



Butterfield

**Capital and Risk Management**  
Interim Pillar 3 Disclosures for the period  
ended 30 June 2011

6 September 2011

# Butterfield

## Interim Pillar 3 Disclosures for the period-ended 30 June 2011

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## Cautionary statements regarding forward-looking statements

These Capital and Risk Management interim Pillar 3 Disclosures as at 30 June 2011 contain certain forward-looking statements with respect to the financial condition, results of operations and business of Butterfield. All statements, other than statements of historical facts, included or referenced in this document which address activities, events or developments that we expect or anticipate will or may occur in the future are forward-looking statements. The words "will," "believe," "intend," "expect," "anticipate," "project," "estimate," "predict" and similar expressions are also intended to identify forward-looking statements. These forward-looking statements may include, among others, statements with respect to our liquidity and capital requirements; business strategy; financial and operating targets or plans; projections of revenues, income (or loss), market share or other financial forecasts; expansion and growth of our business and operations; and future capital expenditures.

These statements are based on certain assumptions and analyses we have made in light of our experience and perception of historical trends, current conditions and expected future developments, as well as other factors believed to be appropriate in the circumstances. However, whether actual results and developments will conform with expectations and predictions is subject to a number of risks and uncertainties that could cause actual results to differ materially from expectations, including, among others, the risks discussed in this disclosure document.

Consequently, all of the forward-looking statements made in this document are qualified by these cautionary statements, and the results or developments that we anticipate may not be realised or, even if substantially realised, they may not have the expected consequences to, or effects on, us or our business or operations. We assume no obligation to update publicly any such forward-looking statements, whether as a result of new information, future events or otherwise.

## 1. Overview

### 1.1 Background

The requirements of the Basel II regulatory capital framework came into effect on 1 January 2009 for banks domiciled in Bermuda. Implementation of Basel II in Bermuda was by way of rules introduced by The Bermuda Monetary Authority ("BMA"). It introduced consistent capital adequacy standards and an associated supervisory framework in Bermuda based on the Basel II rules agreed by the G-10. Among them are the requirements applicable to banks and deposit taking companies which are known as Pillar 3. These are designed to promote market discipline by providing market participants with key information on a firm's risk exposure and risk management processes. Pillar 3 also aims to complement the minimum capital requirements described under Pillar 1 of Basel II, as well as the supervisory processes of Pillar 2.

The Bank of N.T. Butterfield & Son Limited ("the Bank") adopted the Pillar 1 standardised approach to credit risk and operational risk from 1 January 2009; it also became subject to Pillars 2 and 3 from that date. The disclosures in this document are on a standardised basis and in accordance with the rules laid out in Chapter 4 of the BMA policy document entitled, 'Revised Framework for Regulatory Capital Assessment'.

### 1.2 Basis of Disclosures

This interim disclosure document has been prepared by the Bank in accordance with the requirements of Pillar 3. Unless otherwise stated, all figures are as at 30 June 2011 and are expressed in Bermuda dollars.

### 1.3 Scope of Application

The Bank is the parent company of The Bank of NT Butterfield & Son Limited group of companies and is regulated by the BMA. The Basel II Framework, therefore, applies to the Bank and its subsidiary undertakings (together referred to as both "the Bank" and "the Group").

There is a requirement to calculate and maintain regulatory capital ratios on both a consolidated and a solo basis in respect of the Bank's banking businesses in Bermuda, The Bahamas, Barbados, the Cayman Islands, Guernsey and the United Kingdom. Differences may exist between jurisdictions in the calculation of regulatory capital requirements. However, there are no differences between the basis of consolidation of the Group for accounting and prudential purposes. Full details of the basis of consolidation can be found in Note 2 of our Consolidated Financial Statements for the year ended 31 December 2010.

The Group is made up of the following principal operating entities, which are all wholly owned subsidiaries and fully consolidated in the Group's financial statements:

The Bank of N.T. Butterfield & Son Limited, Bermuda  
Butterfield Asset Management Limited, Bermuda  
Butterfield Trust (Bermuda) Limited  
Butterfield Bank (Bahamas) Limited  
Butterfield Bank (Barbados) Limited  
Butterfield Bank (Cayman) Limited  
Butterfield Bank (Guernsey) Limited  
Butterfield Trust (Switzerland) Limited  
Butterfield Bank (UK) Limited

All the Group's subsidiaries are included in the Pillar 3 disclosures. Each overseas operating company is regulated by its own local regulator and is subject to its own regulatory capital requirements. Further details of the principal subsidiary undertakings can be found in Note 13 of the Bank's 2010 Consolidated Financial Statements.

