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**NEW INSTRUMENTS IN THE FINANCIAL SECTOR
OF TRINIDAD AND TOBAGO**

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by

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ABSTRACT

This paper describes some of the new financial instruments which are being used in the financial system in Trinidad and Tobago. Some of the data used in the paper were obtained from a survey of the commercial banks and non-banks operating in Trinidad and Tobago. The paper notes that these new products have implications for monetary policy and prudential regulations by the Central Bank.

NEW INSTRUMENTS IN THE FINANCIAL SECTOR OF TRINIDAD AND TOBAGO

Kelvin Sergeant*

I. INTRODUCTION

Over the last decade major financial and economic changes have occurred in the world's capital markets as financial innovation has swept both the developed and developing economies. In the developing economies these changes have been observed in light of increasing trends towards economic and financial liberalisation. One important characteristic of these changes has been the plethora of new financial instruments, some of which hardly existed a decade ago. These instruments have been designed by "financial engineers" to grapple with economic and financial crises and change. At the same time however, these innovations have given rise to a range of problems: problems of measurement, classification and valuation, and more importantly, the usage of these instruments and their implications for monetary policy and prudential regulations.

Our intention therefore in this paper is twofold. First, we highlight some of the issues associated with the appearance of new financial instruments in world markets and then more particularly the financial sector of Trinidad and Tobago. Secondly, we examine the implications of these developments for the conduct of monetary policy and prudential regulations in Trinidad and Tobago. Since it would be impractical to examine every new instrument, the paper will focus on some of the more important investment instruments, as variations in characteristics are more likely to differ in form than in substance. The paper is structured as follows. In the next Section we focus on the causes and implications of new financial innovation in general, while Section III discusses some of the new instruments which have appeared in the financial landscape of Trinidad and Tobago. A discussion on the

* The author is an Economist in the Research Department of the Central Bank of Trinidad and Tobago. The views expressed are those of the author and not necessarily those of the Central Bank. This paper is a small portion of work in this area currently being conducted by K. Coker and K. Sergeant.

implications for monetary policy and prudential regulations is undertaken in Section IV, and some concluding remarks are given in Section V.

II. RECENT FINANCIAL INNOVATIONS IN THE INTERNATIONAL ECONOMY: CAUSES AND IMPLICATIONS

The process of financial innovation can be quite broad, encompassing alterations in financial instruments, practices, markets and institutions. In this sense, financial innovation can affect the nature and composition of monetary aggregates, as well as the terms and conditions of credit and debit arrangements. In the last few years, financial innovation has been rapid, influenced by deregulation, new technologies, intense competition in the marketplace and even in response to macroeconomic disturbances. As the world financial systems become more integrated, this in turn has contributed to the emergence of a variety of institutions and instruments.

In the latter half of the 1970s and early 1980s, high nominal interest rates increased the cost associated with holding cash and non-interest bearing deposits, whose yields were limited by law in some countries, notably the United States. For commercial banks, increases in the reserve requirement of Central Banks have had a negative impact on their deposit liabilities, since these reserves have been considered a cost to banks. Concerned about earnings in an inflationary environment, investors sought instruments that enabled them to maintain an appropriate rate of return even in the face of spiralling inflation. It is in this type of context that one can trace the origins of floating rate bonds, interest rate and exchange rate swaps, as well as developments in the futures market. New instruments can be subdivided into those that substitute for conventional demand deposits (e.g. automatic transfer from savings accounts) and those that substitute for savings deposits (e.g. certificate of deposits, repurchase agreements). Some new financial products have been introduced to limit or shift interest rate or market risks, while other new instruments are linked to technological developments which permit automated transfers through ATMs, telephones, cash dispensers, and even bank credit cards. While markets for traditional products have expanded, secondary markets have also

developed to service old and new securities. Finally, the historical distinctions between classes of financial institutions in terms of their liabilities and functions have become blurred as financial services offered by commercial banks and non-banks have become similar. This has encouraged substitution among instruments as for example, money market mutual funds are now close substitutes for bank deposits.

The debt crisis of the 1980's and attempts at its resolution also led to some new instruments. Some of these creative instruments are described in Box 1. Another factor which contributed to innovations in many developed countries, was the deregulation of financial markets. Before the late 1970s, many financial markets in developed economies were heavily regulated and many innovations were designed to circumvent the effects of regulation. Following worldwide deregulation in the 1980s, commercial banks in many countries were able to offer customers certain assets that were issued previously only by non-bank financial institutions. In the United States for example, legislative changes made it possible for commercial banks to offer money market certificates in 1978; in similar fashion in Trinidad and Tobago, legislative changes of 1993 now make it possible for commercial banks to issue mutual funds or offer insurance type products. Institutional features of the financial industry may also serve to stimulate the financial innovation process. For example, the development of new instruments is often influenced by the ease with which secondary markets can be established. In addition monetary authorities in many jurisdictions may also assist in the deepening of the financial system. The role of the Central Banks of Jamaica and Trinidad and Tobago is especially instructive in this regard.

