THE SECONDARY MORTGAGE MARKET: INSTITUTIONS & PROSPECTS

by

Mary G. Zephirin

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THE SECONDARY MORTGAGE MARKET: INSTITUTIONS AND PROSPECTS

M.G. Zephirin[1]

Introduction

The paper aims to explain the purposes served by secondary mortgage markets, describe the existing or planned institutional framework in the Caribbean and consider possible features of a market in Barbados. The first and still most complete of secondary mortgage markets is that in the US. The first section therefore discusses, though in truncated form, the development of the market there and the variety of instruments it has evolved. While such instruments are unlikely to be introduced in Barbados or the Eastern Caribbean for some time, they do indicate the range of securities that can be generated by a responsive market. There is one established secondary mortgage market institution in the Caribbean: the Trinidad and Tobago Home Mortgage Bank and the member states of the Eastern Caribbean Central Bank are about to launch a similar institution. The structure and operation of these are described.

1. The U.S. background

The secondary mortgage market is a US government innovation which was adopted and developed by private institutions when it proved useful and successful. The market evolved over many years to address varying aspects of public policy concern with reducing fluctuations in housing activity and increasing mortgage credit. From the 1960s to the early 1980s, for example, the secondary mortgage market helped to correct home mortgage market liquidity shortages which were often the result of regulatory constraint. The savings and loan associations' (S&Ls) portfolio concentration

[1] I wish to thank Laurence Clarke for comments.

in long-term home mortgages combined with funding from rate-of-interest-controlled savings deposits to decrease housing credit when interest rates rose (see Fullerton, 1992). In addition, in local nature of S&L operations led to disparities between demand and supply in the mortgage finance market. In compensating for these regulatory constraints, the federal secondary mortgage market institutions initiated a market which the private sector would not have been able to launch on its own. By the early eighties when several of the regulations were removed, the institutions continued to prosper.

The Federal National Mortgage Association (FNMA) was established (in 1938) to purchase federally-insured mortgages thus providing a secondary market for these. It held these mortgages in its portfolio, issuing its own debt to finance the purchases. FNMA was re-chartered in 1954 with the intention of privatizing its secondary mortgage market activities. This was done in 1968, the Government National Mortgage Association (GNMA) being created at the same time, as part of the Department of Housing and Urban Development (HUD), to handle FNMA's policy-related functions. FNMA is regulated by HUD.

Both FNMA and GNMA can issue **participation certificates**. Pools of mortgages are held as the assets of a trust and the purchaser of the participation certificate is thus a participant in a trust fund, not an investor in a pool of mortgages. The trustee continues to hold the loans in which the investor is participating. The principal and interest on all participation certificates issued by FNMA and GNMA are guaranteed by GNMA, and thus carry an explicit federal government guarantee. This arrangement supplied liquidity for mortgage loan issuers but did not make the loans themselves tradeable.

It was GNMA which issued, in 1970, the first **mortgage-backed "pass-through" security** (pass-through MBSs) which passes through the principal and interest payments on a pool of mortgages to the ultimate investors on a *pro rata* basis each month. The mortgages were federally-insured single-family mortgages and the security itself was guaranteed by GNMA. Pass throughs have the advantage that sales of mortgages no longer require the sale of the loan itself, with transfer of legal title for each loan to the buyer. They represent ownership shares in a pool of mortgages and the shares can be easily traded. Since the passed-through interest payments are no longer income to the issuer, MBSs eliminate interest rate risk, arising from divergences between market rates and mortgage rates, for the issuer of the pool.

GNMA now permits a large number of mortgage bankers and other financial institutions to issue GNMA-guaranteed MBSs. The institutions service the loans in the pool, collecting the individual monthly payments and passing these on, net of a servicing fee, to the investor. It is the GNMA guarantee that makes the instruments homogenous. A variety of MBSs have been created. These include the **modified pass-through** which passes on the interest due, whether or not it has been collected and the **fully modified pass-through** on which GNMA guarantee on-time payment of both principal and interest, whether or not they have been collected.

The government-sponsored, but privately-owned, Federal Home Loan Mortgage Corporation (FHLMC) was created in 1970 (and re-organized in 1989 following the S&L débâcle) to create a secondary market for home loans. It issues both participation certificates and **guaranteed mortgage certificates** backed by pools of conventional mortgages (i.e. mortgages which are not federally insured). Guaranteed mortgage certificates differ from pass-throughs in that FHLMC guarantees that the same minimum principal amount will be paid annually and interest is paid semi-annually.