#### **1.4 Location and Verification**

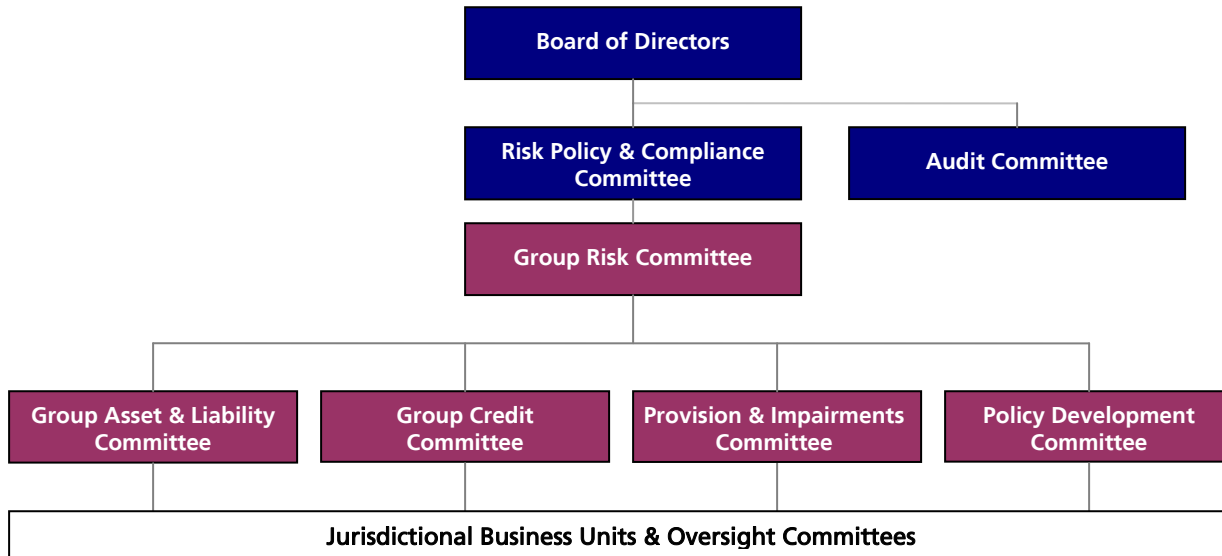
The disclosures are not subject to external audit except where they are equivalent to those prepared under the accounting requirements for the inclusion in the Bank's Audited Annual Report and Financial Statements.

These disclosures have been published on the Group's corporate website ([www.butterfieldgroup.com](http://www.butterfieldgroup.com))

## 2. Risk Management Objectives and Polices

### 2.1 Risk Governance

The Group's risk governance and management structure is illustrated below:



#### Board of Directors and Board Committees

The Board of Directors (the "Board") has overall responsibility for determining risk strategy, setting the Bank's risk appetite and ensuring that risk is monitored and controlled effectively. It accomplishes its mandate through the activities of two dedicated committees:

#### The Risk Policy and Compliance Committee

The Risk Policy and Compliance Committee (RPC) assists the Board in fulfilling its responsibilities by overseeing the Group's risk profile and its performance against approved risk appetites and tolerance thresholds. Specifically, the Committee considers the sufficiency of the Group's policies, procedures and limits related to the identification, measurement, monitoring and control of activities that give rise to credit, market, liquidity, interest rate, operational and reputational risks, as well as overseeing its compliance with laws, regulations and codes of conduct.

#### Audit Committee

The Audit Committee reviews the overall adequacy and effectiveness of the Group's system of internal controls and the control environment, including those that are brought to bear in respect of the risk management process. It reviews recommendations arising from internal and independent audit review activities and Management's response to any findings raised.

Both the Risk Policy & Compliance and the Audit Committees are supported in the execution of their respective mandates by the dedicated Audit, Compliance & Risk Policy Committees for our UK, Guernsey and Caribbean operations, which oversee the sufficiency of local risk management policies and procedures and the effectiveness of the system of internal controls that are in place. These committees are chaired by Non-Executive Directors drawn from our Jurisdictional Boards.