In many developed countries, government deficits relative to GDP have risen since 1973. The growth of these budget deficits has also influenced the financial innovation process in a number of ways. First, it has led to an active market in government securities and a more flexible interest rate structure. One example of this is the sharp increase in the volume of off-budget credit activity by many governments throughout the last decade and Trinidad and

Box 1: DEBT-REDUCTION INSTRUMENTS

In the 1980s many new instruments were designed to deal with the debt crisis. Some of these instruments are as follows:

Debt-equity Swap and Debt Capitalization: In debt-equity swaps, the original creditor or an intermediary sells loans to investors who convert them into an equity investment. In debt capitalization the claims of the original creditor are converted into an equity state in a debtor institution.

currency liability effectively indexed to the US dollar. The original creditor sells the rights to indexed repayments in local currency to a corporation that wants to make future capital contributions to its developing country subsidiary. The transaction provides cheap, hedged local financing for foreign corporations.

Debt Cash Buyback: This is the repayment of a loan at a discount.

Par Bond (also called interest reduction bond): This is an exchange of old claims for a bond with the same face value but a below-market interest rate and, generally a bullet maturity of 30 years.

Debt for Nature Swaps: This comes in two forms; conversion of debt (by the Central Bank) into local currency or local debt instruments which are donated to local environmental organizations to fund specific projects, or debt relief tied to environmental polices and investments.

Discount Bond (also called principal reduction Bond): This involves conversion of claims into a bond with discounted face value and offering market rates of interest.

Debt Securitization: This involves conversion of a loan into a different type of debt instrument which can be converted into other currencies, including the currency of a debtor country. Such securitization can be informal or officially negotiated.

Front-loaded Interest Reduction Bonds (FLIRBs): This involves exchange of old claims for a bond with the same face value but low fixed rates for the first few years, increasing gradually to a variable rate.

Debt for Goods Swap: This is essentially a debt service payment made in exportable goods now, or in the future through collateralization.

Debt Conversion Bond: Exchange of old claims for a bond with an option to invest in the equity of firms. DCBs are structured, so as to give banks an incentive to provide new financing via the New Money Bonds and are limited to a strict amount.

Debt to Local Debt Swap: This refers to the conversion of external debt into a domestic

Source: World Bank

Tobago is no exception.¹ Recent examples of new financial instruments include inflation indexed bonds in the United Kingdom, and discount and medium-term bonds in Japan. Moreover, recent issues of bonds with short maturities in some countries seems to reflect, in part, the pressures caused by financing public-sector deficits.

¹ Project financing facilities such as BOLD and BOOT are noteworthy examples.

Finally, another contributory factor to financial innovation derives from the burden of taxation. In many cases innovations are introduced to manage tax liability or to reduce the incidence of taxation on financial institutions. It is in this regard that many off-balance sheet instruments are designed.

In light of the discussion above it is evident that there will be an apparently vast number of instruments in the financial system. While technically most of these instruments are quite limited, many represent no more than "trade names" rather than different products. The following categories can be used to analyze financial products²: Debt Instruments; Zero Coupon Issues; Equity and Equity-linked Instruments; Currency/Index-Linked Issues; Asset Backed Securities and Hedging Instruments. Indeed one can further categorize these instruments into Securitized Assets, Derivatives and Repos (Repurchase Agreements).

While all new instruments may not easily be classified into the three categories, all fulfill legitimate needs of financial institutions and their clients. The aim of financial innovation in general must be to improve the intermediation process by increasing the level and acceptability of financial instruments. It must also lower transactions costs and expand the flow of financial services. In the next section we focus on new instruments in Trinidad and Tobago.

III. NEW INSTRUMENTS IN THE FINANCIAL SECTOR OF TRINIDAD AND TOBAGO

Scope And Coverage Of The Financial Sector

According to both the United Nations System of National Accounts (SNA) and the IMF's Money and Banking Statistics Guide (MBS) 1994, financial institutions can be defined

² Adopted from: *A Guide to Financial Instruments*, Euromoney 1987.

as "incorporated and unincorporated enterprises which are primarily engaged in financial transactions in the market consisting of both incurring liabilities and acquiring financial assets". The 1993 Manual on Monetary and Financial Statistics defines the financial corporations sector to include financial intermediaries and financial auxiliaries. Financial intermediaries are seen as units that raise funds by incurring liabilities on their own account for the purpose of lending or acquiring financial assets. Intermediaries channel funds to borrowers from lenders by intervening in financial flows. In so doing, these institutions frequently repackage, modify, or transform the character of the flows. Financial auxiliaries are units that provide specialized services closely related to intermediaries, but which do not raise funds or extend credit on their own account.

The structure of the financial corporations sector therefore include:

- (a) Central banking
- (b) Other depository corporations
- (c) Insurance companies (life, non-life and reinsurance companies) and pension funds.
- (d) Other financial intermediaries
 - (i) Finance companies and credit grantors
 - (ii) Financial leasing companies
 - (iii) Investment pools in bonds, equities and other instruments
 - (iv) Vehicle companies and trusts
 - (v) specialized financial companies
- (e) Financial Auxiliaries
 - (i) Public exchanges and securities market
 - (ii) Brokerage and underwriting
 - (iii) Foreign exchange companies, bureaux de change
 - (iv) Financial guarantee corporations
 - (v) Corporations that arrange derivative contracts

The paper will use the above guidelines when discussing innovations in the financial sector. However, this structure is broader than the scope of this paper and as such our discussion on innovation will be confined to the commercial banking sector, inclusive of non-banks such as finance companies and trust companies. New instruments on the stock market

or elsewhere in the financial sector (as defined) will not be addressed in this paper, but could be the subject of further work. It is appreciated though, that presently innovations are occurring in almost every area of the capital market as institutions and investors compete vigorously for funds with the aim of portfolio diversification. For purposes of the paper, innovations which occurred mainly after 1993 will be examined.

New Financial Instruments In Trinidad And Tobago

Even though use of these new instruments accelerated after 1993, some of these same products were used prior to 1993, but not to any great extent (e.g. swaps were used in the 1980s to hedge against Yen obligations). In some sense therefore financial innovation was taking place in Trinidad and Tobago long before April 1993, when the liberalization process culminated in the removal of exchange control, but the process accelerated in the post 1993 period. In particular, the authorities maintained a restrictive monetary policy stance in the period immediately following the floatation of the Trinidad and Tobago dollar. In addition, in the absence of policy tools to effect short term liquidity management, the authorities relied heavily on changes in the cash reserve requirement. The change in the cash ratio from 16 to 20 percent succeeded in driving up domestic interest rates sharply. It is against this background of high interest rates that some financial institutions began to diversify their portfolios by switching from traditional loans to investments and also encouraged the use of Bankers Acceptances. Data for the period 1990-1994 indicate investments by financial institutions (banks and non-bank financial institutions) increased to \$4,371.7 million in 1994 from \$1,411.1 million in 1990.

Liberalisation and its impact on the manufacturing sector has also contributed to the innovation process. Since 1989, the authorities have stressed the importance of export led growth and the manufacturing sector. This approach led to a restructured manufacturing sector which has now become more outward oriented. As a result, there has been a movement away from traditional overdraft credit into off-balance sheet financing, usually those which

are service fee related. Clarke, Stoddard and Shield (1992) reported that "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 percent". Since 1994 however, this situation has changed, as data on overdraft financing show a decline in this form of credit, from \$2,734.6 million in 1993 to \$1,930.6 million in 1994; The number of overdraft loan accounts also declined from 30,021 in 1991 to 27,747 at the end of 1994. One reason for this decline in overdraft financing is the increased cost associated with this type of financing as interest rates rose sharply in 1994. The rise in interest rates also appears to have affected marginal and other investments as overall credit demand fell in 1994 and 1995. However while there appeared to be a dearth of bankable propositions, the decline in the loan portfolios must be balanced by the sharp rise in BA activity.

The development of new financial instruments in Trinidad and Tobago can therefore be linked to several of the factors described above. Investors are now offered an expanded portfolio choice which includes a variety of foreign currency-denominated instruments, as well as possibilities of various hedging strategies which include derivatives. Some of these instruments are off-balance sheet items, as banks refine their risk management framework, designed to circumvent prudential regulations when possible.

Bankers Acceptances

Bankers Acceptances (BA), though well known in trade transactions, took on a different characteristic in Trinidad and Tobago in the post 1993 period. BAs grew so quickly over the period 1993-1995, that regulatory guidelines were issued by the Central Bank, which required all licensed institutions to make arrangements to ensure that their use of BAs fell within the stated guidelines. The changes in the reserve ratios and the subsequent development in the post 1993 period were the main stimuli for the increase in BA's.