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All three institutions standardize mortgage pools and offer either participation in the trust which holds the pools or proportional interests in the pools. To the extent that FHMC and FHLMC issue or permit to be issued, agency-guaranteed securities backed by conventional (not carrying federal insurance) mortgages their risk exposure is greater, but private insurance, diversification and large downpayments provide some protection against credit risk (i.e. of default by the mortgage borrower). Private issuers also began securitizing mortgages in the late seventies but the government-affiliated agencies dominate the market. The advantage of government backing results from the credit risk attached to a mortgage loan which a third party (i.e. apart from the borrower and original lender) cannot easily evaluate. This creates situations typical of the asymmetric information problems common in financial markets. There is a moral hazard problem since, in the absence of recourse by the buyer, a guarantee or insurance, the originating lender has little incentive to properly evaluate the credit and monitor repayment. There is also an adverse selection problem arising from the originator's incentive to sell the loans it knows to be riskiest. Loan buyers recognize these incentives and bank loans have traditionally been illiquid as a result. Standardizing and pooling the loans help because the default characteristics of large pools of specific types of loan are known and their cash flows can be predicted, giving originator and purchaser similar information. Having a government guarantee of the securities (explicit in the case of GNMA and implicit for the other two agencies) protects against the adverse incentives of the originator, making the loans marketable. GNMA's guarantees incorporate the "full faith and credit of the Treasury" and the MBSs guaranteed by them therefore carry little risk. FNMA- and FHMLC-guaranteed MBSs carry more risk because their guarantees do not incorporate the "full faith and credit of the Treasury". The risk differences are reflected in yields. Private players operate mostly in those mortgages from which the agencies are excluded by charter.

The existence of private issues and the growing private securitization of loans calls into question the posited illiquidity of bank loans and the value of government provision of the market. Gorton and Pennacchi (1995) argue that secondary markets work without a government guarantee because the selling bank either a) retains a greater proportion of risky loans or b) supplies an implicit guarantee (explicit seller guarantees are prohibited by regulation if the selling bank wishes to avoid capital requirements by removing the loans from its books). The implicit guarantee would be enforced by loss of reputation and hence inability to make future loan sales. Gorton and Pennacchi found empirical support for their first hypothesis (a) but no support was found for the second, (b). Carlstrom and Samolyk (1995) base their explanation on the superior information and monitoring ability which originating banks have in their local market. Loan sales without recourse are possible because the purchaser can observe when the selling bank is financing the maximum level of projects its capital permits, and only buys loans when this is the case. In that case, selling banks with relatively poor local opportunities would be forced to finance poor projects themselves before any could be sold.

While GNMA-guaranteed pass-through securities have no credit risk, they continue to carry prepayment risk: borrowers have the option to prepay at any time and, while the major reasons for doing so are often related to personal circumstances, interest rates also exert a major influence (see Green and Shoven, 1986). With fixed rate mortgages (the incentive with adjustable rate mortgages would be less, but would not be eliminated, since the borrower may wish to convert to a fixed rate mortgage when market rates are low), decreases in the market rate will often encourage refinancing or early repayment. The holder of the security then needs to

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reinvest funds at an unfavourable time. The solution to this was the **collaterized mortgage obligation (CMO)** developed in 1983 by the FHLMC. The CMO broke the single security based on a mortgage pool (the MBS) into bonds (tranches) of different maturities and risk characteristics, with cash flows assigned to tranches based on the timing of the principal repayments. Prepayments are allocated to the "fast pay" tranche which receives interest and first principal payments and, when that is completed, to the medium term and, finally to the "slow pay". It is the term structure of interest rates which allows issuers to make a profit on this derivative instrument: the underlying long-term mortgages continue to pay high rates, but the shorter-term securities can pay lower rates. At the same time, mortgage-based securities are provided to suit investors with different time horizons and maturity preferences. Different investors have differing preferences among these maturities. Banks and thrifts hold the fast; pension funds, banks and life insurance companies the medium and pension funds the slow. Prepayment and interest rate risk are not eliminated but they are more efficiently allocated. The cashflows from a pool of MBSs are also now being divided into other securities, **stripped MBSs**, where the strips separate the principal and interest.

Creation of a secondary market allows mortgage lending to be split into four services which can be undertaken by the institutions or agents who prefer to offer them: origination, servicing (which includes payment collection, pursuit of default, and foreclosure in case of default), investment and risk-bearing. Thus a financial institution (not necessarily an intermediary) can originate a loan and sell it to the secondary mortgage institution but continue to service it (and service contracts are themselves traded), avoiding interest rate risk. Pooling the mortgages and selling participations or derivatives implies that the investment is undertaken by the purchaser of the securities and mortgage insurance and/or mortgage-backed securities with a third-party guarantee reduces the credit risk of the investor.

The secondary market increases the liquidity of mortgages, allowing funds to flow to the area where they are most valued and separating funding from origination. This permits entry, thus promoting competition. It allows financial institutions to borrow against mortgages without the costs of security trading and it permits a more efficient allocation of risk (see Capozza and Van Order, 1992). It has been argued that the main cost appears to be the subsidy provided by the use of a government guarantee but this cost could be taken as a cost of market creation.

The technique of a secondary market institution as a means of stimulating loan supply from originators has also been tried by the US government in other areas. The Student Loan Marketing Association and the Farm Credit System do this for student loans and farm credit, respectively.

2. The Barbados Mortgage Market

Mortgages in Barbados are mainly extended by trust companies which are owned by the commercial banks and could be considered their mortgage-lending arms. Banks provide very few long-term residential mortgages. Since the mid-seventies the trust companies have been funding an increasing proportion of residential mortgage loans and the commercial banks a correspondingly decreasing proportion. Trust companies now hold over fifty percent of all RMLs, while banks hold less than six percent. The trust companies' share has also increased relative to the government-owned Barbados Mortgage Finance Company (BMFC), which caters to lower to middle income prospective homeowners, largely because the

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latter's funding capacity increased at a much slower rate.

The justification usually given for the asset split between banks and their trust companies is the short-term nature of the deposit liabilities of the banks; in fact, trust companies are funding 20-25 year mortgages with time deposits of maturities that are usually less than three years. Trust companies were originally established, not to issue mortgages, but to offer trust services by holding securities at a time when a trust arrangement could be used to avoid Barbados's estate duty. They only began to play a leading role in mortgages in the seventies when there were official calls for improved housing. Since their deposits are not subject to reserve requirements, they can offer mortgages at lower interest rates than can banks and this has contributed to their specialisation.

Most of the extensive US literature on the secondary mortgage market deals with fixed rate mortgages, rather than the adjustable rate residential mortgages universal in Barbados. The adjustable rate mortgage (ARM) reduces the attractiveness of the secondary market for originators because it reallocates some of the interest rate risk from the lender to the borrower. In markets where borrowers do not have access to FRMs, ARMs would be expected to eliminate prepayment due to interest rate fluctuations but increase default risk since high market interest rates can force borrowers into default. It can be noted that FRMs do not require a government-assisted market. In the UK, mortgage lending institutions began to offer them in the 1980s when a range of new institutions entered the mortgage market to compete with the building societies' cartel. The widespread use of ARMs in the UK appears to have reduced the demand for secondary mortgage market services but has not eliminated it. Banks began selling their mortgage loans, while continueing to service them, in the eighties (see Bank of England, 1985).

What services would we expect a secondary mortgage market to offer in Barbados? The usual expectation is of expanded housing through increased access to mortgage finance. In fact the volume of housing in Barbados seemed adequate even in 1980 when there were less than four persons per dwelling. By 1990, over three quarters of dwellings were owner-occupied (see Table 3) and population per dwelling had risen to 3.01 (though only to 3.29 when account is taken of unoccupied dwellings) - see Table 2. While little new housing appears to be available - housing of less than ten years only increased from 25.8% to 26.4% of all housing from 1980 to 1990 - the census data on age does not indicate refurbished housing. Indeed, since the proportion of wooden houses had fallen by almost 18%, while that of concrete houses had increased by 15%, considerable renovation of the housing stock is suggested.

Holder (1985) identified the major source of housing demand as the desire for upgrading and found that current income, the prices of other goods and better mortgage conditions (lower downpayments, longer amortization) are significant determinants of housing demand. Tables 4 and 5 provide several indicators of housing quality - construction material, toilet and water services - which suggest that quality has improved over the decade. By 1990, only 6% of households did not have water piped into their houses or yards, as compared to 18% in 1980 and 40% in 1970. Some 66% had a WC as compared to 44% in 1980 and only 25% in 1970.

Even with improved mortgage conditions, it is not clear that the total housing stock will increase as a result of a secondary mortgage market. In the USA it is suggested that in the long-term, credit has not affected the volume of housing which is determined by real prices and demographic factors (see Smith, Rosen and Fallis, 1988).

The mortgage market has not been highly volatile: RMLs have risen

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quite steadily as a proportion of GDP since 1974, though construction is a cyclical activity, trust companies have at times had liquidity problems and the availability of bridging finance has affected the market (see Williams, 1985). Fluctuations resulting from the latter factors reflect overall economic activity - in 1983, for example, trust company mortgage loans declined (see Table 6). Despite the mortgage rate ceilings which were in place for several years, adjustable rate mortgages have permitted intermediaries to reduce interest rate risk and the cost or liquidity consequences of a maturity mismatch. There are no FRMs in Barbados, except for some commercial mortgages. The companies issuing mortgages say that even prepayment risk is reduced because of the high transactions cost of sale and purchase in terms of legal fees. (Although the recent change in income tax mortgage allowances brought a surge of mortgage prepayments.)

Omitting the BMFC, in view of its specialised, official role, Table 6 indicates the importance of residential mortgages for mortgage lenders. Trust companies are heavily exposed since over 70% of their assets are invested in RMLs. RMLs also dominate insurance company loans. Apart from the relatively low risk characteristics of RMLs in Barbados (and noting that RMLs are considered a low risk loan category, in any case: houses are durable and difficult to steal), the large exposure of trust companies seems unlikely to pose them a problem, in view of their bank affiliations.

Indeed, while mortgage sales may help existing mortgage lenders to diversify their portfolios, a secondary market will allow others to compete with them on both sides of their balance sheet. Bonds or other instruments issued by a secondary mortgage institution will compete for savers' financial assets at both trust companies and banks. Over time, in addition, the ability to sell mortgage loans could encourage other institutions which do not have the currently-necessary deposit base, including those banks without mortgage-

extending arms, and finance companies, to enter the market. The first competitive influence will tend to raise deposit rates and the second could decrease mortgage rates, both eroding profit margins. Both influences are likely to be beneficial to households.

Secondary mortgage market issues are also likely to compete with government securities. This may be less harmful to the demand for government paper than one would think. A private secondary market institution is likely to be responsive to the maturity structure and yields desired by savers since their funding depends on the ability to market their paper successfully. Drawing more savers into the market may broaden the market for government securities.

It is also possible that the ability to sell mortgages may permit institutions to offer the risk-sharing benefits of FRMs to households (see Findlay and Capozza, 1977). Sales would permit them to shed the risk and the secondary market could, as it develops, allocate that risk according to risk preferences.
The regional disparities with which the secondary mortgage market originally assisted, increasing mortgage flows to areas where the demand for housing exceeded the supply of financing, do not exist in a single small community such as Barbados. If, for example, a trust company wished to reduce its asset dependence on mortgage loans, sales or securitization would permit increased flows into mortgages only if the company could maintain its other funding. In the short term, as mentioned, it could be competing with the secondary mortgage institution for funds. Indeed, the US evidence suggests (see Smith, Rosen and Fallis, *op.cit.*) that mortgage credit has not increased proportionately with mortgage program loans, since the government institutional purchases sometimes substituted for private financing. On the other hand, the ability to obtain liquidity from an impartial source would

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facilitate the reallocation of funding *among* institutions, helping some intermediaries to become more responsive to the funding requirements of both business and households. As Table 7 indicates, near to 40% of trust company RMLs are supplied by the largest company while about two thirds are supplied by the next three largest. As noted previously, the assets of all but one, A5, are dominated by RMLs. Trust company A6 extends few RMLs, however the number in brackets represents the proportion of its assets represented by its bank's RMLs.

A regional secondary mortgage market could help to even out the regional allocation of mortgage funds. There may be some limit on this because of the need for a secondary mortgage institution to limit its currency exposure. Another dimension of the reallocation facilitated by the secondary mortgage market could be distributional. An institution like the BMFC could, because of the ability to sell its loans, expand the supply of funds to lower and middle-income households. Currently, the BMFC's mortgages are funded by the Ministry of Housing (46%), the Barbados National Bank (26%), the National Insurance Scheme (22%) and the Insurance Corporation of Barbados (6%).

It may well be that a secondary market would serve only to smooth the mortgage flows. (This would be consistent with the US evidence (see Smith, Rosen and Fallis, *op. cit.)* that government mortgage programmes acted to reduce mortgage credit fluctuations.) Some mortgage finance companies have argued that it is a lack of suitable clients (those with sufficiently large savings to meet downpayments of 25% of purchase price or market value) which limits their mortgage lending. The ability to shed risk may of course lower required down-payments, expanding the feasible demand for residential mortgages.

Standardization of the loan contract and underwriting procedures

(see descriptions below of the functions of the TTHMB and ECHMB) should serve to reduce the high legal costs of the domestic mortgage market. In effect there would be a reduction in transactions cost that could promote housing liquidity in general, since the costs of changing house ownership would be reduced. Since it is presumed that originator costs are passed on to the customer, it would not be expected to affect the intermediaries significantly.

There are structural and supervisory implications of a successful secondary market and securitization. The dominance of banks and the differences between banks and other financial institutions could eventually diminish, requiring regulators to change their focus. Regulators will also need to note that securitization may encourage banks to sell their best quality loans. As a result, the reduction in risk on their balance sheet may be less than proportional to the loans sold.

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3. The Trinidad and Tobago Secondary Mortgage Market

The Trinidad and Tobago Home Mortgage Bank (TTHMB) was established by legislation in 1985 as a public company with majority private ownership.

The TTHMB has issued share capital of TT$16 million held as follows:

Class	Institution	% share
A	Central Bank of Trinidad and Tobago	15.0
B	National Insurance Board	7.5
	First Citizens Bank Ltd.	7.5
C	5 commercial banks, with equal holdings	30.0
D	7 insurance companies, varying holdings	30.0
E	International Finance Corporation	10.0

Note: Bank and insurance company shareholders are as follows. Commercial banks: Bank of Commerce (T&T) Ltd., Bank of Nova Scotia (T&T) Ltd., Republic Bank, Royal Bank of Trinidad and Tobago Ltd., First Citizens Bank Ltd. Insurance companies: Caribbean Home Insurance Co. Ltd. (6%), Guardian Life of the Caribbean Ltd. (6%), Maritime Life (Caribbean) Ltd. (6%), Colonial Life Insurance Co. (Trinidad) Ltd. (5.8%), TATIL Life Assurance Ltd. (3.1%), NEM (West Indies) Insurance Ltd. (2.5%), British American Insurance Co. (Trinidad) Ltd. (0.6%)

Shares may be transferred as follows:

Class	Transferable to:
A	B, C, D or companies qualified to be C or D shareholders
B	A, C, D or qualified companies
C	C or qualified companies
D	D or qualified companies
E	C or D or other private sector investors

Earnings are from interest revenue on its portfolio, profits on mortgage sales and commitment fees where mortgage purchase commitments are extended. Its major expenses are borrowing costs and administrative costs.

TTHMB Assets or mortgage purchases

The company buys and sells residential mortgage loans for new owner-occupied residences at prices (and yields) net of loan servicing fees. Loan servicing fees are paid to originators who continue to service the loan. Transfer instruments related to the Company's purchase or sale of an interest in mortgages are exempt from stamp duty.

Eligible mortgages are those

- with market value in the middle-income range, in the range TT$150,000 -TT$500,000
- for houses which are owner-occupied,
- whose loan-to-value ratio does not exceed 90%,
- whose term does not exceed 30 years,
- where the interest rate is subject to a semin-annual review.

Purchased loans carry insurance and/or the the seller's agreement to bear the entire risk of loss from borrower default. The originator receives a guarantee fee for this.

In addition to purchasing mortgage pools, the TTHMB also offers "standby commitment contracts" to purchase mortgages on proposed housing development projects or where construction is underway. The commitments are for periods of up to 24 months with mortgage sale at the option of the originator at the end of the period.

Originators or primary mortgage lenders

TTHMB approves mortgage lenders on the basis of their financial position and ability to service residential mortgage loans - "Approved mortgage lenders" (AMLs). TTHMB buys mortgages from AMLs without reviewing the borrower's eligibility in detail.

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Liabilities or the instruments issued by the TTHMB

Loan purchases are financed by the sale of bonds whose interest is tax-exempt.
The maximum aggregate of the bonds, fixed by the Act establishing the TTHMB in 1985 at $300 million, was increased to TT$600 million in 1993. The Act allows the Minister to vary the amount.

Recently, the Company has also issued mortgage-backed securities, Mortgage Participation Certificates, in response to demand for marketable short-term securities. It is also a market maker in these MPCs.

Market arrangements introduced by TTHMB

Among the objectives of the Company are leadership of the housing finance market and promotion of capital market growth. These are usually met as a by- product of their secondary market function:

- Standardized mortgage instruments and underwriting guidelines developed to streamline purchases from AMLs;
- Setting up arrangements with commercial banks to enable small investors to purchase TTHMB bonds;
- Purchase rates of 11.5% for new construction and 12% for existing houses have become the premium benchmark mortgage market rates.

Emerging secondary mortgage market activity

Other institutions may now be entering the secondary mortgage market. In 1993, Republic Trustee Limited sold Republic Fincor part of their mortgage portfolio in exchange for Fincor-issued investment certificates, Mortgage Classified Accounts Series A and B (see Sergeant, 1994). The certificates are backed by mortgages.

4. The Eastern Caribbean Home Mortgage Bank (ECHMB)

The idea of establishing a home mortgage bank in the EC originated from meetings between the ECCB and institutions such as the social security schemes and the commercial banks. The rationales were as follows:

1. Provision of liquidity. During the late 1980s liquidity had tightened when commercial banks increased the proportion of their assets invested in residential mortgages (RMLs). In December 1991 the residential mortgages held by commercial banks represented 23% of total loans and advances. (In 1991 in Barbados RMLs were 2.65% of commercial bank loans but 71% of the loans of the trust companies. Aggregating the loans of commercial banks and trust companies, in order to obtain a ratio comparable to that for the EC, RMLs were 18.7% of total loans and advances).
2. Vehicle to provide instruments (mortgage-backed securities) which would attract regional and extra-regional investors.
3. Improve asset/liability management through closer maturity matching. Mortgage originators with short-term liabilities could sell long-term mortgage assets (or the securities derived from them) which could in turn be purchased by financial institutions with long-term liabilities.

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The Legal and Administrative Framework

The shareholders are as follows:

Class	Shareholder	% holding
A	ECCB	25
B	social security schemes	10
	government-controlled commercial banks	5
C	private commercial banks	20
D	insurance cos and non-bank financial instits	10
E	International Finance Corporation (IFC)	10
F	Home Mortgage Bank of Trinidad & Tobago	20

In order to ensure that the majority private ownership of Bank is maintained, transferability of shares is restricted as follows:

Shareholder class	Class to which shares transferable
A	B,C,D or institutions qualified to be in these classes.
B	B,C,D or institutions qualified to be in these classes
C	C,D or C,D or qualified institutions
D	all non-government-related shareholders or institutions which qualify as such
E, F	

The authorised share capital is EC$40 million with initial capital subscription not to exceed EC$20 million with a first tranche of EC$10 million paid up in the proportions specified above. Unless otherwise determined by the Board, the other 50% of initial capital is to be offered for subscription and paid up in two tranches after the third year of operation of the Bank, in the same relative proportions of the first tranche.

Differences in company legislation in the EC territories will be addressed by the adoption of uniform legislation (which would embody the Articles of Association) establishing the ECHMB in all territories. This legislation would detail the tax exemption of bond income and the exemption from stamp duty on instruments of transfer.

The legislation provides for an arbitration process to settle any disputes among the participating Governments and the Bank. It also allows for withdrawal of any Government by written notice to the Bank, with withdrawal taking effect 12 months after the notice.

Since the Home Mortgage Bank of Trinidad and Tobago (HMBTT) is regional, experienced and has worked with both the Canadian and US mortgage purchase agencies, the ECCB adopted it as the institutional model for the ECHMB. As an interim measure, the TTHMB will initially provide executive management and systems operation for the ECHMB.

ECHMB Assets or mortgage purchases

The ECHMB will purchase mortgage loans, targetting low middle to middle income home-owners. It is envisaged that eligible mortgages would satisfy the following criteria:

- for owner-occupied houses with an appraised value between EC$100,000 and EC$400,000,
- a loan to value ratio of no more than 90%,
- both fixed and variable rate mortagages - where rates differ from the benchmark rate set by the Bank, they would be purchased at a premium or discount.

Financial institutions selling mortgages to the Bank and servicing those mortgages would meet the following standards:

- a minimum level of capital adequacy, to be specified by the Bank,
- at least five years of underwriting experience,

A limit would be placed on the value of mortgages which can be originated from any single lender. Transactions with primary

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lenders would be carried out by a master Deed of Sale and Administration specifying the obligations of both parties, giving the Bank an equitable interest in each mortgage and entitlement to the remedies available to the lender under the original mortgage deed. The originator of the loan would continue to service and administer it after sale to ECHMB, and indemnifies the Bank against non-performing loans. Originators would receive a fee of 1.5% to 2% for these services. The Bank will promote the use of uniform mortgage instruments and and standard mortgage loan criteria, in consultation with primary lenders. This would improve efficiencey in the processing of mortgages, increase their liquidity and reduce the legal fees in mortgage financing.

It is also envisaged that the Bank would offer special programmes such as stand-by purchase commitments to encourage new construction.

Liabilities or the instruments to be issued by the ECHMB

The ECHMB would issue tax-free bonds (bonds may be issued with a maximum aggregate capital value of EC$250 million) to both institutions and individual investors, in denominations of EC$5,000.

In order to improve the attractiveness of the bonds, it is envisaged that the ECCB could provide secondary market facilities for the bonds by acting as a purchaser of last resort through a special window and discounting or rediscounting the bonds up to some maximum.

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APPENDIX

Table 1: Shares of LT residential mortgages (RML):

Year	Commercial banks (%)	Trust Cos. (%)	BMFC (%)	Insurance Cos. (%)	Total ($M)	RMLs as % of GDP
1973	28.18	9.67	28.45	33.70	36.2	NA
1974	25.54	14.72	27.71	32.03	46.2	7.21
1975	27.69	17.99	24.69	29.63	56.7	8.09
1976	17.26	25.04	23.79	33.90	64.3	8.16
1977	14.61	30.55	24.89	29.96	67.1	7.54
1978	12.06	29.39	23.57	34.98	92.9	9.44
1979	11.85	34.06	23.87	30.22	119.8	10.02
1980	11.28	37.48	21.60	29.64	154.2	10.04
1981	10.53	38.78	21.00	29.70	186.2	10.91
1982	10.66	41.53	22.80	25.01	189.5	10.62
1983	11.59	38.68	23.52	26.21	204.5	10.77
1984	10.09	38.58	23.38	27.96	225.0	10.85
1985	9.83	38.17	22.44	29.56	247.3	11.34
1986	10.04	40.30	21.45	28.21	292.8	12.74
1987	9.81	42.47	20.35	27.36	345.4	13.82
1988	8.24	45.99	18.73	27.04	399.4	14.97
1989	7.22	48.19	18.05	26.54	466.5	16.03
1990	6.55	48.54	17.35	27.57	519.4	17.52
1991	6.04	49.56	16.93	27.47	554.5	19.16
1992	5.76	49.60	16.70	27.95	569.6	21.07
1993	5.54	50.98	16.94	26.53	573.7	20.55
1994	5.85	52.24	16.27	25.64	591.3	20.22

Source: Central Bank of Barbados, *Annual Statistical Digest*, Table C8

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Table 2.	1970		1980		1990	
	Number	%	Number	%	Number	%
Population	235,229		244,228		247,288	
Total Dwellings	58,596	100	67,138	100	82,204	100
house	54,697	93.35	60,894	90.70	73,927	89.93
apartment	2,874	4.90	4,319	6.43	7,261	8.83
commer. bldg.	246	0.42	197	0.29	747	0.91
group dwelling	43	0.07	106	0.16	157	0.19
barracks	23	0.04	57	0.08	...	...
outroom	36	0.06	30	0.04	...	...
other	24	0.04	119	0.18	109	0.13
not stated	653	1.11	1,416	2.11	3	0.00
Occupied dwellings	NA		NA		75,211	91.49
Population per dwelling	4.01		3.64		3.01	
Population per occupied dwelling	NA		NA		3.29	

Source: Population censuses 1970,1980,1990

Table 3.	1970		1980		1990	
Dwellings by type of tenure	Number	%	Number	%	Number	%
Total	58,596	100.00	67,138	100.00	75,211	100.00
Owned	42,783	73.01	47,124	70.19	57,252	76.12
leased	308	0.53	261	0.39	...	...
private rented	11,476	19.58	10,848	16.16	11,693	15.55
rent free	3,131	5.34	3,390	5.05	1,937	2.58
squatted	14	0.02	20	0.03	...	...
hire purchase	...	...	350	0.52	...	...
govt rented	...	...	3,316	4.94	3,665	4.87
other	103	0.18	271	0.40	339	0.45
not stated	781	1.33	1,558	2.32	325	0.43

Notes: ... indicates that category was not given; 1970 census does not distinguish between private and government rental.

Source: Population censuses, 1970, 1980, 1990

Table 4.	1970		1980		1990	
Dwellings by material of construction	Number	%	Number	%	Number	%
Total	58,596	100.00	67,138	100.00	82,204	100.00
wood	44,096	75.25	38,477	57.31	32,685	39.76
concrete &/or concrete block	5,646	9.64	67,238	21.21	149,342	36.46
wood &/or concrete/block	2,587	4.41	149,342	10.07	149,342	20.30
stone	4,972	8.49	100	4.05	100	3.27
clay brick	694	1.18	100	0.91	100	0.00
wood & brick	...	...	1,047	1.56	0	0.00
other	601	1.03	3,289	4.90	167	0.20
Dwellings by date of construction						
Total	58,596	100.00	67,138	100.00	75,211	100.00
0-2 yrs old	3,233	5.52	3,360	5.00	5,421	7.20
3-10	8,989	15.34	13,942	20.77	14,425	19.18
11-19	12,109	20.67	12,642	18.83	15,911	21.16
20 or more	28,611	48.83	31,408	46.78	33,773	44.90
not stated	5,654	9.65	5,786	8.62	5,681	7.55

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Table 5.	1970		1980		1990	
Dwellings by water supply	Number	%	Number	%	Number	%
Total	58,596	100	67,138	100	75,211	100
Piped into dwelling	23,329	39.81	41,069	61.17	60,392	80.30
Piped into yard	12,061	20.58	14,242	21.21	10,301	13.70
Public standpipe	21,471	36.64	6,690	9.96	1,383	1.84
Other water supply	950	1.62	3,210	4.78	2,142	2.85
Not stated	785	1.34	1,927	2.87	993	1.32
Dwellings by toilet facilities						
Total	58,596	100	67,138	100	75,211	100
WC linked to sewer	891	1.52	0	0.00	783	1.04
WC not linked to sewer	14,645	24.99	29,259	43.58	49,050	65.22
pit	41,327	70.53	35,060	52.22	24,138	32.09
other	1,023	1.75	136	0.20	288	0.38
none	...	...	437	0.65	271	0.36
not stated	710	1.21	2,246	3.35	681	0.91

Note: The 1980 census distinguished between "shared" and "not shared" toilet facilities. This table adds the two categories. "Shared" indicated that the facilities were shared with other households.

Table 6.	Residential Mortgage loans as a proportion of loans or assets of:					
	Commercial banks		Trust Companies		Insurance Companies	
	Ttl loans	Ttl assets	Ttl loans	Ttl assets	Ttl loans	Ttl assets
1973	3.87	2.87	71.43	32.71	100	32.53
1974	4.31	3.02	82.93	53.13	100	34.58
1975	5.32	3.48	76.69	45.33	100	33.14
1976	3.37	2.28	79.70	60.07	100	35.62
1977	2.63	1.82	79.15	66.56	80.08	27.27
1978	2.83	1.73	78.22	58.96	100.00	31.37
1979	3.02	1.79	79.38	60.09	100.00	31.02
1980	3.18	1.97	80.84	73.91	100.00	32.62
1981	3.02	1.94	68.70	65.10	100.00	30.96
1982	2.97	1.82	61.68	56.25	64.84	22.48
1983	3.05	1.96	60.34	54.82	61.89	21.68
1984	2.81	1.73	61.30	53.65	63.22	22.11
1985	2.86	1.72	63.23	56.22	65.44	24.30
1986	3.34	1.95	65.52	57.99	68.38	23.77
1987	3.53	1.90	63.31	58.84	66.36	24.47
1988	3.14	1.78	64.84	59.18	66.91	24.43
1989	2.81	1.75	66.10	64.41	62.91	23.29
1990	2.73	1.56	69.85	65.75	61.80	25.43
1991	2.65	1.55	71.49	67.19	59.56	23.74
1992	2.69	1.45	72.98	68.52	58.68	22.63
1993	2.58	1.38	72.49	68.87	65.52	22.37
1994	2.38	1.31	73.99	70.88	...	...

Source: Central Bank of Barbados, Annual Statistical Digest

Note: Earlier years for insurance companies probably based on inaccurate loan classification.

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Table 7: Residential Mortgage Loans of Individual Trust Companies (%)

	A1	A2	A3	A4	A5	A6
1990						
RML/A	81.1	52.3 (79.7)	69.4	75.8	27.3	84.1 (6.4)
RML(t)/TRML	35.0	23.5	20.1	16.7	3.0	1.8
1991						
RML/A	77.6	55.4 (79.4)	68.6	76.0	35.6	99.7 (6.4)
RML(t)/TRML	34.1	22.8	21.3	17.5	2.9	1.5
1992						
RML/A	84.7	57.0 (80.3)	68.3	71.9	31.3	89.5 (6.3)
RML(t)/TRML	35.4	22.1	21.0	17.4	2.8	1.3
1993						
RML/A	81.8	59.1 (81.5)	67.9	75.8	31.0	79.2 (5.7)
RML(t)/TRML	36.6	21.2	20.8	17.2	3.0	1.3
1994						
RML/A	82	63.6 (85.2)	69.5	73.9	35.8	81.2 (5.6)
RML(t)/TRML	37.1	20.1	21.6	16.3	3.2	1.7

Notes: Trust companies are ranked by asset size, with A1 being the largest.
RML/A = residential mortgage loans as a proportion of the trust company's assets.
RML(t)/TRML = residential mortgage loans of trust company t as a proportion of all trust company mortgage loans.

Table 8: An indication of TTHMB operations

Year	Accumul'd value of mortgage purchases ($ M)	Mortgage purchases as % of total REMLs (%)	Mortgage portolio serviced ($ M)	Total bonds in issue, ($ M)	Issued bonds as % of non-TB GBs (%)	Comparative net income (before tax) ($ M)
1987	65	n.a.	65	120.00	6.89	0.714
1988	116	2.23	111	146.26	9.67	2.949
1989	176	3.49	165	184.58	7.65	3.604
1990	209	3.96	186	253.23	8.50	4.243
1991	259	5.15	219	268.85	7.18	5.227
1992	301	6.97	248	289.67	7.16	5.553
1993	324	n.a.	253	308.29	7.03	6.036

Notes:
Mortgage values (first and second columns) include premiums and discounts.
REMLs = real estate mortgage loans. Data on residential mortgages are not available. 1993 REML excludes life insurance companies.
Non-TB GBs = outstanding Central Government securities other than treasury bills

Sources:
TTHMB 1993 Annual Report; Sergeant (1994)
Central Bank of Trinidad and Tobago, Quarterly Statistical Digest, various issues

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