## **Executive Management Committees**

The Group Executive Management team, led by the President & Chief Executive Officer (CEO) and including the members of Executive Management reporting directly to the CEO, is responsible for setting business strategy and for monitoring, evaluating and managing risks across the Group. It is supported by the following committees:

### **The Group Risk Committee**

The Group Risk Committee (GRC) is the senior management committee with responsibility for risk governance. It provides a forum for the strategic assessment of risks assumed across the Group as a whole based on an integrated view of credit, market, liquidity, legal and regulatory compliance, operational, interest rate, investment, capital and reputational risks, ensuring that these exposures are consistent with the risk appetites and tolerances promulgated by the Board. It is responsible for reviewing, evaluating and recommending the Group's Risk Appetite Framework, the results of the CARP process (including all associated stress testing performed) and the Group's key risk policies to the Board of Directors for approval, for reviewing and evaluating current and proposed business strategies in the context of our risk appetites and for identifying, reviewing and advising on current and emerging risk issues and associated mitigation plans.

### **The Group Asset and Liability Committee**

The Group Asset and Liability Committee (GALCO) is responsible for liquidity, interest rate and exchange rate risk management and other balance sheet issues. It also oversees the execution of the Group's investment and capital management strategies and monitors the associated risks assumed. It is supported in the execution of its mandate by the work undertaken by the dedicated Asset & Liability Committees in each of the Bank's Jurisdictional business units.

### **The Group Credit Committee**

This committee is responsible for a broad range of activities relating to the monitoring, evaluation and management of credit risks assumed across the Group at both a transaction and portfolio level. It is supported in the execution of its mandate by the Financial Institutions Committee (FIC), a dedicated sub-committee that is responsible for the evaluation and approval of recommended interbank and counterparty exposures assumed in the Group's treasury and investment portfolios, and by the activities of local Credit Committees in the UK, Guernsey, and the Caribbean, which review and approve transactions within delegated authorities and recommend specific transactions outside of these limits to the Group Credit Committee for approval.

### **The Provisions & Impairments Committee**

The Provisions & Impairments Committee is responsible for approving significant provisions and other impairment charges. It also oversees the overall credit risk profile of the Group in regards to non-accrual loans and assets. It is supported in the execution of its mandate by local Credit Committees and the Group Credit Committee, which make recommendations to this committee.

### **The Policy Development Committee**

This committee is responsible for overseeing the design, development and maintenance of the Group's framework of operational policies. It develops recommendations regarding policy requirements, engages with nominated members of Executive Management to ensure that policies are drafted or updated on a timely basis and provides a forum through which they are debated Group-wide prior to their adoption, thereby ensuring a consistency of application and interpretation. It also ensures that all policies and any policy exception requests are reviewed and recommended prior to presentation to the Group Risk Committee or Risk Policy & Compliance Committee of the Board for approval.

## 2.2 Risk Management

The Group manages its exposure to risk through a three “lines of defence” model.

Key Risks	First Line	Second Line	
	Risk Management	Risk Oversight	Risk Governance
<b>Credit Risk</b>			
* Retail Credit Risk	Retail Lending	Credit Risk Management	Group Credit Committee
* Commercial Credit Risk	Commercial Lending	Credit Risk Management	Group Credit Committee
* Private Banking Credit Risk	Private Banking	Credit Risk Management	Group Credit Committee
* Treasury Credit Risk	Treasury Division	Credit Risk Management	Group Credit Committee
<b>Market Risk</b>	Treasury / Investment Management	Group Market Risk and Credit Risk Management	GALCO and FIC
<b>Operational Risk</b>	All business and operational areas	Group Operational Risk	Group Risk Committee
<b>Liquidity and Funding Risk</b>	Treasury / Investment Management	Group Market Risk	GALCO

This may be summarised as follows:

The first “line of defence” is provided by our Jurisdictional business units, which retain ultimate responsibility for the risks they assume and for bearing the cost of risk associated with these exposures.

The second “line of defence” is provided by the Risk Management group, which works in collaboration with our business units to identify, assess, mitigate and monitor the risks associated with our business activities and strategies. It does this by:

- Making recommendations to the Group Risk Committee regarding the constitution of the Risk Appetite Framework.
- Setting risk strategies that are designed to manage risk exposures assumed in the course of pursuing our business strategies and aligns them with agreed appetites.
- Establishing and communicating policies, procedures and limits to control risks in alignment with these risk strategies.
- Measuring, monitoring and reporting on risk levels.
- Opining on specific transactions that fall outside delegated risk limits.
- Identifying and assessing emerging risks.

The third “line of defence” is provided by our Group Internal Audit function, which provides ongoing review, oversight and challenge of the effectiveness of the internal controls that are executed by both the business and Risk Management communities in the management, monitoring and measurement of our exposure to risk. This includes the review of the accuracy of the underlying data and appropriateness of the stress testing methodologies that are executed as a part of our CARP process.

The four functions within the Risk Management group that support our risk management activities are outlined below. To ensure a formal separation of duties, each reports directly to the Chief Risk Officer.

**Group Market Risk** – This provides independent oversight of the measurement, monitoring and control of liquidity and funding risks, interest rate and foreign exchange risks as well as the market risks associated with the Group’s investment portfolios. It also monitors compliance with both regulatory requirements and the Group’s internal policies and procedures relating to the management of these risks.

Credit Risk Management – This unit is responsible for the adjudication and oversight of credit risks associated with our retail and commercial lending activities and the management of risks associated with our investment portfolios and counterparty exposures. It also establishes the parameters and delegated limits within which credit risks may be assumed and promulgates guidelines on how exposures should be managed and monitored.

Compliance – This unit provides independent analysis and assurance of the Group’s compliance with applicable laws, regulations, codes of conduct and recommended best practices, including those associated with anti-money laundering / counter terrorist financing requirements. It is also responsible for assessing the Group’s potential exposure to upstream risks and for providing guidance on the preparations that should be made in advance of these changes coming into effect.

Group Operational Risk – This unit assesses the effectiveness of the Group’s procedures and internal controls in managing its exposure to various forms of operational risk, including those associated with new business activities and processes and the deployment of new technologies. It also oversees the Group’s incident management processes and reviews the effectiveness of its loss data collection activities.

### 3. Capital Resources

#### 3.1 Total Available Capital

The following table shows the breakdown of the total consolidated capital position of the Bank as at 30 June 2011:

	\$m
<b>Tier 1 Capital</b>	
Common stock (issued and paid up)	5.49
Perpetual non-cumulative preference shares (issued and paid up)	0.08
Share premium account	1,375.71
Retained earnings and other reserves	(544.14)
	<b>837.13</b>
<b>Deductions from Tier 1 Capital</b>	
Goodwill and other Intangible Assets	(53.42)
<b>Total Tier 1 Capital</b>	<b>783.71</b>
<b>Tier 2 Capital</b>	
General provision	35.88
Subordinated debt	265.03
<b>Total Tier 2 Capital</b>	<b>300.91</b>
<b>Total Capital before Deductions</b>	<b>1,084.62</b>
*Deductions	(15.59)
<b>Total Net Capital</b>	<b>1,069.03</b>

Note: \*Deductions represent investments in associated companies.

#### 3.2 Tier 1 Capital

Tier 1 capital comprises of share capital (common and preference shares), the share premium account, retained earnings and other reserves. It may also include interim retained profits that have been verified by external auditors, but losses must be taken into account, whether audited or not. Retained earnings and other reserves exclude unrealised gains and losses on available-for-sale investments. A deduction from Tier 1 capital is made in respect of both goodwill and intangible assets and the Bank's defined benefit pension obligations. For accounting purposes, acquired customer relationships are capitalised as intangible assets where they meet certain criteria and amortised over a period not exceeding 15 years.

On 6 March 2009, the BMA announced that it required all banks in Bermuda to maintain a capital buffer such that they would be able to withstand a severe economic downturn (a 1 in 100 year event) and still maintain a Tier 1 capital ratio of at least 6%. The Tier 1 capital ratio is calculated by dividing total risk weighted assets (RWA) into Tier 1 capital, where risk weighted assets is calculated by assigning a risk weight to each asset and exposure. All of Bermuda's banks have now agreed with the BMA on the necessary levels of capital required to meet the stress test capital buffer.

### **3.3 Tier 2 Capital**

Tier 2 capital comprises of the Bank's qualifying subordinated notes and the general allowance for credit losses. Under BMA rules, subordinated notes qualify as lower Tier 2 capital providing the residual maturity is greater than 5 years to maturity; subordinated notes with less than 5 years to maturity is still eligible to qualify as Tier 2, but the capital value is subject to amortisation. Furthermore qualifying subordinated notes cannot exceed 50% of the total of Tier 1 capital, and Tier 2 capital cannot exceed Tier 1 capital. In addition, the general allowance for credit losses cannot exceed 1.25% of risk weighted assets. At 30 June 2011 the Group's qualifying subordinated loans of \$265 million, when expressed as a percentage of Tier 1 capital was 33.8%, Tier 2 capital was 38.4% of Tier 1 capital and the Group's general provision for credit losses represented 0.77 % of risk weighted assets.

### **3.4 Capital Ratios**

As at 30 June 2011 the Tier 1 and Total capital ratios of the Group were 16.7% and 22.8% respectively.

## 4. Capital Adequacy

### 4.1 Capital Management

One of management's primary objectives is to maintain the confidence of our clients, bank regulators and shareholders. A strong capital position helps the Bank to take advantage of profitable investment opportunities and withstand unforeseen adverse developments.

Capital is managed both on a total Group-wide basis and, where appropriate, on a legal entity basis. The Chief Financial Officer has the day-to-day responsibility for measuring and managing capital levels within guidelines and limits established by RPC and subject to BMA and other regulatory agencies that oversee the business of the Bank's non-Bermuda based operations. In establishing the guidelines and limits for capital, a variety of factors are taken into consideration, including the overall risk of the business, regulatory requirements, capital levels relative to our peers, and our credit ratings.

### 4.2 Capital Assessment and Risk Profiling

Under the requirements of Basel II as implemented by the BMA, the Bank undertakes a Capital Assessment and Risk Profiling (CARP) process, which is an internal assessment of all material risks to determine our capital needs. This internal assessment takes account of the minimum capital requirement and other risks not covered by the minimum capital requirement (Pillar 2). Where capital is deemed as not being able to mitigate a particular risk, alternative management actions are identified and described within the CARP. The CARP is presented to RPC before being presented to the Board for challenge and approval and then submission to the BMA. The CARP process is performed annually or more frequently should the need arise.

A Supervisory Assessment Process (SAP) is then undertaken annually by the BMA, which is designed to assess the Bank's risk profile as documented in the CARP. This assessment is used to determine and set the Individual Capital Guidance which is the minimum level of capital the Group will be required to hold until the next SAP review is conducted.

### 4.3 Minimum Capital Requirement: Pillar 1

The following table shows the Bank's overall minimum capital requirement for credit and operational risk under the standardised approach, based on 8% of its risk weighted assets for each of the applicable standardised credit risk exposure classes as at 30 June 2011:

<b>Minimum Capital Requirement 8%</b>	
	<b>\$m</b>
Cash	0.1
Claims on Sovereigns	3.4
Claims on Public Sector Entities	0.5
Claims on Corporates	27.5
Claims on Banks and Securities Firms	57.9
Securitisations	9.5
Retail Loans	30.0
Residential Mortgages	66.9
Commercial Mortgages	61.4
Past Due Loans	10.1
Other Balance Sheet Exposures	29.9
Non-market Related Off Balance Sheet Credit Exposures	26.0
Market-Related Off-Balance Sheet Credit Exposure	5.6
<b>Total credit risk capital requirement</b>	<b>328.9</b>
Operational risk capital requirement	45.8
<b>Total Pillar 1 capital requirement</b>	<b>374.7</b>
Total own funds (per section 3.1)	1,069.03
<b>Excess of own funds over minimum capital requirement under Pillar 1</b>	<b>694.3</b>

## **5. Credit Risk Measurement, Mitigation and Reporting**

### **5.1 Credit Risk Overview**

Credit risk is inherent in our various lending and business activities. It is defined as the risk that unexpected losses arise as a result of the Bank's borrowers or market counterparties failing to meet their obligations to repay. We focus our lending efforts on clients who are looking to establish a full range of financial services with us.

Credit risk is managed through the Credit Risk Management ("CRM") department, headed by the Chief Credit Officer, to whom overall responsibility for managing credit policy and process is delegated, including responsibility for ensuring adherence to a high level of credit standards. The Chief Credit Officer reports to the Chief Risk Officer.

CRM provides a system of checks and balances for our diverse credit-related activities by establishing and monitoring all credit-related policies and practices throughout the Group and assuring their uniform application. These activities are designed to diversify credit exposure on an industry and client basis, thus lessening overall credit risk. These credit management activities also apply to our use of derivative financial instruments, including foreign exchange contracts and interest rate risk management instruments, which are primarily used to facilitate client transactions. We also use derivatives in the asset and liability management of positions to minimise significant unplanned fluctuations in earnings that are caused by interest rate volatility. Our derivative contracts principally involve over-the-counter transactions that are privately negotiated between the Bank and the counterparty to the contract. Derivative instruments that are used as part of our interest rate risk management strategy include interest rate swaps. Interest rate swaps generally involve the exchange of fixed and variable-rate interest payments between two parties, based on a common notional principal amount and maturity date.

Individual credit authority for commercial and other loans is limited to specified amounts and maturities. Credit decisions involving commitment exposure in excess of the specified individual limits are submitted to the Chief Credit Officer and then to the GCC, which provides a forum for ongoing executive review of loan activity, establishing our credit guidelines and policies and approving selected credit transactions in accordance with our business objectives. The Committee reviews large credit exposures, establishes and reviews credit strategy and policy and approves selected credit transactions. FIC manages counterparty risk in respect of (third party) bank counterparties which do not have commercial credit relationships within the Group and also approves country exposure limits.

As part of our ongoing credit granting process, internal ratings are assigned to commercial clients before credit is extended, based on an assessment of creditworthiness. At least annually, a review of selected significant credit exposures to identify, at an early stage, clients who might be facing financial difficulties. Internal borrower risk ratings (BRR) are also reviewed during this process. They range from "1" for the strongest credits to "8" for the weakest credits. Above average risk loans receive special attention by both lending officers and CRM. This approach allows management to take remedial action in an effort to deal with potential problems. The BRR reflects the overall credit risk to the Bank of the specific borrower. Individual BRR's are reviewed at least annually, allowing identification of adverse individual borrower and sector trends.

An integral part of the CRM function is to formally review past due and potential problem loans to determine which credits, if any, need to be placed on non-accrual status or charged off. The allowance for loan losses is reviewed monthly to determine the amount necessary to maintain an adequate provision for credit losses.

Another way in which credit risk is managed is by requiring collateral. Management's assessment of the borrower's creditworthiness determines whether collateral is obtained. The amount and type of collateral held varies but may include deposits held in financial institutions, mutual funds, U.S. Treasury securities, other marketable securities, income-producing commercial properties, accounts receivable, residential real estate, property, plant and equipment, and inventory. Values of variable collateral are monitored on a regular basis to ensure that they are maintained at an appropriate level.

### **5.2 Credit Risk – Retail and Private Banking**

Retail and Private lending activity is split between residential mortgages, personal loans, credit cards and authorised overdrafts. Retail credit risks are managed in accordance with limits set out in the Credit Risk Policies and Guidelines approved by GCC (and ratified by the Board). The policies set out where specialist underwriting may be needed.

For residential mortgages, a combination of lending policy criteria, lending guidelines and underwriting are used to make a decision on applications for credit. The primary factors considered are affordability, residential status, residential history, credit history, employment

history, nature of income and loan-to-value (LTV) of the residential property. In addition, confirmation of a borrower's identity is obtained and an assessment of the value of the collateral carried out prior to granting a credit facility. When considering applications the primary focus is placed on the willingness and ability to repay.

The maximum mortgage loan is calculated and expressed as a percentage of the open market value. A range of LTV limits apply with the maximum limit currently being 85% and limits are set for concentrations of LTV bands. Mortgages over 85% to 100% LTV are granted only on an exceptional basis with final approval by CRM.

For other retail lending products, similar lending policy criteria are used, and each of these products has its own policy and underwriting rules to enable decisions on applications for credit and to manage accounts. The factors used are attuned to the lending product in question, although affordability and credit history are considered in all cases. Ongoing monitoring of all retail and private banking credit is undertaken by the business unit concerned as well as CRM. Reports are reviewed on a monthly basis. In the event that particular exposures show adverse features such as arrears, specialist recovery teams will work with borrowers to resolve the situation.

### **5.3 Credit Risk – Commercial Banking**

Commercial credit risks are managed in accordance with limits and asset quality measures set out in the Credit Risk Policies and Guidelines approved by GCC (and ratified by the Board).

In respect of Commercial Banking there is a level of delegated sanctioning authority to underwrite certain credit risks based upon an evaluation of the borrower's experience, track record, financial strength, ability to repay, transaction structure and security characteristics. Lending decisions for large or high risk exposures are based upon independent (of relationship management) credit risk analysis and the assignment of a BRR and are subject to further approval by the assigned officers in CRM or the GCC.

Consideration is also given to risk mitigation measures which will provide the Bank with protection, such as third-party guarantees, supporting collateral and security, legal documentation and financial covenants.

Commercial portfolio asset quality monitoring is based upon a number of measures, including the monitoring of financial covenant, cash flow, pricing movements and variable collateral. In the event that particular exposures begin to show adverse features such as payment arrears, covenant breaches or business trading losses, a full risk reappraisal is undertaken.

Where appropriate, a specialist recovery team will work with the borrower to resolve the situation. If this proves unsuccessful, the case will be subject to intensive monitoring and management procedures designed to maximise debt recovery.

### **5.4 Credit Risk – Treasury**

Treasury credit risks are managed in accordance with limits, asset quality measures and criteria set out within the policy approved by the Group Credit Committee and ratified by the Board. The policy also sets out powers which require higher levels of authorisation according to the size of the transaction or the nature of the associated risk. FIC identifies, assesses, prioritises and manages our risks associated with counterparty exposure to other financial institutions, as well as country-specific exposures

Exposures to financial institutions arise within the Bank's investment portfolio and treasury operations. The Bank has treasury operations in all of its banking locations. Treasury exposures primarily take the form of deposits with banks and foreign exchange positions. Exposures to financial institutions in the investment portfolio can take the form of bonds, floating rate notes and or certificates of deposit.

Diversification and avoidance of concentration is emphasised. The Bank establishes limits for countries and each financial institution where there is an expected exposure. Ongoing asset quality monitoring is undertaken by Treasury and CRM. Reports are sent to FIC, GCC and the Group Risk Committee on a monthly basis. Exception reporting takes place against a range of asset quality triggers.

Treasury uses a number of risk mitigation techniques including netting and collateralisation agreements. Other methods (such as margining, and derivatives) are used periodically to mitigate the risk associated with particular transactions or group of transactions.

For its exposure to treasury credit risk, the Bank uses Standard and Poor's (S&P), Fitch and Moody's as External Credit Assessment Institutions (ECAIs) as permitted under Basel II for Sovereign, Financial Institutions, Asset-backed Securities, Covered Bonds and Corporate risks. With regard to Financial Institutions and Corporates, the Bank's preference for a long-term rating is the senior unsecured

rating. However, counterparty ratings and/or short-term deposit or commercial paper ratings are used if this is unavailable. For Asset-backed Securities the issue or tranche rating is used.

## 5.5 Exposures

The following tables analyse the Bank's regulatory credit risk exposures as at 30 June 2011. Exposures are allocated to specific standardised exposure portfolios determined by the BMA's Revised Framework for Regulatory Capital Assessment and it is these portfolios that determine the risk weights used. These exposures include both on and off-balance sheet exposures, with the latter shown separately after credit conversion factors (CCF) have been applied.

Analysis of exposures class (\$ millions)	Average Exposure		Position as at
	2011		30-Jun-11
Cash	49.7		53.1
Claims on Sovereigns	261.7		324.5
Claims on Public Sector Entities	24.6		27.1
Claims on Corporates	393.5		371.3
Claims on Banks and Securities Firms	3,560.2		3,498.0
Securitisations	1,174.5		1,203.3
Retail Loans	524.2		554.8
Residential Mortgages	2,159.8		2,211.8
Commercial Mortgages	820.4		768.0
Past Due Loans	130.9		113.8
Other Balance Sheet Exposures	412.1		367.5
Non-market Related Off Balance Sheet Credit Exposures	558.3		603.4
Market-Related Off-Balance Sheet Credit Exposure	69.3		108.1
	<b>10,139.2</b>		<b>10,204.7</b>

Geographic distribution of exposures class (\$ millions)						Total
	Bermuda	UK	Guernsey	Caribbean	Switzerland	
Cash	27.5	-	-	25.6	-	53.1
Claims on Sovereigns	155.6	66.9	6.6	95.4	-	324.5
Claims on Public Sector Entities	22.4	-	-	4.7	-	27.1
Claims on Corporates	228.7	11.9	-	130.7	-	371.3
Claims on Banks and Securities Firms	1,066.4	491.6	1,170.6	768.7	0.7	3,498.0
Securitisations	667.5	19.6	76.8	439.4	-	1,203.3
Retail Loans	224.2	35.4	180.1	115.1	-	554.8
Residential Mortgages	1,313.7	192.1	201.4	504.6	-	2,211.8
Commercial Mortgages	418.4	159.9	32.8	156.9	-	768.0
Past Due Loans	75.5	6.8	-	31.5	-	113.8
Other Balance Sheet Exposures	245.0	17.2	22.0	83.3	-	367.5
Non-market Related Off Balance Sheet Credit Exposures	304.2	38.6	63.5	197.1	-	603.4
Market-Related Off-Balance Sheet Credit Exposure	88.5	1.6	8.2	9.8	-	108.1
	<b>4,837.6</b>	<b>1,041.6</b>	<b>1,762.0</b>	<b>2,562.8</b>	<b>0.7</b>	<b>10,204.7</b>

<b>Residual maturity breakdown of exposure class</b> (\$ millions)	Up to 12 months	1-5 years	More than 5 years	No specific Maturity	<b>Total</b>
Cash	53.1	-	-	-	<b>53.1</b>
Claims on Sovereigns	134.2	166.6	23.7	-	<b>324.5</b>
Claims on Public Sector Entities	14.4	4.7	8.0	-	<b>27.1</b>
Claims on Corporates	68.2	190.0	113.1	-	<b>371.3</b>
Claims on Banks and Securities Firms	3,274.4	223.6	-	-	<b>3,498.0</b>
Securitisations	-	36.1	1,167.2	-	<b>1,203.3</b>
Retail Loans	247.4	207.5	99.9	-	<b>554.8</b>
Residential Mortgages	181.3	277.2	1,753.3	-	<b>2,211.8</b>
Commercial Mortgages	56.1	215.3	496.6	-	<b>768.0</b>
Past Due Loans	72.2	1.2	40.4	-	<b>113.8</b>
Other Balance Sheet Exposures	-	-	-	367.5	<b>367.5</b>
Non-market Related Off Balance Sheet Credit Exposures	603.4	-	-	-	<b>603.4</b>
Market-Related Off-Balance Sheet Credit Exposure	107.7	0.4	-	-	<b>108.1</b>
	<b>4,812.4</b>	<b>1,322.6</b>	<b>3,702.2</b>	<b>367.5</b>	<b>10,204.7</b>

The above table shows residual maturity of exposures stated on a contractual, rather than an expected basis and does not take into account the cash flows payable or receivable over the life of the exposure.

The table below details the mappings between the main ECAI used by the Bank and the credit quality steps used to determine the risk-weight. Where no external rating is used in the RWA calculation, the unrated credit quality step applies.

<b>Credit quality step</b>	<b>Fitch's assessment</b>	<b>Moody's assessment</b>	<b>S&amp;P assessment</b>
Step 1	AAA to AA-	Aaa to Aa3	AAA to AA-
Step 2	A+ to A-	A1 to A3	A+ to A-
Step 3	BBB+ to BBB-	Baa1 to Ba3	BBB+ to BBB-
Step 4	BB+ to BB-	Ba1 to Ba3	BB+ to BB-
Step 5	B+ to B-	B1 to B3	B+ to B-
Step 6	CCC+ and below	Caa1 and below	CCC+ and below

The tables below detail the standardised portfolio exposure pre and post credit risk mitigation by the credit quality steps:

#### Central governments and central banks

Credit Quality Step	Risk Weight %	Exposure Value \$m	Exposure Value after Credit Risk Mitigation \$m
1	0%	238.7	238.7
2	20%	-	-
3	50%	85.8	85.8
		<b>324.5</b>	<b>324.5</b>

#### Regional governments and local authorities

Credit Quality Step	Risk Weight %	Exposure Value \$m	Exposure Value after Credit Risk Mitigation \$m
1	20%	22.4	22.5
2	50%	4.3	1.7
3	100%	0.4	0.4
		<b>27.1</b>	<b>24.6</b>

## Corporates

Credit Quality Step	Risk Weight %	Exposure Value \$m	Exposure Value after Credit Risk Mitigation \$m
1	20%	-	-
2	50%	15.0	15.0
3	100%	356.3	336.1
		<b>371.3</b>	<b>351.1</b>

## Financial Institutions

Credit Quality Step	Risk Weight %	Exposure Value \$m	Exposure Value after Credit Risk Mitigation \$m
1	20%	2,619.4	2,472.3
2	50% / 20%	338.6	338.6
3	50% / 20%	523.6	523.6
4	100% / 50%	16.4	16.4
		<b>3,498.0</b>	<b>3,350.9</b>

## 5.6 Impairment Provisions

### