds, 14.41 per cent by the government, 8.54 per cent by insurance companies, 3.18 per cent by the Unit Trust Corporation and the National Insurance Board and 22.23 per cent owned by individuals at the end of October 1980. This therefore tells us that 78 per cent of the shares of the exchange are in the hands of institutions and may never be possessed by ordinary individuals, or may not be actively traded. In the final analysis, this factor contributes to reduced liquidity in the market place.

There is therefore still no widespread ownership of marketable corporate securities. Although the Stock Exchange was intended to widen share ownership, this has not really happened. There are several reasons for this on the demand and supply sides. The tradition of business controlled by family or clan still exist in many companies even though they may go public. As a result, the number of shareholders in some companies as at December 1991 did not exceed 6,000. As Table 4 shows, only commercial bank equity[3] is owned by a relatively large number of asset holders, above 10,000 in most cases.[4]

In order to achieve some distributional equity, restrictions are usually placed on the size of allotments for new issues. The Listing Requirements of the Stock Exchange of Trinidad and Tobago require that at least 25 per cent of any class of issued equity capital, or securities convertible into equity capital, should be in the hands of the public, that is, persons who are not associated with the directors or major shareholders. In the case of very large issues, the Board of the Stock Exchange is prepared to allow a lower percentage. However, this policy is seldom effective since share ownership can be transferred subsequently in secondary market transactions, and as a result

TABLE 4: NUMBER OF SHAREHOLDERS*

Company	1982	1984	1986	1988	1990	1991
Bank of Commerce	22,412	13,591	12,175	11,818	11,186	NA
NCB	36,769	23,595	23.345	22.614	25,454	NA
Republic Bank	16,835	15,941	15,675	14,900	14,461	NA
Royal Bank	15,532	14,918	14,706	14,669	14,174	14,088
T. Geddes Grant	1,167	1,109	1,164	1,078	993	1,131
McEnearney Alstons	2,083	3,342	3,348	3,231	3,004	NA
Neal & massy	6,508	6,469	6,398	6,285	6,285	NA
Angostura	2,158	2,034	2,094	2,085	1,807	1,572
WITCO	2,838	5,250	NA	4,383	4,118	NA
Trinidad Cement Ltd.	—	—	—	3,029	NA	NA
Plipdeco	747	746	746	746	NA	NA
Agostini's Ltd.	—	1,481	1,391	1,278	1,748	NA
L J Williams Ltd.	316	664	638	621	NA	NA

NA: Not Available

Source: Trinidad and Tobago Stock Exhcange: Listed Companies Manual

after a primary issue the number of shareholders usually shrinks. For example, Williams (1977) observed that in two new issues by a major commercial bank in 1973 and 1976, 12,555 individuals were allotted less than 100 shares each. By April 1977, the number of shareholders had decreased to 612. A further 18,169 persons were allotted 250 shares each, but their number had contracted to 8,035 by April 1977.

Hospedales (1984) argued that this tendency existed when he observed that within a 15 month period after a primary issue, the number of shareholders had decreased by almost 50 per cent for two corporate enterprises. He contends that small asset holders usually divest soon after acquisition of primary issues. The data from Williams (1977) also showed that the percentage concentration of shareholders tends to be greater among recipients of small allotments. Edwards in 1988 also makes similar conclusions with respect to the concentration of shareholdings on the Trinidad and Tobago Stock Exchange.

The preceding problem discussed becomes more acute when we consider the fact that corporations prefer bank deposits and other quasi-monetary assets and show a strong aversion to corporate equity. A survey study of financing practices in 69 enterprises conducted by the Central Bank in 1984 yielded the preliminary results that only 3 per cent of external funds was derived from equity capital.[5] This strong tendency against equity financing supports the opinion that some firms are reluctant to dilute family ownership and control, and are unwilling to disclose information pertinent to the performance of the company; such as company finances and probability. Disclosure requirements are less stringent for private, limited liability companies than for companies listed on the Exchange. Share prospectuses also require detailed information such as financial structure of the organization, management organization and the use of resources. Another factor according to Drake (1977) is the small size and limited investment horizons of many businesses in less developed countries. Many companies prefer to remain small to avoid the complications involved in large scale production such as the high cost of borrowing, the need for market research or technology development and so on.

As a consequence of this pattern of financing, new stock issues are infrequently made and this explains why there have been only 19 new issues in the life of the Trinidad and Tobago Stock Exchange.

Transaction costs are also important constraints on stock market development in Trinidad and Tobago since they may discourage share acquisition. The commission charged by members is as follows:[6]

(a) 1.5 per cent on the first $50,000 consideration;
(b) 1.25 per cent on the next $50,000 consideration; and
(c) 1 per cent on the excess.

For executing transactions on the floor of the Exchange members are charged on a monthly basis, 2 per cent of their commissions earned during the period. On every transaction, clients are also required to pay 0.1 of 1 per cent of the transaction cost or $1.00 whichever is higher.

On the demand side, the maintenance of an adequate financial environment is a pre-requisite for the development of a demand for securities. In times of inflation or political uncertainty, securities may become inadequate vehicles for savings. Availability of information is also important for demand. Investors must be able to obtain important statistical information on market performance as a whole as well as on the performance of individual companies.

Additionally, demand for securities in Trinidad and Tobago continue to be poor due to the following:

1. A relatively uninformed public, with a lack of confidence in the market itself.
2. A lack of professional money managers to attract funds for management and investment in equities.
3. Share ownership by individuals tends to be confined to those with high incomes who may spread their risks through diverse portfolios. This risk spreading is not possible for those with limited funds to invest.
4. Price uncertainty reinforces the traditional preference for money over financial assets which fluctuate in value.

Bonus Issues

The total supply of shares on the local securities market has been enhanced greatly through bonus issues. Indeed, a large number of shares potentially available for trading on the market in the early 1980s originated in this way. Table 5 provides a summary of bonus issues or capitalisation issues by public companies.

TABLE 5: SUMMARY OF BONUS ISSUES BY PUBLIC COMPANIES 1982 - 1991

Year	Bonus Issues ($m)
1982	55.3
1983	73.6
1984	19.8
1987	19.6
1990	16.9
1991	11.1
Total	**196.3**

Sources: Central Bank of Trinidad and Tobago. Quarterly Statistical Digest, (various issues).

As shown by the Table, during the years 1982 to 1991 alone, bonus issues of shares amounted to approximately $196 million. Bonus shares are issued in order to represent a re-arrangement of the existing capital structure. A bonus issue does not result in the acquisition of any new funds by a company. In this respect, bonus shares may be used for a number of reasons. First, a valuation of the capital (i.e. land and buildings) of a company may show that such assets are worth considerably more than the figure at which they formerly stood in the balance sheet. This may be as a result of inflation or other factors. Bonus issues are therefore used to bring the issued capital more closely into line with the actual capital employed in the business. If this is not done, the price of a company's shares will be somewhat high, and small investors could be deterred from investing in the highly priced share since it may be their view that sometime in the future the price of shares will fall and investors will suffer a capital loss.

Offering existing investors bonus issues allow them the opportunity to take advantage of the rapid increase in the market values of company shares. When company share prices are increasing, expanding the supply of shares through bonus issues may not have any effect on such prices. In this way, companies will be able to derive additional, more liquid value from existing assets and other reserves, and so can increase the overall returns to shareholders.

Bonus issues are also used when a company has built up a large reserve account by ploughing a large part of the profits back into the business, or has a large share-premium account. These factors also

interfere with the value of the issued capital employed in the business.

In Trinidad and Tobago, bonus issues sometimes allow companies to maintain control in addition to high profits. Even though shareholders will have more shares, the value of their shareholding in theory remains the same, as does the percentage shareholding in the company. As a result, the company pays no extra dividend, and has no new shareholders to add to their list. Control by the company is therefore maintained, and since no dividend is paid, the company maintains a reasonable level of profits. In the early period of nationalization in Trinidad and Tobago, i.e., early 1970s, many foreign controlled companies issued mainly bonus issues. At the same time, bonus or script issues increased the marketability of their shares and made them appear more attractive to investors. The figures for 1983 were quite high since this was a year when most public companies placed bonus issues on the market.

Debentures and Bonds

The Stock Exchange of Trinidad and Tobago does not at present deal in debentures and other loan stock and only in 1993 started trading in bonds. Debentures are dealt with by private companies. Apart from a few issues over the years, there has been little use of bonds as a means of financing by companies.

The bond market is heavily controlled by the government. A summary of Trinidad and Tobago Government bonds placed in the market over the period 1982 to 1992 is presented in Table 6. Government bonds rose from $152.5 million in 1982 to $274.5 million in 1985, but declined in 1986 to $268.7 million. The figure rebounded to $1301.6 million in 1991 and was $434.2 million in 1992. Table 7 shows secondary market turnover of government securities, and here one can see that transactions increased from 207 in 1983, fell to 196 in 1985, declined further to 137 in 1988 and increased to 362 in 1990. The face value of secondary bonds has generally remained around $100 million whilst the market value fluctuates between $40.3 million to $139.6 million. If all this activity was taking place on the floor of the Stock Exchange, then the breadth of the market would improve dramatically. Hopefully, the recent initiative towards bond trading on the Exchange would go a long way in this direction.

TABLE 6: NEW ISSUE OF GOVERNMENT SECURITIES (1982-1991)
$M

Year	Bonds	Treasury Bills	Government (1-20 yrs) Average yield (%)
1982	152.5	—	8.69
1983	143.9	100.0	8.84
1984	56.5	30.0	8.97-10.02
1985	274.5	218.0	8.73-9.70
1986	268.7	400.0	8.35-9.47
1987	571.0	480.0	8.91-9.54
1988	259.2	—	9.16-9.97
1989	612.4	—	10.04-10.81
1990	652.6	—	10.09-10.78
1991	1301.6	—	10.05-10.81
1992	434.2	—	13.14-13.20[p]

1 - Includes public loan issues
p - provisional
Sources: Central Bank of Trinidad and Tobago; Annual Reports: (Various Issues).

TABLE 7: SECONDARY MARKET TURNOVER OF GOVERNMENT SECURITIES (EXCLUDING TRADE IN TREASURY BILLS)[1]

Year	No. of Transactions	Nominal Value ($000)	Market Value ($000)
1983	207	131.6	132.4
1984	176	66.4	70.2
1985	196	132.2	134.2
1986	134	41.3	40.3
1987	183	123.2	125.7
1988	137	107.1	104.9
1989	212	146.8	139.6
1990	362	301.7	279.7
1991	268	82.5	74.1

1. Data reflect the double transactions of buying and selling.
Sources: Central Bank of T&T. Quarterly Economic Bulletins and Quarterly Statistical Digest.

III. MARKET PERFORMANCE

The Composite Price Index

The performance of the composite index provides some indication of the behaviour of stock prices on the Trinidad and Tobago Stock Exchange. The Trinidad and Tobago Stock Exchange index includes the prices of the listed ordinary stock of all sectors with the exception of the insurance sector (although insurance companies are listed on the Exchange). The Composite Price Index is computed on each trading day (trading takes place three days per week).

Figures 1 and 2 provide graphic descriptions of the performance of the index since first calculated in October 1981. The index began quite high, above 70 in that year and surpassed 100 by 1982. Thereafter, the index exhibited a steady decline which ceased in 1988 (as shown by the moving average). In 1989 it stood at 48.7, 15.8 per cent above the value of 1988, which was 32.4, its all time low. Since 1989, the composite index has tended to be above 50, although it has

FIGURE 1: COMPOSITE INDEX
TRINIDAD AND TOBAGO STOCK EXCHANGE: 1981-1990

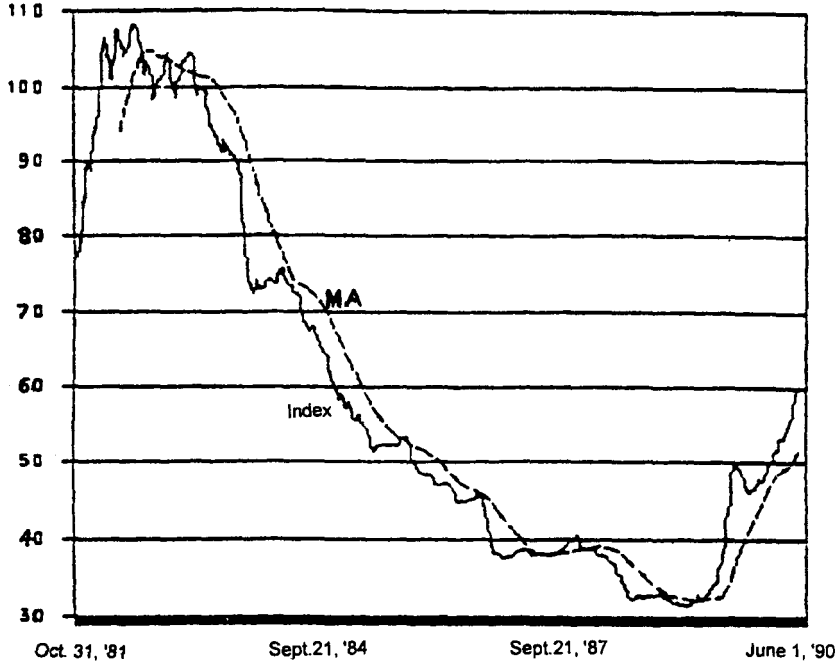
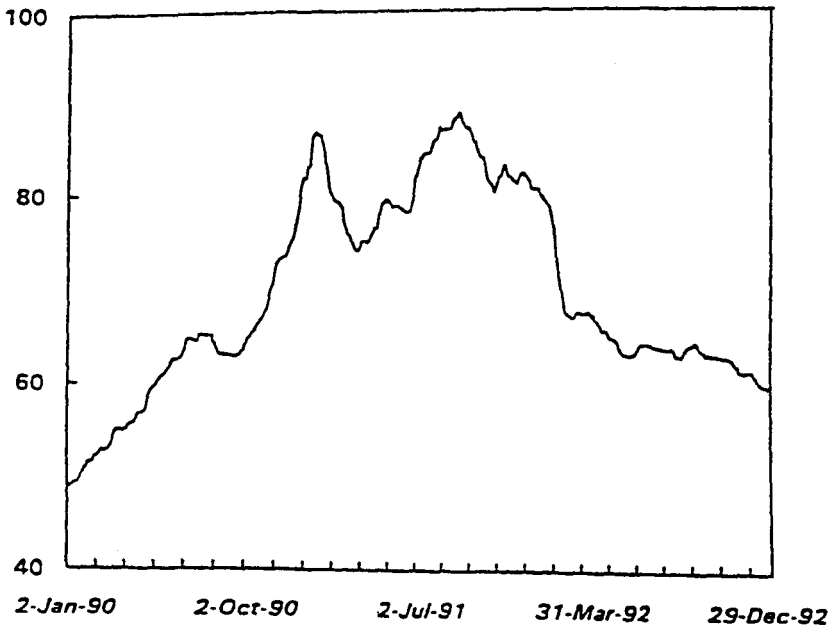


FIGURE 2: COMPOSITE INDEX
TRINIDAD AND TOBAGO STOCK EXCHANGE: 1990-1992



not reached the levels which existed before 1983. At December 1993, the index was 82.5. The explanations for the behaviour of the index vary. One explanation might have been the influence of the country's economic performance on the index. Following almost ten years of positive economic growth, the growth rate of real Gross Domestic Product turned negative in 1983. Between 1983 and 1990, the growth rate ranged from -8.4 per cent to -0.2 per cent in 1991, however, real Gross Domestic Product grew by 1.8 per cent. The economic recession between 1983 and 1990 had an adverse effect on the growth of companies and on their profitability, thereby deterring potential investors. This in turn contributed to a decline in the demand and price of securities.

While this may be one explanation for the movements in the Composite Price Index (1983 = 100), there are several other factors that may have also affected stock prices on the Exchange. A close look at the index reveals that while the composite index rose in 1989

and 1990, the Gross Domestic Product did not grow, thereby signalling to some extent that other factors influence the index. These factors are as follows:

(a) Extraordinary transactions such as takeover bids, mergers, put-throughs; and
(b) institutional factors such as new listings, delistings and the introduction of new instruments.

Over the last few years, most of the transactions on the Exchange related to takeovers, attempted takeovers and put-throughs. For example, in 1989, the level of activity was influenced by the extraordinary transaction involving the purchase by Clico of 32,083,320 Republic Bank shares from Barclays Bank, PLC, while takeovers were quite frequent on the Exchange, in 1990, where the following four out of five attempts were successful:

(1) McEnearney Alston/Caribbean Development Co. Ltd.
(2) CLICO/Valpark Shopping Plaza
(3) CLICO/Home Construction Co. Ltd.
(4) Guardian Life of the Caribbean Ltd.
(5) Crown Life (Caribbean) Ltd.

There were also large put-throughs involving CLICO and Republic Bank. In 1991, there were takeover bids, there was a new listing (Caribbean Communications Network) and two securities were delisted. Most of these activities affected volumes and values of stocks traded on the Exchange and the composite index. Another influence on the Stock Exchange index is the response of investors to changes in the profits of companies, dividends and yields of a particular security. A declining economy is usually accompanied by falling profitability which in turn impacts negatively on dividends paid and dividend yield. Tables 8, 9 and 10 provide some information on profits, dividends paid and dividend yield for a sample of companies. Profits and dividends were generally lower in the mid-1980s, when the economy was in a downturn, compared to the early 1980s and the years 1990 and 1991. While dividend yields fluctuated and appear to be higher in the 1980s, it must be noted that interest rates were also rising and were usually higher than the dividend yields.[7] Due to these factors (i.e. falling profitability, comparatively low yields, etc.), investors appear to have shifted out of equities and into bonds and other income earning assets. As a result, activity on the Exchange declined and as expected, the index reflected such activity to some extent.

TABLE 8: NET PROFIT/LOSS OF SELECTED COMPANIES LISTED ON THE TRINIDAD & TOBAGO STOCK EXCHANGE
$mn

Company	1982	1983	1984	1985	1986	1987	1988	1989	1990
Bank of Commerce	11.1	15.2	15.6	13.7	9.9	6.1	7.9	7.8	14.5
Republic Bank	32.1	40.7	38.5	24.3	5.9	2.4	4.5	11.5	21.1
Neal & massy	37.5	35.9	21.4	(23.7)	8.0	(8.0)	6.3	18.4	32.1
Trinidad Cement Ltd.	(n.a.)	(n.a.)	(12.8)	(5.7)	(8.9)	(22.9)	8.4	14.6	19.7
Plipdeco	(3.0)	2.6	(0.5)	0.3	4.2	3.8	1.7	2.1	3.6
Agostini's Ltd.	(n.a.)	(n.a)	3.7	3.0	1.5	0.3	1.0	2.4	1.9
L J Williams Ltd.	3.4	6.3	4.0	0.8	(0.6)	(0.7)	(0.2)	(0.1)	(0.2)

Source: Trinidad and Tobago Stock Exhcange: Listed Companies Manual
(n.a.) = Not Available

TABLE 9: TOTAL DIVIDENDS PAID: SELECTED COMPANIES (PER SHARE)

Company	1982	1983	1984	1985	1986	1987	1988	1989	1990
Bank of Commerce	38	21	21	21	16	10	11	11	18
Republic Bank	24	22	23	15	8	—	—	5	6
Neal & massy	21	21	18	10	6	4	4	8	12
Trinidad Cement Ltd.	—	—	—	—	—	—	4	10	8
Plipdeco	—	—	—	—	—	—	—	—	—
Agostini's Ltd.	—	14	13	10	—	5	8.5	10	—
L J Williams Ltd.	30	36	32	8	—	—	—	—	—

Source: Trinidad and Tobago Stock Exhcange: Listed Companies Manual

TABLE 10: DIVIDEND YIELD (SELECTED COMPANIES)
(PERCENTAGES)

Company	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Bank of Commerce	**3.17**	**4.56**	**5.75**	**7.89**	**5.61**	**5.43**	**7.33**	**3.67**	**6.02**	**4.3**
National Commercial Bank	2.10	3.75	6.15	6.67	10.42	8.95	0.0	0.0	5.0	5.2
Republic Bank	2.67	3.55	5.61	4.87	5.52	0.0	—	2.25	3.21	3.68
Royal Bank	3.85	5.56	7.92	6.80	7.85	4.79	7.52	3.52	3.92	4.53
T. Geddes Grant	5.2	6.7	8.3	4.7	4.6	5.7	8.0	4.82	3.52	3.47
McEnearney Alstons	5.2	8.0	9.4	0.0	0.0	5.0	6.6	5.3	3.2	7.5
Neal & Massy	4.5	6.4	8.8	9.7	6.0	5.5	8.0	5.9	3.6	4.5
Angostura	3.1	5.3	6.1	6.3	5.9	5.6	7.4	4.5	3.8	5.5
WITCO	8.2	9.1	9.4	10.4	9.8	9.8	10.8	10.3	8.4	8.2
Trinidad Cement Ltd.	—	—	—	—	—	—	—	11.36	4.39	6.73
Plipdeco	—	—	—	—	—	—	—	—	—	—
Agostini's Ltd.	—	6.2	10.8	15.1	8.3	0.0	6.41	5.94	4.88	4.72
L J Williams Ltd. — (Ord. A)	4.0	4.0	5.3	2.6	0.0	0.0	0.0	0.0	0.0	7.3

Source: Trinidad and Tobago Stock Exhcange: Listed Companies Manual

IV. RETURNS TO DIFFERENT PORTFOLIO INVESTMENTS

It is always useful to examine risk and return relationship since this can provide some insights into an investor's attitude towards risks.

It is hypothesized that a positive correlation exists between risk and returns. The arithmetic mean and standard deviation of a variety of instruments can be used as measures of performance. The arithmetic mean gives an indication of the average yield while the standard deviation is used as a measure of the riskiness of an instrument.

Table 11 shows the annual return on equities from 1983 to 1991 on the Trinidad and Tobago Stock Exchange as measured by changes in the composite index, plus dividend yields. The sum of the two gives, for each year, the return obtained for an investment made in the index at the beginning of the year. This is used as our proxy for the return achieved by the "average" stock market investor. These nominal returns are then compared with returns on certain "risk-free" Trinidad and Tobago investments, notably treasury bills, government bonds and commercial bank deposits to some extent.[8] As can be seen from the Table, returns on ordinary shares were negative between the years 1983 to 1986, where they ranged from -22 per cent to -19 per cent. In 1987, returns ranged around 10 per cent and thereafter declined in 1988 to -13 per cent. Since 1989, however, returns have been positive. These rates of returns, when positive, are generally higher than Treasury Bill rates, saving deposit rates and, at times, even Bond rates, as can be seen from the Table. Treasury bills have varied around 3 to 7 per cent over the period. Commercial Bank deposit rates have varied around 3 per cent for saving deposits and 6-8 per cent for time deposits whilst government bonds have ranged from 8 per cent to 11 per cent over the period.

The above picture shows a possible correlation between "riskiness and returns". The risk free investments have lower rates of returns than the risky investments. Government bonds, treasury bills and deposit rates are risk-free because an investor is guaranteed at least a return up to the amount invested in the instrument in all cases. Equity investors on the other hand, accept the probability of earning a return less than the expected return. The greater the chance of low or negative returns, the riskier the investment. Equity investment in Trinidad and Tobago can be classified as risky since, as demonstrated by the Table, when prices on the Stock Exchange fell after 1983, the

TABLE 11: COMPARATIVE RATES OF RETURNS TO DIFERENT PORTFOLIO INVESTMENTS

Year	Change In Index	Dividend[1] Yields	Total (nominal) Return on Ordinary Shares	Treasury Bill Rates	Bank Rate	Commercial Banks Savings Deposit Rate	1 yr Time Deposit Rate	Government Bonds (1-20 yrs) average yield
1993	-28	6.0	-22	3.10	7.50	3.38	8.25	8.24
1984	-17	8.0	-9	3.38	7.50	3.50	8.63	8.97-10.2
1985	-18	8.0	-10	3.46	7.50	3.50	8.38	8.73-9.70
1986	-22	8.0	-14	4.00	7.50	3.13	7.76	8.64-9.60
1987	4	6.0	10	4.63	7.50	3.25	7.50	8.83-9.62
1988	-19	6.0	-13	5.07	9.50	3.25	7.76	9.97-10.66
1989	50	4.0	54	7.19	9.50	3.00	6.99	9.96-10.77
1990	70.6	3.5	74.1	7.51	9.50	2.75	6.96	10.12-10.77
1991	-1.6	6.0	4.4	7.63	11.50	2.50	6.71	10.07-10.79

* Composite Index, 1983 = 100

1. Calculated by summing all the dividends yields on ordinary stocks during a year, and dividing by the sum of the prices of the ordinary stocks at the start of the year. The yield is unweighted of course, but given the variable dividend performance of many companies bias is unlikely. Figures for dividends paid are taken from the Trinidad and Tobago Stock Exchange. The Source of the method is I.F.C. Emerging Stock Market Factbook, 1990.

Sources: Central Bank of Trinidad and Tobago: Quarterly Statistical Digest; Handbook of Key economic statistics and the Trinidad and Tobago stock exchange.

returns offered to investors were negative, indicating that investors were not making returns as expected, but in fact may have been losers in so far as this instrument was concerned. In 1989, returns on the stock market declined and this may have been a reflection of investors' perception of economic conditions.

Table 12 compares the rates of return on ordinary shares and on Treasury Bills, with the risk premium. The risk premium represents the difference between the former and the latter, and measures the additional return obtained for undertaking "risky" investments, i.e. equity investment. This is done to test whether a positive correlation exists between risk and return as the hypothesis requires. In four out of the nine years analyzed, the risk premium was positive. The Table takes into account the return on equities, Treasury Bills and the risk premium by using the arithmetic mean and the standard deviation as measures of performance in order to test whether the yield on securities is higher than that of Treasury Bills. The values indicate that both the yield and riskiness are higher for securities when compared with Treasury Bills. This means that there are substantial advantages for Trinidad and Tobago investors when they invest in equities rather than risk-free investments such as Treasury Bills. The riskiness of equities is confirmed by standard deviations of 7.9 for equities and 0.51 for Treasury Bills as shown in the Table.

TABLE 12: COMPARATIVE RATES OF RETURNS TO ORDINARY SHARES, TREASURY BILLS AND RISK PREMIUMS, 1983-1991

Year	Return on Ordinary shares	Yield on Treasury Bills	Risk Premium
1983	-22	3.10	-25.1
1984	-9	3.38	-12.38
1985	-10	3.46	-13.46
1986	-14	4.00	-18.00
1987	10	4.63	5.37
1988	13	5.07	7.93
1989	54	7.19	46.81
1990	74.1	7.51	66.59
1991	4.4	7.63	-3.23
A.M.[1]	11.1%	5.10%	6.1%
S.D.[2]	7.9	0.51	7.6

1 - A.M. = Arithmetic Mean
2 - S.D. = Standard Deviation

Stock Market Efficiency

An important function of a securities market is the allocation of financial resources to profitable investment opportunities. Market determined prices serve as ideal signals for resource allocation. If security prices provide accurate signals, firms are able to make correct production-investment decisions, and investors, given their individual preferences, are able to choose the most suitable securities for investment on the basis of market determined prices. These choices are only possible if the capital market is efficient, that is, the market correctly evaluates all information and adjusts asset prices instantaneously and correctly. Efficiency is limited to the concept of a fair game, i.e., there are no gainers or losers since no single investor can persistently make high profits. The efficiency hypothesis can be tested by Random Walk models. The term "random walk" in this context is used to refer to successive price changes which are independent of each other. (In other words, tomorrow's price change (and therefore tomorrow's price) cannot be predicted by looking at today's price. $P_{t-1} - P_t$ is independent of $P_t - P_{t-1}$). There are no trends in price changes.

Since testing the EMH involves testing for random walks, sets of past prices are tested for dependence. Granger (1975) has argued that the random walk hypothesis is better tested in log random walk (LRW) form:

(1) $L_n P_t = \ln P_{t-1} + e_t + z(i)$

or in Capital return random form (CRW)

(2) $$C_{t,i} = \frac{P_t - P_t\text{-}1}{P_t} = r(i) + n_{t,i}$$

where P is stock prices, t is time, z(i) is a constant mean of P over i time units, n is the normal expected value of c over i times units, and e and n are error terms. The Capital Return Random walk (CRW) model is preferred by Granger because of its "intuitive appeal", its property of a systematic link between the variability of errors and price levels, and because the presence of the "normal expected return" is easier to explain from the general market philosophy than is the constant z.

The above models were tested in this study with monthly data for the November 1981 to December 1989 period. The regression

models employed were:

(3) $\text{Ln } P_t = a+b\ P_{t-1} + \alpha$

and

(4) $C_t = c^{C}_{t-1} + n_t$

Twenty-one stocks were used in our sample and the results are presented in Tables 13 and 14. In the LRW model, all the coefficients of the lagged stock prices are statistically significant at the 5 per cent level. All the values of b are close to unity for each stock and serial correlations show serial dependence for almost every stock. The LRW tests therefore indicate that stock prices are serially dependent and therefore do not follow a random walk. The CRW results are shown in Table 14. Here we see that fifteen of the twenty stocks show serial dependence. In all cases, except one, the coefficients of the lagged price change are not significantly different from zero at the 5 per cent level.

TABLE 13: REGRESSION RESULTS: LOG RANDOM WALK

Stock	Constant	P_{t-1}	$\bar{R}^2$	D.W.	T-Stat. of lagged Dep.
A	0.089	0.944	.912	1.01	31.64
B	0.313	0.948	.929	1.15	33.63
C	0.220	0.934	.933	1.68	34.03
D	0.031	0.974	.950	1.52	42.55
E	0.097	0.840	.687	2.06	14.57
F	0.344	0.874	.796	1.87	19.40
G	0.044	0.964	.969	1.92	55.61
H	0.044	0.978	.939	1.75	38.51
I	0.052	0.985	.965	1.03	51.62
J	0.548	0.897	.822	1.56	21.12
K	0.026	0.973	.974	2.06	60.94
L	0.020	0.984	.965	.963	51.92
M	0.021	0.973	.983	1.94	75.06
N	0.014	0.988	.977	1.27	65.26
O	0.051	0.945	.900	1.50	29.53
P	-0.004	0.984	.988	1.45	90.89
Q	-0.005	0.984	.987	1.58	88.24
R	0.110	0.969	.958	1.79	46.98
S	-0.021	0.997	.983	1.44	75.60
T	-0.001	0.989	.971	1.90	57.00
U	0.446	0.935	.873	1.62	25.7

TABLE 14 REGRESSION RESULTS: CAPITAL RETURN RANDOM WALK

Firm	P_{t-1}	$\bar{R}^2$	D.W.	T-Stat. of lagged Dep.
A	0.920	.941	2.61	36.6
B	0.935	.905	1.05	28.3
C	0.684	.538	0.89	9.9
D	0.945	.914	1.99	29.9
E	0.165	0.01	1.98	1.5
F	0.894	.811	2.25	19.0
G	0.940	.951	1.90	40.6
H	0.804	.644	1.53	12.3
I	0.84	.745	.82	15.7
J	0.563	.459	.94	8.5
K	0.842	.721	1.57	14.7
L	0.938	.892	1.16	26.4
M	0.877	.783	1.07	17.4
N	0.906	.849	1.58	21.8
O	0.876	.782	.99	17.4
P	0.891	.808	.85	18.78
Q	0.842	.729	.94	15.1
R	0.899	.833	1.01	20.5
S	0.723	.520	2.27	9.6
T	0.395	.177	.72	4.3

In both the LRW and the CRW tests, the $\bar{R}^2$ are always close to 1. Thus generally, the tests lend to the conclusion that the Trinidad and Tobago market for corporate equities is not efficient. This is a weak form test. However, because of the type of data available, the "semi-strong" and "strong" form tests could not be employed. Such tests were not necessary in any event because it is generally agreed that if the efficiency hypothesis is rejected by weak form tests it is unlikely to pass the semi-strong or strong form tests.

Another test used as an alternative test of randomness is the runs test. A run is defined as a series of identical occurrences that are preceded and followed by different occurrences or by none at all. In the case of the Stock Exchange, a run is a sequence of stock price changes of like signs, i.e., positive, negative or zero. The test compares the actual number of runs with the number expected from a randomly distributed series of price changes.

Denoting the total number of stock price changes by N, the number of price changes of each sign by n_i (where i = 1 for positive changes, -2 for negative changes, and =3 for no change), one can define the expected number of runs by:

$$Re = \frac{[N(N+1) - \sum_{i=1}^{3} n_i 2]}{N}$$

with standard deviation:

$$\sigma = \left(\frac{\sum_{i=1}^{3} n_i^2 [\sum_{i=1}^{3} n_i^2 + N[(N+1)] - 2N\sum_{i=1}^{3} n_i^3 - N^3}{N^2 (N-1)} \right)^{1/2}$$

The expected number of runs is calculated by assuming that successive price changes are independent and that sample proportions are good estimates of population proportion. The Runs test is conducted on the standardized normal variable.

$$K = \frac{(Ra - Re \pm \frac{1}{2})}{\sigma}$$

Where Ra is the actual number of runs and $\frac{1}{2}$ is the discontinuity adjustment factor (greater than zero where $Ra \leq Re$, and less than zero when $Ra \geq Re$). For a large N, K is assumed approximately normal with zero mean and variance equal to 1.

The results of the runs test are presented in Table 15. At no time did the expected number of runs exceed the actual number of runs. The K statistic is significantly different from zero in all cases, and the percentage difference between actual and expected runs is always small. Thus the runs test provide strong evidence that stock price changes are not serially independent in the Trinidad and Tobago stock market, thereby supporting the previous findings of the random walk analysis. On the basis of these empirical results one can conclude that inefficiency or lack of fairness exist in the Trinidad and Tobago stock market.

A number of reasons can be suggested for inefficiency in the stock market. Accepting the fact that the Trinidad and Tobago market is small, Parris (1985) had suggested the phenomenon of interlocking directorates. This can make collusion possible because information becomes accessible only to those who are able to acquire such information. This in turn can lead to insider trading.

TABLE 15: ACTUAL AND EXPECTED NUMBER OF RUNS: MONTHLY DATA: 1981-1989

Stock	RA	Re	K
A	37	84	-130.2
B	45	92	-211.1
C	37	83	-286.3
D	48	91	-168.6
E	54	89	-136.1
F	32	88	-310.4
G	41	92	-279.9
H	57	87	-82.4
I	452	93	-265.7
J	51	89	-128.8
K	61	85	-56.4
L	45	92	-210.7
M	61	85	-56.9
N	46	92	-198.3
O	41	75	-157.3
P	63	85	-49.6
Q	42	92	-242.7
R	42	91	-178.6
S	46	92	-198.9
T	32	95	-628.7
U	43	92	-235.1

Table 16 shows stock market capitalization (ordinary shares only) at year end and annual turnover, to give an indication of market size. In all the years from 1985 to 1989, turnover was under 20 per cent of market capitalization. It was particularly low in 1985 (8.9 per cent) and 1987 (6.4 per cent). In most developed markets, turnover is usually above 50 per cent of market capitalization.[9]

The low percentage turnover to market capitalization obviously indicates to some extent a low level of market activity given the small volume of shares traded on the Exchange. This supports the point made earlier that shares are very tightly held. The low percentage turnover also suggest an "inefficient" market in the sense that it holds implications for insider dealings and the impact of this phenomenon on share prices.

TABLE 16: MARKET CAPITALIZATION AND TURNOVER: (1985-1989)
$ TT BILLION

	1985	1986	1987	1988	1989
Market Capitalization	1,667.6	1,346.4	1,397.9	1,136.1	1,174.4
Turnover	148.5	186.1	90.7	144.6	293.4
Turnover as % of Market Capitalization	8.9	13.8	6.4	1.0	16.7

Source: Trinidad and Tobago Stock Exchange and computed

IV. INNOVATIONS: FURTHER DEVELOPMENT OF TRINIDAD AND TOBAGO'S SECURITIES MARKET

This paper has so far analyzed the performance of Trinidad and Tobago's Stock Exchange to see how far it has satisfied certain criteria. The analysis has so far revealed that the TTSE is not performing most of the functions which are necessary for it to be judged a success. This may imply that the process of financial intermediation is undermined and does not take place properly. However, this does not mean that it is impossible for the Stock Exchange to achieve success. What is needed, in our view, is some innovative instruments in the capital market of Trinidad and Tobago.

Innovations are critical since the performance of the securities market in Trinidad and Tobago is not very encouraging. Many of the problems identified reflect the underdeveloped state of the securities market.

If the securities market is developed, its true potential as a vehicle to harness savings and stimulate investments will be realized. The net outcome of this process will be a financial system that facilitates trade and specialization in production, one that creates assets with attractive yields, assets that are liquid and which have risk characteristics that encourages financial forms of savings. Indeed, trade, the efficient use of resources, savings and risk-taking are the cornerstones of a growing economy.

In this regard, possible future innovations in Trinidad and Tobago's Securities Market can be classified according to the following schema:

1. Credit-creating services.
2. Liquidity-enhancing services.
3. Equity-generating services.
4. Credit-Risk covering services.
5. Price-Risk covering services.
6. Debt-Equity Hybrid services.

Credit-creating innovations in Trinidad and Tobago might include different types of bonds, mortgages, pass through securities and bankers acceptances. These instruments are said to be credit creating because they either tap new sources of finance or mobilize existing assets which are being used for other purposes to support new borrowings.

The securities market can be quite important in this process, but it is in a rather embryonic stage. Since the Stock Exchange came on stream in 1981, trading has only been in ordinary common shares and few preference shares. There has been no trading in treasury bills. Only in 1993, trading in government bonds started. Clearly then, the Trinidad and Tobago market can be said to be non innovative. It also makes inadequate provision for access to a wide range of instruments, nor is there any distinction between brokers and jobbers on the floor of the Exchange.

The introduction of bonds on the exchange could further enhance the liquidity of the financial system and also assist the government and private firms in raising more revenue in the form of debt. Government presently deals in bonds which have a life ranging from 5 to 30 years. Bond issues usually carry varying maturities. These issues create some liquidity in the system as well as raise funds. Liquidity is important for investors, especially in times of uncertainty.

Investors prefer to hold some of their portfolios in a form which is convertible into money to meet necessary payments. This is of particular importance for certain corporations and banks in the country. The Stock Exchange can be used to introduce a wider portfolio of assets for the demand side which can be converted into other assets to improve liquidity. Convertible bonds are useful in this respect. The Stock Exchange would also promote an efficient market for government and corporate bonds. This in turn enhances the liquidity of these securities, assisted by a group of dealers at the centre of the market, including specialists in government securities, such as trust companies or investment houses. These institutions make possible

instant communications and rapid trading. New varieties of government bonds can be introduced on the exchange as well as new techniques. Some might be tax free (interest income) and techniques could involve auction utilizing the electronic media.

Apart from government bonds, there are a number of marketable securities currently being introduced by the private financial sector, such as guarantee investment certificates, secured investment certificates and investment note certificates which with time, could be traded on the Stock Exchange of Trinidad and Tobago. These instruments provide flexibility of rate structure as the interest rate is usually floating. They also provide a high degree of liquidity and are highly marketable.

There is also a possibility for the mortgage-pass-through security of the Home Mortgage Bank to be traded on the Exchange. These new instruments will no doubt help the development of the local market since it will become more diversified, bringing new specialists on the Exchange, skilled in dealing with these different kinds of instruments, thereby helping to alleviate the problem of insider trading and collusion on the Exchange. Care must be taken, however, to avoid pockets of collusion on the exchange as there would now be many more specialist agents operating on the Exchange. New insitutions could also be created, such as mortgage banks and other finance companies.

Credit-creating instruments can be further divided into floating-rate debt instruments such as floating-rate bonds, or fixed-rate debt instruments such as zero-coupon rate bonds. The advantage of floating rate debt is that a firm is guaranteed finance in the future at the then prevailing market rate of interest. Therefore the firm avoids the risk of being rationed out of the credit market in the future. The second advantage is that even if there were no future credit-rationing the cost of short-term financing to the firm may still increase if its credit rating deteriorates. This risk is avoided with the instrument since the spread (or discount) is usually set in advance for the entire life of the instrument.

Fixed rate debt instruments are attractive to long-term investments or research oriented ones which possess a long gestation period before investments start paying back. Many credit-generating capital market innovations are also liquidity enhancing. By "liquidity enhancing" we mean that holders of certain types or capital

market instruments can obtain cash before the instrument matures. For this to happen, the instrument should be marketable.

Marketability implies that a third party is willing and able to buy the financial instrument since the instrument is not liable to significant price variations. In general, financial instruments require the following characteristics to make them readily marketable: they should be relatively homogeneous, appeal to a wide variety of buyers, and be easily transferable without undue cost or delay. In this respect, bonds can be made attractive by offering tax incentives in the form of credits, or having provisions which allow an investor to convert them into equity and so confer ownership status to an investor. Bonds may also contain a call provision, permitting redemption before maturity. Mortgage bonds can be made liquid once they are complemented by a number of agencies designed to create secondary markets for mortgages. These arguments are not at variance with the fact that there must also be long-term illiquid instruments. However, liquidity enhancing features can be important, especially in times of inflation since they assist the investor in capital value protection.

Because of the nature of the markets, liquidity enhancement is critical to ensure marketability. Some liquidity-enhancing instruments, like the Money Market Fund or Growth and Income Fund of the Unit Trust Corporation (UTC) are already in existence and are doing quite well. They are liquidity enhancing since they can be resold anytime to the Corporation. The schemes are designed for the small investor and minimize his risk through pooling of market resources and the sharing of benefits by all who are involved in the scheme. In December, 1992, total assets of the UTC stood at $442 million. Gross sales amounted to $209.4 million. Both schemes offer significant returns to investors. For example, in the Money Market Fund, the UTC has so far declared fourteen distributions, bringing the total payout since the launching of this fund in 1989 to $61.1 million.

Equity-generating innovations include not only ordinary shares but different ranges or types of preference shares, such as cumulative preference shares or participating cumulative preference shares with non-voting rights designed to stimulate capital subscriptions to all types of firms. None of these instruments exist in Trinidad and Tobago presently. Such instruments also provide investors with a hedge against inflation. Capital gains from equities could be tax-exempt or the dividends could be taxed at lower rates. Dividends, in

turn, tend to grow over time with the increased earnings. The success of these instruments is measured by the extent of price stability and, protection for investors, the degree of disclosure of information, and their liquidity.

An innovation that could perform some equity generating services would be divestment of some state owned firms by way of shares listed on the exchange. This is quite important since the process will contribute to strengthening and widening the market and so increase transactions and transactions, as well as overall market capitalization. In turn, investors can gain from the dividends and taxation incentives which may come in such a divestment policy. The net result would be a less risky market with an improved choice of portfolios.

Price risk covering instruments could be developed when there is rising volatility in interest rates, exchange rates or the inflation rate. Owing to the uncertainties resulting from changes in these macrovariables, the yield on investments may become quite uncertain.

Futures and options could be used to cover price risk (see Rutherford 1982). A financial futures contract conveys the right and obligation to purchase an underlying financial instrument at an agreed price on a specified date. A financial option conveys the right but not the obligation to buy (call option) or sell (put option) an underlying financial instrument at a predetermined price on a specified date. A future contract is therefore a standardized forward contract which is traded on an exchange. In such contracts, the use of a clearing house facility is very important. Mutual funds, such as the two schemes administered by the Trinidad and Tobago Unit Trust Corporation, also benefit investors by allowing them to hedge against price changes since they are guaranteed a certain price from their unit even if the market price for the instrument depreciates in value. They are also price risk innovations and as such some more mutual funds may be incorporated in the capital market.

Finally, a large number of financial instruments, mostly in the form of securities, could be introduced with some features between debt and equity financing. They may be referred to as debt-equity hybrid instruments, and add flexibility to the financial obligations of issuing firms through various advantages flowing to the lender. One such advantage is that the lender providing capital may, in return, become a quasi-equity holder in the firm, i.e., the lender owns shares

in the firm although they may not be able to vote. There are also instruments such as convertible bonds, known as subordinated debt, where the debt can be converted into equity or other forms. Such instruments also carry a fixed rate of interest so that the cost of financing to firms could be lowered.

VI. CONCLUSION

Stock Markets are important institutions in the development of any country. This is so because they are designed to act as a complement to other financial institutions in providing that economic function of financial intermediation, i.e., ensuring that savings is allocated efficiently and effectively to investors. Stock markets also provide a liquidity function and they provide investors and institutions with a wide range of financial instruments offering a spectrum of risks and expected returns. Finally, stock markets should be efficient, i.e., prices on the stock market should reflect all available information and therefore ensure that no investor can make persistent profits (or losses).

This paper has analyzed the Trinidad and Tobago Stock Exchange to see how far it has performed the above functions. Data used ranged from 1983 to 1993 where available.

The Trinidad and Tobago Stock Exchange lacks breadth and depth, given the small number of listed companies and securities traded. In addition, the Exchange's potential in raising new capital has not been fully realized. Approximately $515 million has been raised on the primary market since the inception of the Exchange. This does not compare favourably with other countries. The Trinidad and Tobago Stock Exchange lacks new listings, and is actually shrinking, given the number of recent mergers and attempted takeovers. The market is also narrow and thin on account of the limited number of market participants.

Shares traded on the secondary market of the exchange remain tightly held in blocks, and therefore the volume of transactions is small by international standards. This reduces the liquidity of the market. There is no widespread ownership of marketable corporate equities. Bonds are now traded on the Stock Exchange and with time could improve the liquidity of the Stock Market.

Finally, it was found that the market is inefficient, as a result of the small size of the Exchange. This situation increases when inter-

locking directorates and insider dealings are factored in for consideration. On the positive side, however, it was found that risk-return relationships exist for stocks when they are compared with other financial instruments.

Recognizing that the Trinidad and Tobago Stock Exchange is not performing most of the functions which are necessary for it to be judged a success, then one can speculate at this point that the process of financial intermediation is undermined and cannot take place properly. However, this does not mean that it is impossible for these functions to be performed.

A basic assumption of this paper is that a proper functioning equities market will allow that economic function of financial intermediation to be fully realized. To do this, however, there should be innovations in the capital market in Trinidad and Tobago. Future innovations in Trinidad and Tobago may be classified according to the services they perform, such as credit creating services, liquidity enhancing services, equity generating services, price risk covering services, and debt-equity hybrid services.

Trinidad and Tobago's securities market is still underdeveloped and there is now an urgent need for new instruments on the Exchange as well as the need for new actors. These instruments are consistent with the needs of a competitive, innovative and sophisticated financial sector. The net result would be a broadening and deepening of the local securities market, so that the local market can respond aggressively to an increasingly demanding international market.

NOTES

1 This new company, involved in telecommunication, was listed on the stock exchange in the second quarter of 1991.

2 International Financial Corporation, Emerging Stock Market Factbook, 1992. IFC Washington, 1992:60.

3 Listed Company Manual, Stock Exchange. Thirteen companies are shown here but there are now only 26 companies listed on the Exchange.

4 The findings here for 1990 are similar with that of Bourne's in 1985. See Bibliography.

5 Farrell, Terence, W. Najjar, Annette and Marcelle, Hazel. "Corporate Financing and Business Use of Bank Credit in Trinidad and Tobago". Research Dept., Central Bank of Trinidad and Tobago, Mimeo, October 1983. A follow-up

study was conducted by Clarke, M. et al in 1993. The result showed that overdraft credit was still the most popular form of financing among firms.

6 Rules of the Stock Exchange, 1990.

7 See Central Bank of Trinidad and Tobago, Annual Reports, 1983-1991.

8 Recent bank closures in Trinidad and Tobago indicate that there are certain risks attached to deposits.

9 Gill, David. Global Investors, Their Emerging Markets Expectations and Mexico's Opportunity. **95th Anniversary Convention, Mexican Stock Exchange, Mexico City, November 1989.**

REFERENCES

Arrieta, G.G. "Interest Rates, Savings, and Growth in Less Developed Countries: An Assessment of Recent Empirical Research", *World Development*, 16, 1988: 589-605.

Artus, P. and C. de Boissiew. "The Process of Financial Innovation: Causes, Forms and Consequences", in *Innovation, Technology and Finance*, edited by Arnold Heertje. Oxford: Basil Blackwell Inc., 1988.

Auerbatch, Allan. "Saving in the U.S.: Some Conceptual Issues" in *The Level and Composition of Household Saving*, edited by Patrick Hendershott, Cambridge, Mass: Bellerger, 1985.

Bain, A.D. *The Economics of the Financial System*, Oxford: Martin Robertson, 1981.

Bandawe, H. and L. Glen. A Case for Regional Exchange Rate Management for CARICOM. Paper presented at 22nd Regional Programme of Monetary Studies Conference, Guyana, 1990.

Bank of Jamaica. *Caribbean Capital Markets Symposium Paper*. Kingston, Jamaica, 1972.

Basch, A. and M. Kybal. *Capital Markets in Latin America: A General Survey and Six Country Studies*, IADB, New York: Praeger, 1970.

Bhatt, R.J, and Deena R. Khatkhate. "Financial Intermediation, Savings Mobilization and Entrepreneurial Development: The African Experience", *IMF Staff Papers* 22, (No. 1), 1975.

Blackman, C. The Development of Equity Markets in the Caribbean. Paper presented at Conference on Financing Development in the Caribbean, Sam Lord's Castle, Barbados, 1989.

Bourne, C. "Economic Aspects of the Trinidad and Tobago Stock Market" in *Essays on Trinidad and Tobago Money and Finance*. Edited by

Bourne Compton and Ramesh Ramsaran. Regional Programme of Monetary Studies, U.W.I., St. Augustine, Trinidad, 1986.

_____. "Structure, Cost and Efficiency of the Financial System" in *Regional Programme of Monetary Studies*, ISER, Jamaica.

_____. *Imperatives of Caribbean Development for the 21st Century.* Address at Carleton University, Ottawa, 1989.

Bourne, C. and J. Ally. "The Use of Flow of Funds Accounts in Economic Planning in Caribbean Economies". *Central Statistical Office (C.S.O.) Research Papers*, 9, 1977.

Briston, R.J. *The Stock Exchange and Investment Analysis.* London: George Allen and Unwin, 1973.

Crichton, N. and C. De Silva. "Financial Development and Economic Growth: Trinidad and Tobago, 1973-1987", *Social and Economic Studies*, 38 (No. 4), 1989:133-164.

Caribbean Development Bank. *Annual Economic Report: Barbados and Jamaica*, 1989.

Central Bank of Trinidad and Tobago. *Handbook of Key Economic Statistics*, 1987.

_____. *Quarterly Statistical Digest*, 1980-1989.

_____. *Quarterly Economic Bulletin*, 1980-1989.

_____. *Annual Reports*, 1970-1989.

_____ . *Annual Economic Survey*, 1980-1989.

Central Statistical Office. *Flow of Funds for Trinidad and Tobago, 1967-1976*, Central Statistical Office, Trinidad, 1979.

Clark, C. and L. Schkade. *Statistical Analysis for Administrative Decisions*, Cincinnati, Ohio: South-Western Publishers, 1983.

Cohen, Jacob. *Money and Finance: A Flow of Funds Approach*, Ames, Iowa: The Iowa State University Press, 1986.

Collister, Roy. "Regionalization — The Solution to a Caribbean Stock Exchange", *Caribbean Affairs*, 3 (2), 1990.

De Caires, Bryan. *The GT Guide to World Equity Markets 1987*, London: Euromoney Publishers, 1987.

Deperalto, Fernando. Regional Integration of Caribbean Capital Markets. Paper presented at International Conference on Capital Market Development, P.O.S., Trinidad, June, 1990.

De Saint Phalle and T. Singapore. Case Study of an Emerging Market. Paper presented at, International Conference on Capital Market Development. P.O.S., Trinidad. June 1960.

Drake, P.J. *Money, Finance and Development.* Oxford: Martin Robertson, 1982.

Euromoney 1992. *Stock Market Factbook.* London: Euromoney, 1992.

_____. *European Equity Markets.* London: Euromoney, 1992.

Fama, Eugene. "Efficient Capital Markets: A Review of Theory and Empirical Work", *Journal of Finance*, 25(2), 1970: 383-417.

Farrell, T.W. *Central Banking in a Developing Economy: A Study of Trinidad and Tobago 1964-1989*, Central Bank of Trinidad and Tobago, November, 1989.

Farrell, T.W., Najjar, A. and H. Marcelle. *Corporate Financing and Use of Bank Credit in Trinidad and Tobago*, Central Bank of Trinidad and Tobago, June, 1985.

Ferris, Paul. *The City.* Suffolk: Richard Clay, 1962.

Fry, Maxwell. "Savings, Investment, Growth and the Cost of Financial Repression", *World Development* 8 (10), 1980:317-327.

_____. "Models of Financially Repressed Developing Economies", *World Development* 10 (9), 1982: 731-750.

Garbade, Kenneth. *Securities Markets.* New York: McGraw-Hill, 1982.

Gill, David. Global Investors: Their Emerging Markets Expectations and Mexico's Opportunity. *95th Anniversary Convention, Mexican Stock Exchange, Mexico City, November, 1989.*

Goldsmith, Raymond W. *Financial Structure and Development.* New Haven: Yale University Press, 1969.

Government of Trinidad and Tobago. Hansard: Parliamentary Debates in the House of Representatives, 1981.

_____. Hansard: Parliament. Debates in the Senate, 1981.

_____. The Securities Industry Act, No. 37, 1981.

Granger, C. A Survey of Empirical Studies of Capital Markets" in *International Capital Markets.* Edited by Edwin Elton and Martin Gruber. Amsterdam: North Holland, 1977.

Gurley, John G., Shaw, E.S. "Financial Aspects of Economic Development" *American Economic Review*, Vol. 35, 1955.

_____. "Financial Intermediaries and the Savings — Investment Process", *Journal of Finance*, Vol. 11 (2), 1956.

_____. *Money in a Theory of Finance*, Washington, D.C.: The Brookings Institute, 1960.

———————. "Financial Structure and Economic Development", *Economic Development and Cultural Change*, 15, 1967.

Heertje, Arnold. "Technical and Financial Innovation" in *Innovation, Technology and Finance*. Edited by Arnold Heertje. Oxford:Basil Blackwell, 1988.

Hospedales, Jerry. "Some Comments on the Stock Market of Trinidad and Tobago", Central Bank of Trinidad and Tobago, *Quarterly Economic Bulletin*, 9(4), December, 1984.

International Financial Corporation. *Emerging Market Factbook 1992*. Washington: I.F.C., 1992.

Institute of Chartered Accountants of Trinidad and Tobago and Association of Chartered Secretaries and Administrators of Trinidad and Tobago. Proceedings of Company Law Reform Seminar, Port of Spain, Trinidad, July, 1989.

Jackson, John. "The Stock Market in the Caribbean: The Jamaican Experience", *Caribbean Finance and Management*, 2 (1): 1986: 61-68.

Joong-Woong, Kim. *Economic Development and Financial Liberalization in the Republic of Korea: Policy Reforms and Future Prospects*, Korea, 1987.

Kindleberger, C.P. *International Money: A Collection of Essays*. London: George Allen and Unwin, 1981.

Kitchen, Richard. "The Role of the Jamaican Stock Exchange in the Capital Market: An Historical Analysis". *Caribbean Finance and Management* 2(2): 1986, 1-23.

Leffler, G. and L. Farwell. *The Stock Market*. 3rd ed. New York: Ronald Press Company, 1963.

Mayer, H. and J. Kneeshaw. "Financial Market Structure and Regulatory Change" in *Innovation, Technology and Finance*, edited by Arnold Heertje. Oxford: Basil Blackwell, 1988.

Mayers, Robert. Development of the Capital Market in Trinidad and Tobago: Institutions and Instruments. Paper presented at Central Bank Conference, Belize City, Belize, 1989.

Melvin, M. *International Money and Finance*. New York: Harper and Row, 1985.

Mikesell, R. "The Nature of the Savings Function in Developing Countries: A Survey of the Theoretical and Empirical Literature", *Journal of Economic Literature*, Vol. 11 (1), 1973.

Miller, Jonathan. *The Enhancement of the Caribbean Securities Markets: Agenda for Development of National and Regional Markets*. Economic Affairs Division. Commonwealth Secretariat, London, 1989.

Moore, Basil. *An Introduction to the Theory of Finance: Asset Behaviour under Uncertainty.* New York: The Free Press, Collier-MacMillan Limited, 1968.

Najjar, A. *A Study of Savings in Trinidad and Tobago.* Trinidad and Tobago, Research Department, Central Bank, October , 1988.

National Planning Commission. *Report of the Committee on Monetary Policy.* Port of Spain: National Planning Commission, 1987.

O'Brien, Hamid. *The Development of the Securities Market in Trinidad and Tobago.* M.Sc. Thesis, University of the West Indies, St. Augustine, 1982.

Ott, David. "The Financial Development of Japan, 1878-1959", *Journal of Political Economy*, Vol. 39, No. 2 (April), 1969.

Parris, Carl. "Power and Privilege in Trinidad and Tobago", *Social and Economic Studies*, 34(2): 1985, 97-109.

Patrick, Hugh T. "Financial Development and Economic Growth in Underdeveloped Countries". *Economic Development and Cultural Change*, January, 1966.

Polak, Jacques. *Financial Policies and Development.* Paris: OECD, Development Centre Studies, 1989.

Ramsarran, R. *U.S. Investment in Latin America and the Caribbean.* London: Hodder and Stoughton, 1985.

Robinson, Roland. *Money and Capital Markets.* New York: McGraw-Hill, 1964.

Rodriguez, R., Carter, E. *International Financial Management.* New Jersey: Prentice-Hall, 1984.

Rutherford, Janette. *Introduction to Stock Exchange Investment.* London: MacMillan Press, 1983.

Ryan, S. *The Independence Experience of Trinidad and Tobago.* St. Augustine, Trinidad: Institute of Social and Economic Research, U.W.I., 1989.

Sametz, A. and P. Wachtel. *Understanding Capital Markets, Volume II: The Financial Environment and the Flow of Funds in the Next Decade.* New York: D.C. Health and Company, 1976.

Schumpeter, J. *The Theory of Economic Development.* Cambridge, Massachusetts: Harvard University Press, 1934.

Sebastian, St. B. The Potential for a Securities Trading System in the OECS. Paper presented at Conference on Financing Development in the Caribbean. Sam Lord's Castle, Barbados, December, 1989.

Shaw, E.S. *Financial Deepening in Economic Development.* London: Oxford University Press, 1973.

Silber, W. "The Process of Financial Innovation", *American Economic Review*, 73(2), 1983.

Shoraka, Jahil. Capital Markets and Macroeconomic Policy. Paper presented at International Conference on Capital Market Development. Port of Spain, Trinidad, June 1990.

Suzuki, Y., Yomo, H. *Financial Innovation and Monetary Policy: Asia and the West.* Japan: University of Tokyo Press, 1986.

The World Bank. *World Development Report, 1989: Financial Systems and Development: World Development Indicators*, Oxford: Oxford University Press, 1989.

Thomas, C.Y. Financing Development: The Mobilization of Savings in the Commonwealth Caribbean. Paper presented at Conference on Financing Development in the Caribbean. Sam Lord's Castle, Barbados: December, 1989.

Trinidad and Tobago Stock Exchange. *Annual Reports*, 1985-1989.

Cuffie, Maxie. "Share Lunacy or Good Business Sense?" *Trinidad Guardian*, October 28th, 1990.

Trinidad and Tobago Stock Exchange. "Buying Shares on the Local Stock Exchange", *Trinidad Express*, October 30, 1990.

Sunday Express. "Mc Al Files for Judicial Review, September 16, 1990.

Trinidad and Tobago Stock Exchange. "Government Bond Market". *Trinidad Express*, December 2, 1990.

United Nations. Mobilization of Domestic and External Finance for Development. *Proceedings of a United Nations Interregional Workshop on Development Planning.* Kathmandu, Nepal, June, 1985.

Van Horne, James. *Financial Market Rates and Flows*, 2nd edition. New Jersey: Prentic-Hall, 1984.

Williams, Eric. *Speech delivered at the Formal Opening of Tunapuna Branch of National Insurance Board* 1977. (Government Printery).

World Bank. *Country Economic Report, Trinidad and Tobago: Toward a Programme of Policy Reform and Renewed Growth in Trinidad and Tobago.* April, 1988.

An Examination of Return Predictability on the Trinidad & Tobago Stock Exchange

Roopnarine Oumade Singh

INTRODUCTION

An important function of capital markets is the allocation of financial resources to profitable investment opportunities. Ideally, market determined prices serve as signals for resource allocation. Correct production-investment decisions are only possible if the capital market is efficient, that is, if the market correctly evaluates all information and adjusts asset prices instantaneously and correctly.

Significant effort has been devoted to evaluating the efficiency of capital markets in developed economies. There have, however, been few studies on the capital markets of developing countries.

In developing countries the existence of properly functioning, efficient capital markets is crucial to the development process. Developing countries generally face financial and other constraints which may not be binding for developed economies. Such financial constraints are *inter alia*, low domestic savings ratios, and limited access to international capital markets. Consequently, it is imperative for developing countries to allocate their very scarce resources to the most profitable investment opportunities. If asset prices do not provide accurate signals for investment decisions, misallocation of resources may occur.

In this paper the weak form capital market efficiency hypothesis is examined for Trinidad and Tobago. Section II presents a brief review of the capital market efficiency literature. The empirical analysis and results are detailed in Section III. Section IV gives the conclusion.

II. REVIEW OF CAPITAL MARKET EFFICIENCY LITERATURE

Fama (1970, 1976) has defined three categories of market efficiency according to whether prices fully reflect specific subsets of informa-

tion. A market is said to be weak form efficient if current security prices fully reflect any information in past prices. A second and more restrictive form of efficiency is semi-strong form efficiency; here the concern is the speed of adjustment to all publicly available information. The third and most restrictive form of efficiency is strong form efficiency; if security prices fully reflect all information both publicly and privately available, the market is referred to as strong form efficient.

Fama (1965, 1970, 1976) investigated the weak form efficiency of the New York Stock Exchange through the use of social correlations and runs tests on each of the 30 Dow Jones Industrial (DJI) stocks for periods that ranged from 1957 to 1962. Fama concluded that the evidence was not sufficient to reject the hypothesis of market efficiency.

More recent work has uncovered evidence that returns are predictable from past returns and other variables. For example, Lo and MacKinlay (1988) and Conrad and Kaul (1988) found that weekly returns on size-grouped portfolios of NYSE stocks are positively autocorrelated, and that the autocorrelation is stronger for portfolios of small stocks.

Return Predictability over Long Horizons

If one takes a longer term perspective, the evidence on return predictability is stronger; autocorrelation tests yield larger and economically more important correlations for longer time periods (three to seven years). Using data on nominal returns for NYSE firms for the period 1926-1985, Fama and French (1988) found strong negative autocorrelation. This reveals the existence of considerable mean reversion. The autocorrelations are more negative for portfolios of smaller firms. Variance ratio tests by Poterba and Summers (1988) support Fama and French's results.

The evidence of return predictability over longer term horizons has spurred considerable debate in the efficiency literature. One line of argument is that return predictability is due to the existence of irrational bubbles in stock prices. Such bubbles are the result of systematic investor overreaction and necessarily imply market inefficiency. Proponents of market efficiency (e.g. Fama and French, 1989)

argue that return predictability is due to the existence of time varying equilibrium expected returns on the part of rational investors.

The evidence for developing countries generally is not supportive of the weak form efficient market model. Gandhi, Saunders and Woodward (1980) apply runs tests and serial correlation tests to evaluate the efficiency of the Kuwaiti stock market; they concluded that the market is weak form inefficient. Using data on daily prices of 28 major Hong Kong stocks, Wong and Kwong (1984) apply serial correlation analysis and runs tests to evaluate the efficiency of the Hong Kong stock market and concluded that the overall evidence fails to give clear support to the weak form efficient market model.

Panas (1990) applies a number of statistical tests to investigate the weak form efficiency of the Athens stock market. The data for his study consisted of monthly closing prices for 10 companies quoted on the Athens stock market over the period January 1965 to December 1984. Panas presents serial correlation coefficients for successive prices changes for up to 10 lags. For the entire sample the majority of coefficients are positive in sign with 11 significant at the 5 per cent level; 7 of which are for the first lag. Panas cites Working (1960) to argue that part of the autocorrelation is due to the averaging of daily random increments and concludes that the evidence supports the weak form efficient market hypothesis. It should be noted, however, that the data used by Panas are monthly closing prices and hence there is no averaging process involved. Thus, his results do in fact provide evidence of inefficiency.

III. EMPIRICAL ANALYSIS AND RESULTS

Data

The data for this study consist of the monthly closing prices of the common stocks of companies listed on the Trinidad and Tobago Stock Exchange (TTSE) over the period November 1981 to October 1991. Three stocks were excluded from the study because the time series of closing prices were not of adequate length. To prevent the introduction of possible bias into the study, companies which were subsequently delisted through bankruptcy or otherwise, were not excluded from the study provided the time series were of adequate length.

The raw data were adjusted for cash dividends, bonus issues, stock splits and rights issues. The adjustments for cash dividends and stock splits were similar to those made by Fama (1965). The adjusted price used in a bonus issue was $P^*_{j,t} = rP_{j,t}/m$ where r is the number of shares after bonus for every m shares held by a stockholder. For rights issues, the value of the right was determined in the standard fashion and the adjustment to the stock price was made in the manner similar to dividends. The actual tests of the efficient market hypothesis were not performed on the adjusted prices themselves but on the monthly returns, where the return for month t for a given stock is

$$R_{j,t} = (P_{j,t} - P_{j,t-1})/P_{j,t-1}$$

where $P_{j,t}$ is the adjusted price per share for the common stock of firm j at the end of month t.

TESTS OF EFFICIENCY FOR THE PERIOD 1981 - 1991

Analysis of Serial Correlation Tests

The serial correlation coefficient (r_k) provides a measure of the relationship between the value of a random variable at time t and its value k periods earlier; more specifically, it measures the amount of linear dependence between observations in a time series that are separated by lag k, and is defined as:

$$r_k = [\text{cov}(u_t, u_{t-k})]/\text{var}(u_t)$$

where u_t is the stock return for month t, and r_k is the autocorrelation coefficient for a lag of k time units. If the distribution of u_t has finite variance, the standard error of r_k for a large sample can be given as

$$SE(r_k) = [1/(n-k)]^{1/2}$$

If a set of data is independently distributed, the r_k are zero for all time lags of the monthly returns series.

Using the data for common stocks on the TTSE, the sample serial correlation coefficients were computed for each stock for lag of from 1 to 5 months. The results are presented in Table 1. For lag 1 the majority of coefficients are positive and significant at the 5 per cent level. The absolute values of the coefficients range from 0.503

TABLE 1: AUTOCORRELATIONS OF MONTHLY RETURNS: SAMPLE PERIOD; NOVEMBER 1981 TO OCTOBER 1991

TIC	LAG 1	LAG 2	LAG 3	LAG 4	LAG 5	N	LJUNG-BOX
AGH	0.2849*	0.0577	-0.0220	-0.0287	0.0015	108	9.534
AGO	0.0230	0.1250	-0.0637	0.0334	0.0187	112	2.523
BAT	-0.1333	0.2236*	0.1423	-0.0586	0.0183	88	8.464
BER	0.2365*	0.0574	0.0217	0.0560	-0.0593	119	8.126
BOC	0.3161*	0.0763	-0.2024*	-0.2355*	-0.0744	119	25.637*
CDC	0.0253	-0.3200*	0.0435	-0.1114	-0.0275	107	13.149*
CWN	0.2011*	-0.0129	-0.0059	0.0421	0.0334	111	4.974
FLA	0.1952*	0.1683	0.1448	0.0948	0.1844	119	16.158*
FUR	0.1949*	0.1851*	-0.0475	-0.0195	0.0059	119	9.184
GED	0.0372	-0.0848	-0.0208	0.0328	0.1376	118	3.605
HCN	0.2137*	-0.0580	-0.2617*	-0.0757	0.1707	110	17.516*
LVB	0.2420*	0.1367	-0.3237*	-0.0391	-0.0569	119	23.053*
MBX	0.0399	0.0914	-0.1420	-0.0513	-0.0555	106	3.979
MEA	-0.0477	-0.1927	0.2362*	0.0763	0.0060	119	12.506*
MEI	-0.1646	-0.3499*	0.4212*	0.1589	0.0753	60	23.200*
NBC	0.4502*	0.2344*	0.0743	0.0676	0.0538	119	33.117*
NCB	-0.1303	-0.0191	0.0509	0.1467	0.0972	119	6.326
NMY	0.1724	0.2027*	0.1161	0.1559	0.2378*	119	20.542*
PLD	0.5030*	0.3279*	0.2471*	0.1486	0.1851	119	58.777*
REP	0.2232*	-0.0007	-0.0471	0.0271	0.0180	119	6.487
RMX	0.1640	0.1883	0.2311*	0.0236	0.0084	101	12.261*
ROY	0.3693*	0.1024	0.0188	-0.0167	0.1347	119	20.303*
SBK	0.0382	0.0674	-0.1440	-0.0978	0.0464	119	4.781
STV	0.3055*	0.1244	0.1812	0.0395	0.1348	70	11.962*
TCB	0.1724	0.0309	-0.1099	-0.0218	-0.0474	119	5.587
TCL	0.0391	-0.0673	0.0243	0.1460	-0.1120	31	1.489
TPL	0.1353	0.1991*	-0.1170	0.0047	0.0963	119	9.986
TRC	0.0883	-0.0365	-0.0353	0.0420	0.1165	54	1.541
UNI	0.2153	-0.1373	-0.0580	-0.0434	-0.1064	53	4.672
VAL	0.2044*	0.2138*	0.1262	0.0397	0.1880*	119	17.362*
WBD	0.1241	0.1759	0.2164*	0.1196	0.1427	86	11.651*
WIT	-0.0717	0.1074	0.1369	0.0038	-0.0059	119	4.379
WKA	0.1810	0.1056	0.0094	-0.0323	0.1515	86	6.170
WLA	0.1403	0.0482	-0.0874	-0.0665	-0.0575	119	4.607
WLB	0.2812*	0.1893*	0.1773	0.2228*	0.1342	119	26.451*
WOL	0.0364	-0.0924	0.2755*	-0.1713	-0.1812	83	13.141*
AVG	0.140	0.054	0.032	0.016	0.042	99	12.19

* Denotes Significance at the 5% level.

to 0.023. For lags 2 to 5 the preponderance of signs remain positive, with the coefficients of 10 stocks (27.8 per cent) and 9 stocks (25 per cent) being significant at the 5 per cent level for lags 2 and 3 respectively. For each of lags 4 and 5 only 2 coefficients were significant.

The preponderance of positive signs for lag k=1 is similar to the result found by Panas (1990) for the Athens stock market. However, it does not agree with the results found by Fama (1976) for the monthly returns on the Dow Jones Industrial (DJI) stocks. For the one period lag Fama found that only 9 of the 30 DJI monthly correlations were positive; the absolute values of these coefficients ranged from 0.31 to 0.01. Moreover, the only two out of the 30 coefficients were significant. The mean value of the correlation coefficients was 0.044 for the DJI stocks.

Agreement in signs among the coefficients for different stocks may indicate that there is a consistent pattern of dependence. Fama (1965, 1976) argues that the returns of different stocks are related to a certain extent to a market component common to all stocks. This means that the sample autocorrelations of the returns on individual stocks all reflect to some extent the sample autocorrelations of the return on the market. Thus, for a given lag the sample autocorrelations may be predominantly positive or negative. This reasoning together with the small magnitudes of r_k for daily and monthly returns led Fama to conclude that his results are consistent with market efficiency.

In the case of the Trinidad and Tobago Stock Exchange the results of r_k indicate that the magnitude of statistical dependence in monthly returns is much larger than that found by Fama (1976). Moreover, in the present study a large proportion of the autocorrelation coefficients are significant at the 5 per cent level. The evidence suggests therefore that the TTSE is weakly inefficient.

The Ljung-Box Statistic

Rather than considering each autocorrelation coefficient individually the Ljung Box statistic defined as

$$Q(k)=N(N+2)\sum_{m=1}^{k}(N-m)^{-1}r^2_m$$

presents a summary measure which can be used to evaluate independence. Under $H_o: r_1=...=r_k=0$, Q is asymptotically chi-square distributed with *k* degrees of freedom. If H_0 is false the test statistic tends to become large, thus indicating model inadequacy.

The last column of Table 1 presents the Ljung-Box statistics for the TTSE. For k=5, the critical chi-square at the 5 per cent level is 11.1. From an examination of the results in Table 1 we see that 17 of the 36 stocks (47.2 per cent) are significant at the 5 per cent level. This is consistent with the results of the serial correlation test, and thus, the evidence fails to support the hypothesis that the TTSE is weakly efficient.

Analysis of the Runs Tests

A runs test is a statistical tool used to detect the presence of nonrandom trends in a series of numbers. For testing security prices, a run can be defined as a sequence of price changes of the same sign. Too many or too few runs are unlikely if the sample is random. Under the hypothesis of independence the expected number of runs is

$$m=\frac{\left[N(N+1)-\sum_{i=1}^{3} n_i^2\right]}{N}$$

where N is the total number of observations, and each n_i are the changes of each type, with $i = 1,2,3$, representing the total number of positive (+), negative (-) and zero (0) changes in stock returns. The variance of *m* is

$$S^2(m)=\frac{\sum_{i=1}^{3} n^2_i\left[\sum_{i=1}^{3} n^2_i + N(N+1)\right] - 2N\sum_{i=1}^{3} n^3_i - N^3}{N^2(N-1)}$$

For large N, the sampling distribution of *m* is approximately normal. The standardized variable may be defined as

$$Z = \frac{[\langle R + 0.5 \rangle - m]}{s(m)}$$

where the 0.5 is a discontinuity adjustment, R is the actual number of runs, and *s(m)* is the standard deviation of *m*. For large samples k will be approximately normal with mean 0 and variance 1. It should be pointed out that runs tests are nonparametric and thus do not depend on the assumption of a finite variance.

Table 2 presents the results of the runs test performed on the monthly returns for the common stocks listed on the TTSE. As shown in this Table, one of the striking features of the runs analysis is that for a large number of stocks (67 per cent) the actual number of runs is less than the expected number. This is consistent with the findings of positive first order serial correlation presented in Table 1.

The amount of dependence implied by runs tests can be depicted by the standardized variable Z and (R-m)/m. Both of these measures are presented in Table 2. The values of Z show that for 8 out of the 36 stocks the actual number of runs is more than two standard errors less than the expected number of runs for monthly returns. Fama (1965) has pointed out that the value of Z can be slightly misleading because of its instability; the expected number of runs increases proportionately with sample size, while its standard error increases proportionately with the square root of the sample size. Thus, the percentage difference between the actual and expected number of runs is "probably the more relevant measure of dependence" (Fama, 1965, p. 77). As depicted in Table 2, for the TTSE stocks the percentage difference between the actual and expected number of runs, given by (R-m)/m, ranges from 36 per cent to 0 per cent with a mean absolute value of 7 per cent. Thus, the evidence suggests that significant non-random trends may be present in monthly returns.

The Rank Version of the von Neuman's Ratio Test

An alternative test procedure, the rank von Neuman ratio test, is used to test the null hypothesis of randomness in the series of monthly stock returns. Bartels (1982) has argued that runs tests should be less

TABLE 2: SUMMARY OF RUNS AND RVN TESTS STATISTICS
SAMPLE PERIOD: 1981-1991

TIC	"R" ACTUAL	"m" EXPECTED	VAR (m)	Z	(R-m)/m	RVN
AGH	42	53.93	25.94	-2.245*	-0.221	1.213*
AGO	52	55.74	26.74	-0.626	-0.067	1.787
BAT	25	38.98	16.33	-3.335*	-0.359	1.643*
BER	56	58.92	28.17	-0.455	-0.049	1.472*
BOC	64	59.85	29.10	0.863	0.069	1.334*
CDC	37	52.79	25.05	-3.055*	-0.299	1.261*
CWN	31	38.53	12.58	-1.982*	-0.195	0.990*
FLA	51	51.03	20.97	0.102	-0.001	1.333*
FUR	43	58.92	28.17	-2.904*	-0.270	1.194*
GED	53	58.78	28.28	-0.992	-0.098	1.778
HCN	48	55.46	26.96	-1.340	-0.134	1.292*
LVB	66	59.85	29.10	1.233	0.103	1.338*
MBX	43	53.11	25.61	-1.900	-0.190	1.966
MEA	53	58.63	27.89	-0.971	-0.096	1.899
MEI	23	29.47	13.49	-1.627	-0.220	1.856
NBC	56	57.56	26.86	-0.204	-0.027	0.974*
NCB	60	59.98	29.23	0.096	0.000	2.257
NMY	68	59.58	28.83	1.662	0.141	1.917
PLD	62	56.19	25.56	1.249	0.103	1.014*
REP	69	59.85	29.10	1.789	0.153	1.856
RMX	51	49.00	22.79	0.524	0.041	1.446*
ROY	62	60.00	29.25	0.462	0.033	1.314*
SBK	52	57.56	26.86	-0.976	-0.097	1.667*
STV	39	35.49	16.99	0.972	0.099	1.430*
TCB	51	55.66	25.07	-0.831	-0.084	1.496*
TCL	13	14.33	5.67	-0.350	-0.093	1.533
TPL	46	56.68	26.02	-1.995*	-0.188	1.177*
TRC	32	26.74	12.24	1.647	0.197	1.858
UNI	28	26.38	12.14	0.607	0.061	1.649
VAL	57	58.63	27.89	-0.213	-0.028	1.061*
WBD	41	43.35	20.85	-0.406	-0.054	1.701
WIT	40	59.58	28.83	-3.553*	-0.329	1.299*
WKA	43	39.21	16.93	1.042	0.097	1.908
WLA	28	41.54	13.70	-3.523*	-0.326	1.171*
WLB	53	54.51	24.01	-0.206	-0.028	1.129*
WOL	34	41.39	19.64	-1.555	-0.179	1.595*
AVERAGE	46	49.92	23.13	-0.64	-0.07	1.495

* Denotes significance at the 5% level

powerful than a test based on ranks since runs tests completely ignore the magnitudes of the observations.

The rank version of the von Neuman's ratio test procedure can be summarized as follows. Let R_i be the rank of the ith observation in a sequence of T observations; then the rank version of von Neuman's ratio (RVN) is defined as

$$RVN = \frac{\sum_{i=1}^{T-1} [R_i - R_{i+1}]^2}{\sum_{i=1}^{T} [R_i - \bar{R}]^2}$$

Bartels has provided tables of the critical values for the rank version of the von Neuman ratio. If the actual value is less than the critical value we reject the null hypothesis that the series follows a random walk. The last column of Table 2 presents the results of the application of the RVN ratio test to the data set for the TTSE. The results show that for 23 stocks (46 per cent) the test statistic RVN is significant at the 5 per cent level. This includes the 8 stocks which, under the standardized variable Z of the runs test, were identified as being significant. Consequently, the RVN confirms the results of the runs test and suggests that for a large number of stocks monthly returns are not randomly generated.

Summary

The evidence produced by the various tests suggests patterns of dependence and non-randomness in the generation of monthly returns on the TTSE. Thus, the evidence fails to support the joint hypothesis that the TTSE is weakly efficient and that equilibrium expected returns are constant through time.

TESTS OF EFFICIENCY FOR SUB PERIODS

The analysis thus far has been conducted for the 10 year period beginning from the inception of the TTSE in 1981. Presumably, one can argue that for an emerging stock market there is a learning period in which participants in the market acquire skills in predicting the appearance of new information and its effect on intrinsic values, and in performing statistical analyses of price behaviour. Thus, one can

expect some degree of dependence and non-randomness in returns for the first few years following the establishment of the stock exchange.

To test this hypothesis the entire period 1981 to 1991 was divided into two subperiods of equal length, subperiod 1 from November 1981 to October 1986, and subperiod 2 from November 1986 to October 1991, and measures of independence and randomness were computed for the two subperiods. Due to an insufficient number of observations, 8 stocks were excluded from the set studied for the entire period; consequently, comparisons between the two subperiods are made with respect to the reduced set of 28 stocks.

Serial Correlations

Serial correlation coefficients of monthly returns for the subset of 28 stocks for subperiods 1 and 2 are presented in Tables 3 and 4 respectively, for up to 5 lags. For lag 1 the majority of signs are positive for both subperiods, though more so for the second subperiod. For subperiod 1 only 4 (14 per cent) of the first order serial correlation coefficients are significant at the 5 per cent level, as compared to 13 (46 per cent) for the second subperiod. The average of the first order correlation coefficients was 9 per cent for the first subperiod; for the second subperiod it was 22 per cent. The evidence suggests, therefore, contrary to the learning curve hypothesis, that the TTSE was less efficient in the period November 1986 to October 1991 than in the earlier period November 1981 to October 1986.

Ljung-Box Statistic

The results of the Ljung-Box statistic are presented in the last column of Tables 3 and 4 for subperiods 1 and 2, respectively. For subperiod 1, 6 of the stocks are significant at the 5 per cent level, whereas for subperiod 2, 8 stocks are significant. Thus, these results confirm those of the serial correlation test that the TTSE was less efficient in the second subperiod than in the first.

Runs Tests

Tables 5 and 6 present the results of the runs test for subperiods 1 and 2, respectively. For each subperiod the results of the runs test are consistent with those of the serial correlation test. For subperiod 1

TABLE 3: AUTOCORRELATIONS OF MONTHLY RETURNS: SUB-PERIOD 1: NOV. 1981 TO OCT. 1986

TIC	LAG 1	LAG 2	LAG 3	LAG 4	LAG 5	N	LJUNG-BOX
AGH	0.2704	-0.0491	-0.0068	0.1030	-0.1769	47	6.07
AGO	-0.0023	0.0814	-0.0625	0.0675	0.0350	51	0.92
BAT	-0.1781	0.0682	-0.3211	0.0151	0.1985	27	5.87
BER	0.1529	0.0607	-0.0302	0.1979	-0.0013	58	4.24
BOC	0.0398	0.1456	0.0244	0.0068	0.0175	58	1.47
CDC	-0.0212	-0.3841*	0.0358	-0.1319	-0.0346	58	10.48
CWN	0.1610	-0.0701	-0.2301	-0.2458	0.1154	50	8.75
FLA	-0.0046	0.0679	0.1148	0.0784	0.1117	58	2.34
FUR	0.3750*	-0.0907	-0.1192	0.0418	0.0193	58	10.13
GED	0.1138	0.0143	0.0628	0.0505	-0.1480	58	2.66
HCN	0.1460	-0.0951	-0.3441*	-0.1050	0.1681	58	11.92*
LVB	0.1385	0.1302	-0.4918*	-0.1341	-0.1630	58	20.43*
MBX	-0.1840	0.1638	-0.1847	-0.1285	-0.1244	58	7.97
MEA	0.0841	-0.2531	-0.0677	-0.0318	0.3639	58	13.46*
NBC	0.4682*	0.3179*	0.1280	0.1240	0.0951	58	22.28*
NCB	-0.0317	0.0557	-0.0755	0.0207	0.1644	58	2.42
NMY	-0.1400	0.0694	0.0366	-0.1296	0.0761	58	3.04
PLD	0.3209*	0.0953	0.0197	-0.0092	0.1380	58	8.13
REP	-0.0209	-0.0673	0.0100	0.0956	0.0730	58	1.25
RMX	-0.0730	0.1244	0.3446	0.0309	0.0001	40	6.35
ROY	0.0934	0.0576	0.0384	0.0508	0.3064*	58	7.16
SBK	-0.0746	0.0253	-0.1281	-0.0692	0.0712	58	2.06
TCB	0.1644	0.0694	-0.1081	-0.0234	-0.0834	58	1.96
TPL	0.0632	0.1961	-0.1496	0.0024	0.0613	58	4.30
VAL	0.2519	0.2991*	0.1979	0.0687	0.3121*	58	18.61*
WIT	-0.1105	0.0905	0.1149	-0.0025	-0.0030	58	2.09
WLA	0.1661	0.0212	-0.1595	-0.1185	-0.0994	58	4.88
WLB	0.2940*	0.2235	0.3249*	0.4713*	0.3738*	58	38.55*
AVG	0.088	0.049	-0.037	0.011	0.067	55	8.21

* Denotes Significance at the 5% level.

the actual number of runs was less than the expected number for 17 stocks, this is consistent with the 17 positive signs for the first order serial correlation coefficients. A similar result was obtained for the second subperiod; the actual number of runs was less than the expected for 24 out of the 28 stocks. Thus, monthly returns were less random in the second subperiod than in the earlier period.

The Rank Version of the von Neuman Ratio Test

Results for the rank version of the von Neuman ratio test are presented in the last columns of Tables 5 and 6 for subperiods 1 and 2, respectively. For the earlier period 13 of the 28 stocks are significant

TABLE 4: AUTOCORRELATIONS OF MONTHLY RETURNS: SUB-PERIOD 2: NOV. 1986 TO OCT. 1991

TIC	LAG 1	LAG 2	LAG 3	LAG 4	LAG 5	N	LJUNG-BOX
AGH	0.2828*	0.1145	-0.0408	-0.1114	0.0883	60	7.34
AGO	0.0624	0.2128	-0.1241	-0.0685	-0.0484	60	4.63
BAT	-0.1330	0.2279	0.1542	-0.0633	0.0139	60	6.28
BER	0.2925*	0.0470	0.0554	-0.0713	-0.1109	60	6.91
BOC	0.4083*	0.0040	-0.3577*	-0.3932*	-0.1616	60	30.90*
CDC	0.4158*	0.2201	0.0783	0.0272	0.0071	48	11.73*
CWN	0.1738	-0.0480	-0.0552	-0.0584	-0.0519	60	2.66
FLA	0.3124*	0.1666	0.0669	-0.0055	0.1497	60	9.74
FUR	0.0940	-0.2573*	-0.0453	-0.0749	-0.0272	60	5.36
GED	-0.0516	-0.1916	-0.0507	0.0635	0.3043*	59	9.08
HCN	0.4421*	0.0472	0.0024	0.1178	0.1878	51	13.56*
LVB	0.4558*	0.1312	0.0505	0.1761	0.1859	60	18.77*
MBX	0.3383*	-0.0970	-0.1721	0.0479	-0.0959	47	8.39
MEA	-0.2058	-0.1338	0.1065	0.0252	-0.0637	60	4.88
NBC	0.3737*	0.0106	-0.1027	-0.1097	-0.0909	60	10.86
NCB	-0.2373	-0.1120	0.0835	0.2473	0.0251	60	8.92
NMY	0.2028	0.1721	0.0597	0.1619	0.2117	60	9.50
PLD	0.6799*	0.5419*	0.4222*	0.1809	0.0338	60	61.87*
REP	0.2510*	-0.0489	-0.1804	-0.0774	-0.0911	60	7.21
RMX	0.2120	0.0917	-0.0048	-0.2181	-0.2125	60	9.59
ROY	0.4287*	0.0281	-0.0818	-0.1380	-0.0115	60	13.35*
SBK	0.1825	0.0814	-0.2578*	-0.2232*	-0.0717	60	10.52
TCB	0.2002	-0.1204	-0.1213	-0.0051	0.3066	60	10.78
TPL	0.3963*	0.1055	-0.0700	-0.1522	0.0530	60	12.66*
VAL	0.1147	0.0873	0.0001	-0.0622	0.0317	60	1.64
WIT	0.2350	0.2430	0.3307*	0.0669	-0.0204	60	14.73*
WLA	0.1129	0.0768	-0.0110	-0.0111	-0.0114	60	1.21
WLB	0.2314	0.1174	0.0207	0.0375	-0.0783	60	4.80
AVG	0.22	0.06	-0.01	-0.02	0.02	59	11.35

* Denotes Significance at the 5% level.

at the 5 per cent level. For the latter period 22 of the 28 stocks are significant. These results support the results of the runs test and it is concluded that monthly returns were less random for the period November 1986 to October 1991 as compared to the earlier period November 1981 to October 1986.

Summary

The overall evidence fails to give clear support to the weak form efficient markets hypothesis for both subperiods. Moreover, contrary to the learning curve hypothesis, the TTSE was less weak form inefficient in the five year period immediately after its establishment, i.e.

TABLE 5: SUMMARY OF RUNS AND RVN TESTS STATISTICS
SUB-PERIOD 1: NOV. 1981 TO OCT. 1986

TIC	"R" ACTUAL	"m" EXPECTED	VAR (m)	Z	(R-m)/m	RVN
AGH	21	24.40	11.40	-0.860	-0.139	1.42*
AGO	28	26.49	12.49	0.569	0.057	2.09
BAT	12	14.33	6.32	-0.729	-0.163	2.23
BER	32	29.86	14.11	0.702	0.072	1.57*
BOC	27	25.83	10.38	0.519	0.045	1.98
CDC	23	28.31	12.61	-1.355	-0.188	1.62
CWN	20	23.44	9.82	-0.938	-0.147	1.20*
FLA	25	25.03	9.71	0.149	-0.001	1.82
FUR	21	29.86	14.11	-2.226*	-0.297	1.11*
GED	29	30.00	14.25	-0.132	-0.033	1.51*
HCN	26	28.76	13.03	-0.626	-0.096	1.51*
LVB	28	29.14	13.40	-0.174	-0.039	1.48*
MBX	31	29.69	13.94	0.485	0.044	2.30
MEA	26	29.45	13.70	-0.797	-0.117	1.78
NBC	31	27.79	12.12	1.065	0.115	0.96*
NCB	33	29.45	13.70	1.095	0.121	1.91
NMY	24	29.45	13.70	-1.337	-0.185	2.13
PLD	31	27.21	11.59	1.261	0.139	1.73
REP	32	28.31	12.61	1.180	0.130	2.12
RMX	16	20.20	8.96	-1.236	-0.208	2.00
ROY	30	26.55	11.01	1.190	0.130	1.63
SBK	24	25.83	10.38	-0.412	-0.071	2.10
TCB	33	29.86	14.11	0.969	0.105	1.93
TPL	21	27.79	12.12	-1.807	-0.244	1.21*
VAL	32	29.14	13.40	0.919	0.098	1.25*
WIT	18	29.45	13.70	-2.958*	-0.389	1.17*
WLA	18	27.21	11.59	-2.558*	-0.338	1.49*
WLB	23	25.83	10.38	-0.722	-0.109	1.29*
AVERAGE	25	27.10	12.09	-0.31	-0.06	1.66

* Denotes significance at the 5% level

from November 1981 to October 1986, as compared to the five year period November 1986 to October 1991.

LONG HORIZON TESTS

Long Horizon Autocorrelations

In order to provide evidence of efficiency over periods longer than 1 month, the Fama and French (1988) test which centers on slopes in regressions of $r(t, t+T)$ on $r(t-T, t)$ was employed. This test regresses multiperiod returns on lagged multiperiod returns. It should be pointed out that Ordinary Least Squares estimates have a bias that depends on

TABLE 6: SUMMARY OF RUNS AND RVN TESTS STATISTICS
SUB-PERIOD 2: NOV. 1986 TO OCT. 1991

TIC	"R" ACTUAL	"m" EXPECTED	SIGMA (m)	Z	(R-m)/m	RVN
AGH	28	30.70	14.45	-0.579	-0.088	1.02*
AGO	22	29.37	13.16	-1.893	-0.251	1.44*
BAT	15	24.47	8.94	-3.000*	-0.387	1.59
BER	26	28.30	12.17	-0.516	-0.081	1.51*
BOC	30	30.87	14.61	-0.096	-0.028	1.09*
CDC	20	24.63	11.37	-1.223	-0.188	0.92*
CWN	15	22.47	7.45	-2.553*	-0.332	1.31*
FLA	34	30.47	14.22	1.070	0.116	1.51*
FUR	16	28.87	12.69	-3.472*	-0.446	1.26*
GED	26	29.47	13.49	-0.810	-0.118	1.99
HCN	18	24.29	10.39	-1.798	-0.259	0.89*
LVB	32	30.97	14.71	0.400	0.033	1.28*
MBX	23	23.98	10.98	-0.144	-0.041	1.15*
MEA	20	28.30	12.17	-2.236*	-0.293	1.95
NBC	19	23.50	8.20	-1.397	-0.191	1.54*
NCB	25	29.37	13.16	-1.066	-0.149	2.45
NMY	33	30.47	14.22	0.804	0.083	1.80
PLD	32	26.20	10.34	1.960*	0.221	1.34*
REP	27	28.87	12.69	-0.384	-0.065	1.56
RMX	24	29.37	13.16	-1.342	-0.183	1.38*
ROY	27	30.87	14.61	-0.881	-0.125	1.13*
SBK	30	30.97	14.71	-0.122	-0.031	1.29*
TCB	18	26.20	10.34	-2.395*	-0.313	1.20*
TPL	23	28.30	12.17	-1.376	-0.187	1.20*
VAL	19	25.37	9.65	-1.889	-0.251	1.09*
WIT	29	30.97	14.71	-0.382	-0.064	1.46*
WLA	11	11.80	1.79	-0.224	-0.068	1.68
WLB	24	27.67	11.60	-0.930	-0.133	1.55*
AVERAGE	24	27.39	11.86	-0.95	-0.14	1.41

* Denotes significance at the 5% level

the true slopes, sample sizes and the overlap of monthly data on long horizon returns. Fama and French state that proper bias adjustments are difficult to do analytically and use simulations to estimate the bias adjustments. In this study bias adjustments were not attempted.

For stocks on the TTSE long horizons returns were computed using the methodology of Fama and French. The basic data are the 1 month returns for those stocks that were listed over the entire period November 1981 to October 1991. There were 19 such stocks. The 1 month returns were transformed into continuously compounded returns and then summed to get overlapping monthly observations on longer horizon returns.

Table 7 shows slopes in regressions of $r(t, t+T)$ on $r(t-T, t)$ for return horizons from 6 to 30 months for the 19 stocks. For all the stocks there is a preponderance of positive signs, which indicates strong positive serial correlation. The slopes are generally large in magnitude with 48 per cent being significant at the 5 per cent level for the 12, 24 and 30 month horizons. This result is different from that of Fama and French, where they found evidence of negative serial correlation for portfolios of NYSE stocks, and that implied by the mean reversion hypothesis, where it is predicted that returns must be negatively serially correlated at some frequency if divergences from fundamental values are to be eliminated by speculative forces, or if there exist time varying equilibrium expected returns on the part of rational investors.

TABLE 7: LONG HORIZON FIRST ORDER AUTOCORRELATION PERIOD 1981 TO 1991

TIC	6 MTH	12 MTH	18 MTH	24 MTH	30 MTH
BER	-0.1254	-0.1105	-0.0718	-0.6596*	-0.9851*
BOC	-0.0180	0.2359*	0.4960*	0.4339*	0.3778*
FLA	0.2521*	-0.0681	-0.2759*	-0.1494	0.1679
FUR	-0.0235	0.0717	0.1138	0.0581	-0.0490
LVB	0.0101	-0.4462*	-0.6284*	-0.7978*	-0.6882*
MEA	0.2104*	0.2204*	0.2340	0.3535*	0.4674*
NBC	0.2040*	0.2013*	-0.1538	-0.2485*	-0.1646
NCB	0.2403*	0.6617*	1.1971*	1.4333*	1.5800*
NMY	0.5037*	0.3263*	0.4193*	1.0800*	2.7371*
PLD	0.3115*	0.0458	-0.2680*	-0.4141*	-0.4523*
REP	0.3206*	0.6869*	0.9588*	1.3116*	1.6537*
ROY	0.2778*	0.4401*	0.3164*	-0.0612	-2.3184*
SBK	-0.0353	0.2856*	0.2942*	0.4815*	0.6939*
TCB	-0.0184	0.1247	-0.0033	-0.3442*	-0.3324*
TPL	0.3418*	0.2567*	0.0161	-0.1732	-0.2194
VAL	0.2469*	0.2651*	0.0984	0.0571	-0.2804
WIT	-0.0402	-0.3465*	-0.1676	-0.5666*	-0.6026*
WLA	0.0239	0.2338*	0.1501	-0.5436*	-0.9981*
WLB	0.4884*	0.4005*	0.1801	-0.4004*	-1.1277*
AVG	0.1669	0.1834	0.1529	0.0448	-0.0284

* Denotes significance at the 5% level

The Variance Ratio Test

The variance ratio test exploits the fact that if the logarithm of the stock prices follow a random walk, the return variance should be

proportional to the return horizon. In this study the variability of returns at different horizons is examined in relation to the variance over a 12 month period. For monthly returns, the variance ratio statistic is therefore,

$$VR(k) = \frac{\text{Var}(R_t^k)}{k} \Big/ \frac{\text{Var}\,(R_t^{12})}{12}$$

where

$$R_t^k = \sum_{i=0}^{k-1} R_{t-i}$$

denoting the total return in month t. This statistic converges to unity if returns are uncorrelated through time. A variance ratio less than 1 implies negative serial correlation; a ratio greater than 1 implies positive serial correlation.

Table 8 presents the variance ratio statistic for horizons of 6, 18, 24 and 30 months. With the exception of the 6 month horizon, the

TABLE 8: VARIANCE RATIOS FOR TTSE MONTHLY RETURNS 1981 TO 1991

TIC	6 MONTH	18 MONTH	24 MONTH	30 MONTH
BER	1.248	1.064	1.190	1.211
BOC	1.295	0.872	0.993	1.198
FLA	0.730	1.120	0.878	0.433
FUR	0.952	0.715	0.311	0.136
LVB	0.889	0.837	0.676	0.565
MEA	0.746	1.214	1.222	0.732
NBC	0.939	1.258	1.127	0.711
NCB	0.765	1.089	1.134	1.067
NMY	0.609	1.264	1.334	1.327
PLD	0.684	1.255	1.310	0.724
REP	0.717	1.293	1.560	1.736
ROY	0.717	1.296	1.655	2.000
SBK	1.000	0.626	0.426	0.503
TCB	1.164	0.971	1.220	0.927
TPL	0.917	1.744	1.934	1.418
VAL	0.714	1.255	1.209	1.048
WIT	1.519	0.600	0.587	0.567
WLA	0.914	1.136	1.362	1.555
WLB	0.622	1.426	1.767	1.940
AVG	0.902	1.107	1.152	1.042

variance ratio statistics are greater than unity for all horizons. This provides evidence of positive serial correlation and thus supports the results of the long horizon regression test. However, this result of positive serial correlation for the TTSE stocks is the opposite of what Poterba and Summers found for stocks on the NYSE and for markets in the UK and Canada.

Summary

The evidence produced by the long horizon tests indicates the existence of positive serial correlation for returns for periods ranging from 6 to 30 months. The evidence, therefore, fails to support the capital market efficiency hypothesis for periods longer than one month. Moreover, it is not consistent with the mean reversion hypothesis which predicts that returns should display negative serial correlation.

IV. CONCLUSION

This study examined the weak form capital market efficiency hypothesis for common stocks trading on the Trinidad and Tobago Stock Exchange. If the TTSE is weak form efficient, current security prices fully reflect any information in past prices and thus investors are unable to predict future prices on the basis of past prices.

A number of statistical tests were applied to monthly return data for the period November 1981 to October 1991. The evidence produced by these tests suggests patterns of dependence and nonrandomness in the generation of monthly returns on the TTSE, and, therefore, fails to support the joint hypothesis that the TTSE is weakly efficient and equilibrium expected returns are constant through time. The capital market efficiency hypothesis was also examined for two subperiods: November 1981 to October 1986 and November 1986 to October 1991. For both subperiods there was evidence of positive serial correlation and nonrandomness; however, the evidence was much stronger for the latter subperiod. This is contrary to the hypothesis that in an emerging stock market there is a learning period in which participants acquire the degrees of sophistication and skills necessary for the development of an efficient capital market.

The long horizon regression test and the variance ratio test were applied in examining return predictability over the longer term. The evidence indicates the existence of positive serial correlation for

horizons of length 6 to 30 months. This result is the opposite to those found for the stock markets of the US, UK and Canada. Moreover, the evidence of long term positive serial correlation for the TTSE does not conform to the mean reversion hypothesis.

On the basis of the evidence for both the short and long term horizons the hypothesis that the TTSE is weakly efficient is rejected. This raises the joint hypothesis problem. Any test of efficiency is simultaneously a test of the assumptions about market equilibrium. Since the tests do not support the efficient capital markets hypothesis the issue is raised as to whether the TTSE is indeed weakly inefficient or the model of market equilibrium used is not an appropriate one. Moreover, the tests we have applied are based on the assumptions of market equilibrium consistent with a developed economy. The failure to accept the weakly efficient capital market hypothesis for the TTSE may be due to illiquidity, low and unsteady trading volumes, and institutional arrangements. However, a relevant issue, which warrants theoretical investigation, is the degree to which models of market equilibrium constructed for developed economies are applicable to capital markets of developing economies.

REFERENCES

Bartels, R. (1982). "The Rank Version of the Von Neumann's Ratio Test for Randomness", *Journal of the American Statistical Association* 77, 40-6.

Conrad, J. and G. Kaul. (1988). "Time-variation in Expected Returns", *Journal of Business* 61, 409-25.

De Bondt, W.F.M., and R.H. Thaler. (1985). "Does the Stock Market Overreact", *Journal of Finance* 40, 793-805.

De Bondt, W.F.M., and R.H. Thaler. (1987). "Further Evidence on Investor Overreaction and Stock Market Seasonality", *Journal of Finance* 42, 557-81.

_____. (1989). "Anomalies: A Mean Reverting Walk Down Wall Street", *Journal of Economic Perspectives* 3, 189-202.

Fama, E.F. (1965). "The Behaviour of Stock Market Prices", *Journal of Business* 38, 34-105.

_____. (1970). "Efficient Capital Markets: A Review of Theory and Empirical Work", *Journal of Finance* 25, 383-417.

_____. (1976). *Foundations of Finance*, New York: Basic Books.

_____. (1991). "Efficient Capital Markets II", *Journal of Finance* 46, 1575-1617.

Fama, E.F. and K.R. French. (1988). "Permanent and Temporary Components of Stock Prices", *Journal of Political Economy* 96, 246-273.

_____. (1989). "Business Conditions and Expected returns on Stocks and Bonds", *Journal of Financial Economics* 25, 23-49.

French, K.R. and R. Roll. (1986). "Stock Return Variances: The Arrival of Information and the Reaction of Traders", *Journal of Financial Economics* 17, 5-26.

Gandhi, D.K., A. Saunders and R.S. Woodward. (1980). "Thin Capital Markets: A Case Study of the Kuwaiti Stock Markets", *Applied Economics* 12, 341-9.

Jegadeesh, N. (1990). "Evidence of Predictable Behaviour of Security Returns", *Journal of Finance* 45, 881-98.

Ljung, G.M. and G.E.P. Box. (1978). "On a Measure of Lack of Fit in Time Series Models", *Biometrika* 65, 297-303.

Lehmann, B.N. (1990). "Fads, Martingales and Market Efficiency", *Quarterly Journal of Economics* 105, 1-28.

Lo, A.W. and A.C. MacKinlay. (1988). "Stock Prices do not Follow Random Walks: Evidence from a Simple Specification Test", *Review of Financial Studies* 1, 41-66.

Panas, E.E. (1990). "The Behaviour of Athens Stock Prices", *Applied Economics* 22, 1715-27.

Poterba, J. and L. Summers. (1988). "Mean Reversion in Stock Prices: Evidence and Implications", *Journal of Financial Economics* 22, 27-57.

Wong, K.A. and K.S. Kwong. (1984). "The Behaviour of Hong Kong Stock Prices", *Applied Economics* 16, 905-17.

Working, H. (1960). "A Note on the Correlation of First Differences of Averages in a Random Chain", *Econometrica* 28, 916-918.

Some Observations on the Behaviour of Trinidad and Tobago's Foreign Reserves

Ramesh Ramsaran

INTRODUCTION

'International reserves' refer to assets which governments use to settle debts with each other. On the other hand, the term 'liquidity' is often used to describe the 'stock' or availability of such assets, particularly in relation to perceived needs. It is not uncommon to hear, therefore, of references to 'the liquidity of a monetarty authority', or 'the liquidity of the world trading' or 'international payments system'. It is not always clear what are the standards against which adequacy is being discussed, and therefore this is an area surrounded by a great deal of controversy.

Acceptability is the crucial criterion in defining foreign reserves. In a situation where "all currencies were backed 100 per cent by a single commodity such as gold, or where all exchange rates were freely flexible, every national currency could be used to discharge trading debts in any country. Where rates of exchange are fixed by government fiat, however, or where fiduciary issues are pegged in relation to other currencies or to gold, different currencies are substitutable as media or exchange only as long as each is freely obtainable at prevailing rates in all countries".[1] The international economy of today is characterised by a variety of exchange regimes. While there is an increasing tendency towards exchange liberalization, national monetary authorities tend to manage the exchange rate by intervening discreetly in the foreign currency market when they perceive the need to do so. Authorities which do not wish to leave the exchange rate completely to market forces, would therefore, still need a reserve fund of foreign currencies which are widely acceptable. Foreign reserves now embrace certain foreign currencies, gold, the IMF reserve positions and SDR holdings. In a global context foreign currency still accounts for over 70 per cent of world reserves, notwithstanding

the desire expressed many years ago that the Special Drawing Right (SDR) should become the world's major reserve asset (see Table 1).

In the category of foreign exchange the US dollar still features as the most important single currency. At the end of 1992 this currency accounted for 64.4 per cent of total official holdings of foreign exchange followed by the Deutsche Mark (13.0 per cent) and the Japanese yen (8.1 per cent).

Basically, foreign reserves are used as a buffer against the need to make adjustments every time there is a disturbance in the balance of payments. They provide an insurance in the sense that payments to trading partners can be made in the event that current receipts were to fall, or even cease altogether. In the absence of reserves a country would either have to borrow to finance an external deficit

TABLE 1: IMF MEMBER STATES: OFFICIAL HOLDINGS OF RESERVE ASSETS (END OF MARCH, 1993)

Type of Reserve Asset	SDRs billions	%
Reserve position in the Fund	33.8	3.7
SDRs	13.5	1.5
Foreign Exchange	635.0	70.3
Gold[1]	221.4	24.5
Total	**903.7**	**100.0**

[1] Valued at London market prices

Source: IMF, *Annual Report*, 1993

(assuming no gifts are forthcoming), or curtail imports. Current account deficits, of course, can be covered by capital inflows, but these can be highly unpredictable. Given the vagaries surrounding external receipts and payments, what constitutes an 'adequate' level of reserves has been a controversial issue. Some writers have posed the question in terms of the 'demand' for reserves, and have proceeded to identify factors which can explain particular levels of reserves. 'Demand' in this sense may bear no relationship to needs. In defining adequacy, one has to do so in relation to objective magnitudes and the question is which are most suitable? For purposes of discussion four main reasons are often distinguished for holding official reserves:[2]

1) to accommodate systematic and random fluctuations in current account receipts and payments;
2) to allow for temporary non-speculative variations in capital account items;
3) to buy time when a country finds itself in fundamental disequilibrium — time to determine whether or not such a situation exists, time to decide by how much prevailing exchange rates should be altered, time to devise domestic policies that will maximize the effectiveness of the proposed changes; and
4) to enable a country to weather speculative storms.

It is well recognized that the level of reserves held at any point in time is not solely the result of economic rationale. Countries exist in an uncertain and unpredictable environment and tend to feel safer with a high level of reserves. Political and psychological factors exert their influence on levels beyond what is required for transaction purposes.

Factors Affecting the Level of Reserves Holdings

As indicated earlier, reserves are needed to make international payments, and in terms of acceptability only certain assets qualify to be included. The currencies of a few industrial countries which feature significantly in foreign trade are the most import medium for settling international transactions. A major reason for holding reserves stems from the unpredictability in patterns of foreign exchange receipts and payments, and the fact that the two are often not synchronized. Reserves are also held for contingency purposes in the event of deficits or to deal with the effects of speculation. Without reserves the temptation would be to institute controls or devalue the currency. Some Central Banking legislations often posit an explicit relationship between reserves and currency in circulation and/or demand liabilities, with the aim of putting a restraining influence on the Central Bank, or simply as a measure to enhance confidence in the local currency.[3] Reserves are also needed to intervene in the foreign exchange market in defence of a particular parity or variation band. Under a floating regime the need for reserves may be less, but there are other reasons which make reserves necessary.

Because of differing circumstances, what may be an appropriate level of reserves for one country may not be so for others. The average and marginal propensities to import vary widely. Countries have different export structures and this can also have a great bearing on fluctuations in foreign exchange receipts. Besides these factors, policy markers may view a high level of reserves as a way of cultivating confidence in the country and increasing credit rating.

The Trinidad and Tobago Experience Since the Early 1980's

One effect of the oil boom experienced in the 1970's and early 1980's was a significant increase in net foreign reserves[4] which climbed to over TT$7 billion in 1980 (see Table 2). With the subsequent decline in oil prices and domestic production, the level of foreign reserves fell rapidly. Between 1982 and 1987 the level of reserves fell by over 100 per cent. By July 1988 net foreign reserves became negative for the first time. The ratio of reserves to imports of goods and services declined from over 100 per cent in 1982 to less than 2 per cent in 1988. Since then this ratio, like other related statistics, has moved erratically. In terms of the number of months imports the level of reserves dropped from over twelve months imports in 1981 to less than one month in 1988. In 1989-91 the position improved slightly, but in 1992 the average net foreign reserves were negative in every month. An interesting point to note in Table 2 is that the net foreign reserves position of the commercial banks has been positive since 1988 and this has tended to offset the erratic movements in official reserves.

Between 1982 and 1987 net foreign reserves declined at an average rate of about TT$1.3 billion per year. Table 3 casts some light on the factors behind the movements in foreign reserves in the 1980's. The trade balance worsened in 1982 and 1983, but has been negative in only one year since, and that was in 1986. On the other hand, with the exception of 1982, the services balance has been consistently negative. Between 1980 and 1992 the negative balances in the services account amounted to some TT$15.2 billion. The relatively large service payments have tended to offset the positive trade balances. Interest payments relating to Government external loans and profit remittances are the major items in services account. Capital inflows since the early 1980's have dropped significantly. Between 1984 and 1992 there was a net outflow of TT$3,731 million.

TABLE 2: THE RELATIONSHIP OF NET FOREIGN RESERVES TO SELECTED VARIABLES, 1980-92

YEAR	Net Foreign Reserves[1] TT$ million			(4) (1) as a% of Imports of Goods and Services	(5) (1) in Terms of Number Months Imports	(6) (3) as a % of Currency in Circulation	(7) (1) as a % of M(1)	(8) (1) as a % of m(2)
	Total (1)	Commercial Banks (2)	Official (3)					
1980	5,215.2	-26.8	5,242.0	89.4	10.7	1,214.3	309.2	114.0
1981	6,575.6	-77.6	6,653.2	110.4	13.3	1,350.9	424.8	131.8
1982	7,104.8	-69.0	7,173.8	88.0	10.6	1,127.6	349.1	107.9
1983	5,354.5	-133.4	5,487.9	70.4	8.4	717.8	234.3	72.6
1984	3,295.0	-169.7	3,464.7	52.4	6.3	465.9	154.2	40.2
1985	2,393.2	-106.0	2,499.2	46.6	5.6	356.3	120.8	28.8
1986	1,805.4	-56.5	1,861.9	25.9	3.1	266.9	96.9	22.2
1987	624.5	-55.7	680.2	11.1	1.3	98.4	36.1	7.6
1988	77.9	96.1	-18.2	1.3	0.2	(2.7)	4.9	0.9
1989	354.7	268.3	86.4	5.6	0.7	13.0	21.5	4.0
1990	618.0	288.5	329.5	10.0	1.2	46.5	33.7	6.8
1991	621. 8	225.3	396.5	8.4	1.0	53.9	26.9	6.4
1992	-234.9	236.0	-470.9	(3.6)	(0.4)	(68.2)	(9.8)	(2.6)

1 Average end of quarter balances

M(1) = Narrow Money Supply (Currency in circulation plus Bank Demand Deposits (adj.))

M(2) = M(1) plus Bank Savings and Time Deposits (Adjusted)

The money supply data are annualized by taking the average of end of quarter figures

Sources: Calculated from official publications

TABLE 3: SELECTED BALANCE OF PAYMENTS DATA, 1980-92

Year	Trade Balance	Services Balance	Current Account Balance	Overall Balance	Net Capital Movements[1]	Export Ratio[2]	Import Ratio[3]
1980	1,292	-115	803	-1,472	394	50.4	39.0
1981	1,331	-183	956	1,365	527	43.8	35.5
1982	-1,333	52	-1,616	-525	975	34.3	41.3
1983	-1,171	-1,018	-2,464	-2,163	248	30.9	40.8
1984	462	-1,529	-1,337	-1,749	-61	32.1	33.7
1985	1,430	-1,542	-263	-262	328	32.6	28.4
1986	-387	-1,751	-2,275	-2,414	68	33.3	40.4
1987	801	-1,559	-891	-900	104	33.9	32.5
1988	1,079	-1,417	-452	-634	83	38.9	34.1
1989	1,411	-1,590	-284	-661	-611	42.6	34.7
1990	3,512	-1,577	1,828	-808	-2,213	45.4	28.4
1991	1,449	-1,482	-88	-1,326	-1,113	41.3	32.9
1992[p]	2,114	-1,527	508	-526	-316	43.8	31.8

[p] Provisional

1. Excluding reserves
2. Exports of goods and services as a % of GDP at current market prices
3. Imports of goods and services as a % of GDP at current market prices

Sources: Official Publications

The following section speculates on some of the factors affecting movements in foreign reserves through the use of regression analysis. Before we do this, however, it was thought useful to compare variability of selected variables by regressing them on 'time'. The results are presented in Table 4. Using the coefficient of variation as the measure of variability, 'imports of goods and services' appear to have had the lowest variability between 1980 and 1992, with 'net capital inflows' experiencing the highest.

Factors Affecting Movements in the Reserves Level

The trade balance, the services balance and net capital movements can be considered the major direct factors affecting changes in reserves. A simple regression using Net Foreign Reserves (NFR) as the dependent variable and the Trade Balance (TB) and Services Balance (SB) as dependent variables yielded the following result:

Equation (1)

$$NFR = \underset{(678.59)}{6832.11} - \underset{(0.27)}{0.63\,TR} \quad \underset{(0.54)}{3.11\,SB}$$

$$\bar{R}^2 = 0.81$$

$$D.W. = 1.40$$

All the data used in regression exercises in this paper are in TT$ million. Throughout, the figures in parentheses refer to standard errors. While the $\bar{R}^2$ in Eq. (1) is high and the standard errors are within acceptable range, the D.W. statistic indicates a problem of serial correlation. The signs associated with the coefficients of the dependent variables are not what one would expect by examining the balance of payments data. The addition of Net Capital Inflows (NCI) as a dependent variable did not improve the equation.

In the next stage of the exercise we attempted to identify some of the 'indirect' factors affecting movements in reserves. A noticeable point is that there is a much stronger relationship between the level of foreign reserves and the import ratio than with the export ratio or with the level of imports. Based on the data for 1980-92, the regression with the average import ratio (AIM) as the independent variable yielded the following equation:

TABLE 4: SELECTED VARIABLES REGRESSED ON 'TIME': 1980-92

Dependent Variable	Constant Term	Independent Variable 'Time'	$\bar{R}^2$	D.W. Statistic	S.D. of Dependent Variable	Coefficient of Variation %
NFR	6280.19 (599.92)	-613.29 (84.84)	81.0	0.76	2627.82	101.0
EXP	5916.73 (639.71)	212.00 (90.47)	0.27	0.45	1430.79	20.0
IMP	6452.34 (464.41)	-0.90 (65.68)	-0.09	1.80	848.32	13.1
TRA	-173.94 (603.07)	182.71 (85.29)	0.23	1.17	1311.43	142.2
SER	-414.17 (228.08)	-126.33 (32.26)	0.54	0.69	644.69	-55.0
CAB	-819.21 (699.64)	69.32 (98.94)	-0.04	1.25	1306.20	-323.9
NCI	842.22 (286.84)	-166.06 (40.57)	0.57	1.64	832.35	-540.0
BOP	-836.11 (524.54)	-15.45 (74.18)	-0.08	2.23	960.03	-103.3

Note: The data used were in TT$ million. The figures in parentheses are standard errors.

S.D. = Standard Deviation
1. NFR = Net Foreign Reserves
2. EXP = Exports of Goods and Services
3. IMP = Imports of Goods and Services
4. TRA = Balance of Visible Exports
5. SER = Balance on the Services Account of the Balance of Payments
6. CAB = Balance on the Current Account of the Balance of Payments
7. NCI = Net Capital Inflows
8. BOP = Overall Balance of payments

Equation (2)

$$NFR = \underset{(4934.12)}{-10{,}667.62} + \underset{(140.43)}{380.34}\ AIM$$

$$\bar{R}^2 = 0.34$$

$$D.W. = 1.12$$

The import ratio fell from the early 1980's and this may explain the positive sign associated with the coefficient. The value of the D.W. statistic, however, should deter us from drawing firm conclusions from the equation. It is worth noting that the average import ratio proved to be a far more significant explanatory variable than the marginal propensity to import.

Reserves and the Money Supply

In Trinidad and Tobago the Central Bank Act does not lay down any strict relationship between currency in circulation and foreign reserves. Section 33(i) of the Central Bank Act 1964 simply states that the Bank "shall at all times hold assets of an amount in value sufficient to cover fully the value of the total amount of notes and coins for the time being in circulation".[5] Assets could include treasury bills and securities issued or guaranteed by the Trinidad and Tobago Government. There was, however, a limit placed on such holdings.

As can be seen in Table 2 (column 6), official reserves as a proportion of currency in circulation declined steeply in the 1980's. It is not unreasonable to expect that in an open economy there would be some relationship between the money supply and reserves. An increase in the money supply tends to be reflected in an increased demand for imports, and hence on the level of reserves. Columns 7 and 8 of Table 2 show the ratio of reserves to the narrow money supply (M1) and the broad money supply (M2) respectively.

When reserves were regressed on the Narrow Money Supply (M1), the relationship proved to be very weak. However, when the regression was run on annual changes of the two variables, the R^2 increased significantly but the money supply variable came out with a positive sign. When the 'marginal propensity to import' was included as an additional explanatory variable, the adjusted R^2 not only increased, but the D.W. statistic assumed a far more acceptable value. The result is presented in Equation (3).

Equation (3)

$$CFNR = \underset{(228.96)}{-621.11} + \underset{(1.12)}{3.01\ CMI} - \underset{(4.13)}{5.34\ MIM}$$

$\bar{R}^2 = 0.31$
D.W. = 1.67

CFNR = Annual change in net foreign reserves

CMI = Annual change in narrow money supply

MIM = Marginal propensity to import

Experiments using annual changes in the 'broad money supply' (M2) and the level of reserves yielded very poor results. However, when 'net foreign reserves' was regressed on the broad money supply, the following equation resulted:

Equation (4)

$$NFR = \underset{(5198.).04)}{17{,}400.77} - \underset{(0.61)}{1.84\ M2} \qquad \text{(Period: 1981-1992)}$$

$\bar{R}^2 = 0.77$
D.W.= 1.30

Instead of using net foreign reserves as the dependent variable, an exercise was carried out using imports as a substitute. The equation using the absolute level of the broad money supply as the independent variable produced the worst results. The best of the equations was obtained when the level of imports (IMP) was regressed on the annual changes in the narrow money supply.

Equation (5)

$$IMP = \underset{(180.57)}{6284.02} + \underset{(0.74)}{2.46\ CCMI}$$

$\bar{R}^2 = 0.45$
D.W.= 1.92

CCMI = Annual changes in the narrow money supply

In the equation using the level of imports and the money supply the adjusted R^2 varied widely, but the value of the D.W. statistic in all cases did not indicate any serious serial correlation problem.

Another aspect of the exercise revolved around exploring the links between credit and movements in reserves. There was a very weak direct link between Central Bank credit to Government and annual changes in reserves. While the correlation between the latter and annual changes in the money supply was higher, the best fit was obtained when imports were used as the dependent variable:

Equation (6)

IMP = 5673.72 + 1.17 CBR (Period: 1981-1992)
(365.89) (0.25)

$\bar{R}^2$ = 0.58
D.W.= 1.66

CBR= Central Bank Credit to Government

A further stage of the exercise was to look at the impact of commercial bank credit on the level of reserves. The following equation resulted:

Equation (7)

NFR = 17691.37 - 2.210 CBC (Period 1981-1992)
(4530.5) (0.61)

$\bar{R}^2$ = 0.82
D.W.= 1.54

CBC= Commercial Bank Credit

In Equation (7) commercial bank credit emerges as a strong but negative influence on movements in net foreign reserves.

The Need for Reserves and the Optimal Level

In a global context the issue of international reserves both in terms of adequacy and growth attracts a great deal of attention, given its significance to the growth of world trade. For the individual country, it

is possible to look at certain indices (e.g. the levels of imports, the current account balance, the marginal propensity to import) to guage the need for reserves. Movements in total reserves can also be used as an indicator. Actual changes in reserves, however, do not provide a good measure of the size of the disturbance since there would be policies in force aimed at influencing its impact. Factors affecting the capital account can be even more unpredictable than those affecting trade.

As indicated earlier, the target level of reserves being aimed at, may not be based purely on economic factors. In fact, it may have no rational basis. One can use certain ratios and variables to get some idea of what might be considered an adequate level of reserves. Not all the factors are quantifiable. If it is argued that there is some minimum level needed for a country to pursue its economic objectives without having to adopt measures to deal with disequilibrium situations and if it is argued that 'excess' reserves carries with it a cost, then the concept of an 'optimal' level emerges. This question is beyond the scope of this note. It is worth noting, however, that in a situation where the Central Bank can be pressured to finance fiscal deficits, it is difficult to expect this insitution to adhere to foreign exchange targets — except perhaps where it is built into the legislation. But experience has shown that even legislative controls can be ignored.

CONCLUDING OBSERVATIONS

In many ways the 1980's was not a typical period for Trinidad and Tobago. Accumulated reserves in the 1970's and early 1980's were used to maintain a high level of imports and to prop up the standard of living in the face of falling foreign earnings. Debt servicing of loans incurred in a haphazard fashion during the 'good' years eventually started to take its toll on foreign earnings as well. Once reserves were exhausted, per capita income fell precipitously. In fact, per capita income had started to decline long before foreign reserves reached critical levels in 1988. Another way to view this is that foreign spending in itself could not halt the fall in incomes in the face of declining petroleum earnings and government revenues. It is difficult not to conclude that more timely action on both the external and internal fronts might have provided for a 'softer' landing. Foreign

reserves are a resource that need expert and cautious management, particularly for open vulnerable economies. In the early phase of the oil boom foreign earnings were hived off into 'Special Funds', reflecting a conscious decision to conserve this resource. Once oil prices began to fall, however, there was a reluctance to put the brake on spending, and these reserves were quickly used up. With the buffer gone, and with the major foreign exchange sector in difficulty, the need for quick and strong corrective action became inevitable.

NOTES

1. Robert Clower and Richard Lipsey, "The Present State of International Liquidity Theory", in the *American Economic Review*, May, 1968.
2. Ibid.
3. Section 18 of the Central Bank of the Bahamas Act, for example, states that the value of stipulated external assets "shall not at any time be less than fifty per centum of the value of the aggregate of the notes and coins in circulation and the demand liabilities of the Bank".
4. Reserves held both by the commercial banks and the Central Bank. The 'net' position is given as the foreign assets of the Central Bank and the commercial banks ('a measurement of the level of reserves actually available to the authorities at any point in time, to finance balance of payments needs') minus foreign currency obligations.
5. The Bank of Jamaica Act carries a similar provision. Section 21 (1) states that the Bank "shall hold assets of an amount in value sufficient to cover the value of the total amount of notes and coins for the time being in circulation".

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