Bankers' Acceptances (BA's) are time drafts that are stamped and signed by a bank, usually to finance the shipment or temporary storage of goods. The draft then becomes a

primary and unconditional liability of the bank which has to pay on maturity the face value of bills of exchange, normally covering the sale of goods. BA's are usually designed for a tight liquidity environment which may evolve as a result of restrictive monetary policy or low levels of savings. In the past, transactions involving the use of BA's in Trinidad and Tobago were not normally reflected in the balance sheet of banks as the bank is simply fulfilling a middleman function. Additionally, BA's were seen as contingent liabilities of the bank because the bank guarantees repayment to the investor. However, given the rapid rise in BA activity, the Central Bank began to take a closer look at the instruments which many banks were calling BAs. It turned out however that in several instances these BA's did not fit the traditional definition of a BA - several institutions had widened the original concept of a BA. Against the background of these developments the Central Bank introduced guidelines in early 1995 to monitor these new instruments. Section 25(2) of the Financial Institutions Act provides the Central Bank with the power to classify any instrument as a "prescribed liability". BA's are now treated as an on-balance sheet item in Trinidad and Tobago based on the fact that they have been used for other purposes outside of trade financing.

Available data reveal the sharp growth in the BA market between April 1993 and March 1995. Total banker's acceptances issued by licensed financial institutions climbed from a low of \$735.4 million in July 1993, to a high of \$1,400 million in December 1994. This is in contrast to the observed decline in total loans from \$7,578.9 million at the end of 1993 to \$6,703.6 million by the end of December 1994. The data suggested that some institutions were using BA's to circumvent the Central Bank's reserve requirement. In light of the guidelines issued for the use of BA's in March 1995, commercial banks and other non-banks shifted to the broader use of commercial paper.

Commercial Paper

The increasing use of commercial paper in Trinidad and Tobago is another example of the impact of regulations on financial innovation. Since the Central Bank imposed new regulations for the operation of the BA market, financial institutions have reported a large

increase in the demand for commercial paper. Commercial paper is a short-term unsecured promissory note issued by various types of economic entities to finance short-term credit needs. Maturities are fixed ranging from overnight to 270 days, with the most common maturity being 90 days. Commercial paper is usually issued at a discount (with face value amounts which typically range from \$100,000 to \$1 million) directly to investors by finance companies or through dealers. The investor purchases notes at less than face value and receives the face value at maturity. The difference between the purchase price and the face value, called the discount, is the interest received on the investment.

The advantages of using commercial paper are:

1. The primary benefit is the delayed payment feature since a borrower is able to wait until after the goods have arrived (or even sold) before paying for them.
2. Incremental savings or earnings are made on the transactions as the bank does not have a deposit on its books and hence there is no need for a reserve requirement and no fees to be paid on the Deposit Insurance Corporations.
3. There is no withholding tax of 15 per cent on interest income.
4. The depositor is guaranteed payment at maturity date by the bank.

The value of discounted bills (which includes the use of commercial paper reported to the Central Bank) grew from \$178 million in 1990 to \$325.3 million in 1994. This total expanded to \$543 million in May 1995, thereafter declining to \$486 million at the end of June. Preliminary data available showed that as at March 31, 1995, one commercial bank had issued \$96.7 million or 28.4 per cent of the total commercial paper market. The other three banks which issued commercial paper accounted for a combined \$183.1 million (53.8 per cent) of the market. Commercial paper with maturities of 180 days to 270 days was the most popular followed by the 121-180 day band. In the non-banking sector, only one non-bank was the most dominant player in the market at that time.

The issuance of commercial paper appears to have grown in the late 1980's and early 1990's. However, commercial paper has now begun to be substituted for BA's in light of the

guidelines. Financial institutions have issued commercial paper to its large credit worthy customers who in turn have expanded production through short-term receivables and inventories (as demonstrated in Table 1). With the introduction of guidelines for the use of BAs, there is indication provided by statistics that financial institutions have reduced their issue of this instrument. As at end July 1995, the value of BAs outstanding issued by commercial banks had declined to \$755.4 million, from \$1,061.9 million at the end of March. Since the cost of bank loans, remain higher than they had been historically, commercial paper will continue to remain an attractive funding alternative for large companies, especially those with sound credit ratings.

Table 1

**Commercial Banks and Non-Bank Financial Institutions -
Commercial Paper Maturity Schedule
(As at March 31, 1995)**

Maturity Schedules (No. of days)	\$'000	Purpose
0-33	6,053	Short-term receivables and inventories
30-61	6,500	Short-term receivables
62-90	40,891	Working capital, short receivables, capital expenditure
91-120	25,128	Working capital, short term receivables inventories
121-180	72,330	Short-term receivables, capital expenditure inventories and paying foreign bills.
181-270	189,531	Working capital, short-term receivables trade financing inventories, trade financing
TOTAL	340,434	

SOURCE: Central Bank of Trinidad and Tobago, Bank Inspection Department.

Additional Products

Apart from BAs and commercial paper, within recent times a number of other products have appeared on the financial market. Most of these new instruments have been investment-type products, but readers must note that the list is by no means exhaustive. In what follows, we will provide an overview of the main characteristics of these instruments which dominate

the commercial banking sector.³ These new financial instruments, as demonstrated in Table 2, have changed the nature of the local financial sector. As many are still in early years of development however, the size of the market is still difficult to gauge. Nonetheless, most of the major players tend to be institutional investors and financial institutions are somewhat reluctant to divulge information on these products given the competitive nature of the market.

Secured Investment Note Certificates, Guaranteed Investment Note Certificates and Negotiated Investment Note Certificates

The investment note certificate was first introduced in Trinidad and Tobago in 1991, but has assumed greater importance since 1994. The essential feature of these instruments is that the investor places a large amount of money usually exceeding \$250,000 with a financial institution which invest these funds on his behalf. The deposit liabilities are usually backed by a pool of assets placed in a trust company with a trust deed.

In terms of specifics, with the Secured Investment Certificates the liabilities are secured by mortgages, while with the Guaranteed Investment Certificates (GICs) the funds are securitized by government securities. In the case of the latter, returns are "guaranteed", with no possibility of default. The Negotiated Investment Certificates are so named because the certificates are marketable, and the assets are also backed by government paper and other instruments with a good investor appeal. In all cases, (SICs, GICs, NICs) investments are short term and the target markets are usually financial institutions and cash rich corporations.

Asset Backed Securities

Asset Backed Securities (ABS) are certificates backed by credit card receivables, automobile paper, mortgages, leases and bonds. With Asset Backed Securities, returns are derived from the performance of specific assets which are used as collateral for these

³ Some of these instruments, though new to the commercial banking sector, were introduced in Trinidad and Tobago prior to April 1993 when the country operated under a regime of exchange controls.

securities. It is the assets which generate streams of payments that are used to finance the payment of interest and principal to investors. ABS arise when an originator/servicer sells assets to a trust, which then issues certificates backed by these assets. The securities include a credit enhancement to support payment to investors, such as over-collateralization, third party letters of credit, seller recourse, and insurance company guarantee.

Apart from credit cards, automobile loans are the most common bank asset to be securitized since cash flow from these assets are relatively predictable and maturities are moderately short. Typically, the credit card (e.g. Visa, Master Card) issuer sells receivables from selected accounts to a trust, which issues two classes of participation in the accounts. Investors hold one class and the seller holds the other. Credit card-backed securities have a non-amortization period, generally 18 months to 4 years. During this period, customer payments are replaced by new advances to maintain the investment at a constant amount. Therefore while the investor receives interest only during the defined period, the principal amount remains the same.

Mortgage backed securities are also quite popular within this classification. Mortgage Backed Securities (also called Collateralised Mortgage Obligations) are used to allocate principal and interest payments among investors by converting a traditional pool of mortgages into a set of securities known as Collateralised Mortgage Obligation tranches. Investors can then match risk and returns and decide on which securities to adapt.

TABLE 2
RECENT FINANCIAL INNOVATIONS IN TRINIDAD AND TOBAGO¹
(Investment Type Instruments)
/as at September 1995/

Instrument/Product	Derivative Feature	Securitization Feature	On/Off Balance Sheet Risk	
			Holder ²	Issuer ³
Commercial Paper		✓	n.a	n.a
Treasury Notes*			n.a	n.a
Negotiated Investment Certificates		✓	N. until maturity	Y
Secured Investment Note Certificates		✓	N. until maturity	Y
Guaranteed Investment Note Certificates		✓	N. until maturity	Y
Asset Backed Securities⁴				
- Car receivables (CARs)		✓	Y	N
- Mortgage Backed Securities (MBs)	✓	✓	Y	N
- Computer Leasing Receivables (CLEOs)		✓	Y	N
- Equity Underwriting		✓	Y	Depends on whether underwriter buys portion of equity
- Credit Card Receivables		✓	Y	Y
- Securitization of Gov't Bonds		✓	Y	N
- Discounting of Gov't (Teachers) Bonds		✓	Y	N
Derivatives				
- Trading in US dollar derivatives	✓		Y	N
- Citizens Accumulation Treasury Securities (CATs)	✓	✓	Y	N
- Interest Rate Swaps	✓		Y	N
- Options	✓		Y	N
- Forward Transactions (\$TT, \$US)	✓		N	N
- Debt Conversions	✓		Y	Y
- Certificated Zero Rated Bonds (CZARs)	✓	✓	Y	N
US\$ Bankers Acceptances			Y	Y
Stripped Externally Linked Government Securities (SELGS)	✓	✓	Y	N
Repurchase Agreements				
- Repo with recourse			Y	N
- Repo without recourse			Y	N
- Loan Participation Certificates (with recourse)**			Y	N
Insurance Type Products				
- Tax Incentive Savings Plan (TISP)			Y	Y
- Future Cash			Y	Y
- Scotia Assured Future Earnings (SAFE)			Y	Y
Electronic Banking				
- Direct Link			n.a	n.a
- Tele Banker			n.a	n.a
- Account Master			n.a	n.a
Project Financing Facilities				
- BOOT			N	Y
- BOLT			N	Y
Debentures			Y	Y

Y = Yes; N = No;

YES denotes the present of on balance sheet risk of accounting loss; a NO denotes off-balance sheet risk of accounting loss.

* Although legislation allowing for the trading of this instrument has been passed, trading in these instruments has not yet begun.

** Loan participation certificates are examples of Repurchase Agreements with recourse.

¹ On and Off balance sheet decisions are adopted from the FASB Statement of Standards, 1995. This is preliminary and should not be viewed as conclusive.

² Holder includes buyer and investor

³ Issuer includes seller, borrower and writer.

⁴ Some of these instruments are all classified as investment management services by some financial institutions.

NB: Risk can be either credit risk, market risk or both.

**Citizens Accumulation Treasury Securities (CATs), Certificated
Zero Rated Bonds (CZARs): Examples of Zero Coupon Bonds**

These are hybrid instruments encompassing characteristics of a derivative instrument and a securitized product. The products involve the securitization of zero coupon bonds in which future coupon payments are stripped and sold to investors. Hence the concept of a derivative. Zero coupon bonds are bonds on which no interest payments are made during the lifetime of the loan, but which are issued at a substantial discount from their face value. The difference between the value at which the bond is issued and the par value is usually considered as income accruing to the investor over the life of the bond. CATs and CZARs are stripped treasury securities created by investment banks in Trinidad and Tobago. The future coupon payments and the principal redemption value of government securities (zeros) are stripped into separate components and sold to investors. Receipts are issued with maturity values that are determined by and secured on the coupons and redemptions of the underlying bonds. CATs range in tenure from two (2) months to nine (9) years. They are US dollar denominated and have the approval of the supervisor of insurance.

Apart from CATs and CZARs, another variant of a derivative product is the Stripped Externally Linked Government Securities (SELGs) now offered to investors. SELGs are US dollar linked securities that can be purchased with Trinidad and Tobago dollars. SELGs represent a participation in the Government of Trinidad and Tobago (GOTT) external US dollar debt and the investor therefore assumes the credit risk of the GOTT. SELGs carry maturities varying between 6 months and up to 7.5 years and are sold at a discount from face value.

Insurance Type Products (TISP, Future Cash, SAFE)

The changing culture of banking in recent years has resulted in commercial banks operating in areas outside their traditional domain. One such area is the deferred annuity product usually offered by insurance companies and at present three commercial banks offer this instrument as a means of future savings. The essential characteristic of these plans is

that savers make monthly premiums and the funds are invested in assets of the company. At maturity (which can range between 50-70 years old for the investor), all interest earned (net) and 25 per cent of the surrender value of the policies are paid out to investors. The remaining 75 per cent of the value of the policy is then utilized to acquire an annuity for the investor. Throughout the life of some plans investors are paid a guaranteed rate of interest which is taxed at 15 per cent.

In terms of performance, the TISP, which has been around since 1992, has over 7,000 investors. At the end of September 1995, premium income approximated \$33 million while savings garnered from the TISP product amounted to \$50 million. TISP controls 30 per cent of the deferred annuity market and 84 per cent of the bank annuity market in Trinidad and Tobago. Other annuity products such as SAFE and Future Cash started only in 1995 and thus it is too early to comment on their performance.

Project Financing Facilities

Since 1989, the central government has relied heavily on project financing facilities using the model of design/finance/construct. The government benefits from these arrangements because infrastructural spending in the current period is separated from the creation of domestic debt liability, and the issuance of interim certificates facilitate the process. The interim certificates serve as matching instruments to the advances of financial institutions which participate in these facilities. At the start of a project, certificates are issued which equal the value of disbursement on each project, plus all interest that accrue over the life of the project. At project completion the accrued interest is capitalized and added to total sums disbursed, at which time the debt liability for the full amount (disbursements plus capitalized interest) in the form of fixed or floating rate bond instruments, is created.

There are three main variants of the project financing facility model. They are:

- (1) Design/Finance/Construct Model (DFC).
- (2) Build/Own/Operate/Transfer Model (BOOT).

(3) Build/Own/Lease/Transfer Model (BOLD).

Under the DFC model, over the period 1989-1995, the government sourced over \$500 million through a consortium of financial institutions. These funds were used to finance social and infrastructural type projects. The BOLD and the BOOT are facilities conceived during 1994 and under these facilities, approximately \$50 million has been sourced. The essential feature of the BOOT and the BOLD facilities is that a consortium of financial institutions lend funds to a developer who is responsible for the entire project. The buildings, etc., can then be leased or transferred to the central government in the future. Special purpose companies are formed into which leases, certificates and other information are placed in trust. The leases and certificates become tantamount to government obligations.

Debt Conversions

Since 1991, the central government has effected debt conversion transactions which have amounted to \$226 million by the end of June 1995. These transactions each involved a switch of an external government liability to domestic creditors in TT currency. Debt conversions are designed to lower the stock of external debt and external debt servicing. Local financial institutions have been the major participants in these debt conversions.

IV. IMPLICATIONS FOR MONETARY POLICY AND PRUDENTIAL REGULATIONS

Financial innovation, as earlier indicated has affected data collection and recording, for both the balance of payments and monetary policy. The rise of new instruments has impacted on the collection of data for policy and publication purposes by the Central Bank, especially in the area of monetary aggregates. For example, incorrect data on the velocity of circulation can lead to incorrect monetary policy prescriptions. While the issue of data collection will not be discussed as it is well treated elsewhere, we will however focus on the

implications of the new instruments for the design of monetary policy and prudential regulations.⁴

Financial innovation and structural changes which accompany it have potentially far-reaching implications for the design and implementation of monetary policy, as well as the stability of the financial system and the adequacy of banking regulations. One of the implications of financial innovation is that the process interferes with the operational value or meaningfulness of the concept of money. In particular, it becomes increasingly difficult to distinguish between narrow and broad definitions of money on the basis of "moneyness" or as a means of transactions. Indeed, it has always been difficult to define money in an operational sense and, to some extent, the lines drawn between various concepts have been arbitrary. However, the definitional problems which are now created on account of innovation are a cause for concern.

A number of factors have further complicated the definition of money. Financial instruments with both investment and transactions characteristics have become more common in recent times. These instruments originate from both sides of commercial banks' balance sheets, from non-bank financial institutions, and even from non-financial corporations. The growth of these instruments and the extent to which they are used for transactions purposes, depends on the target and stance of monetary policy. If, for example, monetary policy pushes up interest rates, this tends to encourage the growth and increased use of such instruments, thereby creating problems relating to their relevance in narrowly defined measures of money.

A second factor which relates to the definition and measurement of money suggests that the very pace of innovation seems to be accelerating and it becomes even more difficult to depend on periodic redefinitions of various concepts. In this regard, the short-run control of

4 K. Coker and K. Sergeant, 'New Instruments in the Financial Sector of Trinidad and Tobago,' Research Review Seminar, Central Bank of Trinidad and Tobago, September 1995.

monetary aggregates will be undermined by changes in the currency to deposit ratio,⁵ and by the shift of funds from lower-yielding deposits into higher-yielding instruments. In the latter case these instruments have little or no reserve requirements (such as money market mutual funds) and, further add to the instability of the measured demand for money functions.

In Trinidad and Tobago, the goal of monetary policy has shifted, with the advent of liberalization, from the maintenance of the balance of payments to domestic price and exchange rate stability. The Central Bank of Trinidad and Tobago, in recognition of some of these issues, has moved towards the adoption of open market operations, to impact on short-run liquidity inflation, and other target variables in its policy mix such as money supply, interest rates, credit, exchange rates and the fiscal situation in the country. What financial innovation has led to in this context is the distortion of the traditional money price relationships and has hampered attempts at effective short-term liquidity management. It is against this background that there is a clear need to reexamine the measures of the traditional aggregates. There is now need for an expanded measure of money which encompasses the new instruments: the deposits of non-banks plus instruments such as mutual fund investments, BAs and others. In a recent note, Coker and Stoddard (1995) introduced new M-3 measure, a new monetary aggregate for Trinidad and Tobago. This new aggregate will be clearly monitored to determine its stability and appropriateness as a target variable for policy purposes.

Prudential Issues

As the financial system in Trinidad and Tobago, has become more complex with the new instruments, it has become clear that many of them are in the form of off-balance-sheet commitments. Indeed balance sheets generally show, an institution's financial position at a point in time. However, if banks and other financial institutions rely on activities that generate income without directly increasing assets, then this can alter the amount of

5 Cash management and related practices tend to reduce the public's currency holdings relative to deposits.

information contained in the balance sheet especially in the area of risk management. At first glance any present day balance sheet, may not necessarily give a true picture of an institutional financial position. More importantly, off-balance-sheet activities involve several transactions which may be more properly classified as contingent obligations.

All commercial banks and some non-bank financial institutions operating in the country are engaged to some extent in off-balance-sheet activities. Table 2 contains a listing of some of these instruments as well as certain characteristics of these instruments. In particular the Table identifies whether they provide off or on balance sheet risk, for example an N in the Table denotes that the instrument is treated as an off-balance sheet item. Since most of these instruments are recorded as off-balance-sheet transactions, the institutions involved in these transactions generate income without increasing their assets in the balance sheets. As a result the changes in fee income from the transactions may serve as one guide for tracking the growth of off-balance-sheet transactions. Table 3 provides information from the operating results of the financial system for the period - 1990-1994. The Table shows that fee income increased from \$110.6 million in 1990 to \$222.4 million at the end of 1994. Income from

Table 3

**Selected Operating Results of the Financial System
(Banks and Non-Banks) 1990-1994
\$TT000**

Operating Results	1990	1991	1992	1993	1994
Cost and Maintenance of Furniture and Equipment	20,206	22,183	28,402	33,092	38,369
Software Development	2,325	1,935	1,720	2,152	2,255
Total Operating Expenses	1,252,530	1,368,314	1,748,496	1,973,500	2,010,852
Fee Income* (of which service fees)	110,671 53,511	136,407 66,227	175,312 90,053	193,861 75,259	222,407 90,137

Source: Central Bank of Trinidad and Tobago.

* Fee income includes fees from loans, customers' liability on acceptances, loan/lease commitments and service fees from many different types of transactions.

service fees, as a proportion of total fee income, ranged between 38 per cent to 51 per cent over the five year period, as this component of fee income earned from off-balance-sheet business was on the increase.

Causes of Growth in OBS operations and some implications

One can list several reasons for the growth of off-balance-sheet for example - regulatory pressures, when a financial institution grants a loan, they must show this as an asset, and accordingly a certain capital to assets ratio has to be maintained. Thus, instead of granting loans, financial institutions simply incur more commitments which do not require a corresponding increase in capital. In other words, efforts by regulators of the financial system to control risk-taking through more stringent capital regulation appears partly responsible for the growth of OBS business by financial institutions.

Another reason for the growth of OBS transactions is the efforts by banks to improve profitability. Additionally, the need to provide new services demanded by customers in line with an increasingly competitive financial environment and the need to shift risks have also contributed to the increase in off-balance-sheet activities.

Notwithstanding the reasons for the rise in off-balance-sheet activities, there are many issues associated with such business activities. These are:

- (1) Off balance sheet operations make financial institutions more vulnerable in terms of risks. In other words, the possibilities for default and failures are greater when banks get involved in variable rate lending and instruments with shorter maturity.
- (2) Regulators & Inspectors of banks may be unfamiliar with many of these new instruments.
- (3) Data provided by financial institutions may be misleading as to the true activities of these financial institutions.

A financial institution's prudential resources basically comprise its capital cushion, profits and liquid assets within and outside the balance sheet and these resources are usually taken as a guide in measuring their sufficiency to cover risks. In Trinidad and Tobago, an

important component of the new financial legislation, The Financial Institutions Act, 1993 is the prudential guidelines set out under the Financial Institutions (Prudential Criteria) Regulations, 1994. This regulation is designed to guide financial institutions when risk assessments (credit risk, market risk, etc.) associated with particular instruments are conducted. By having an idea of the risks, the amount of capital required can be prescribed. A major provision of the 1994 Regulations is that a licensee's qualifying capital shall not be less than eight (8) per cent of its risk adjusted assets. A second aspect of the Regulations is that a percentage conversion factor is prescribed for every instrument, according to its riskiness. The conversion factor vary from zero to 100 per cent. a zero rating implies that the instrument is risk free and therefore requires no capital cushion. A conversion factor of 100 implies that the instrument must be backed by 100 per cent in assets. As an example, bankers acceptances carry a conversion factor of twenty per cent, overdraft facilities (unused portion) carry a conversion factor of zero while mortgages carry a factor of fifty per cent. Hence, by using these conversion factors, adequate provisions are made for losses on credit facilities or other off-balance-sheet commitments. As these new instruments multiply in use in the financial system the Inspector of Banks must ensure that institutions meet the appropriate criteria.

V. SUMMARY AND CONCLUSIONS

In the last decade, financial innovations have been rapid. These innovations have been caused by several factors which include the debt crisis, financial liberalization, government deficits and rapid technological change.

Since 1993, Trinidad and Tobago has been affected by this financial innovation as the liberalization of the domestic economy has been speeded. Some of the new financial products which have been introduced into the financial system are investment note certificates, asset backed securities, derivative products, repos, investment type products and project financing facilities. Our preliminary assessment however suggests that the extent of their usage is still fairly limited. However they do have the potential to grow very soon.

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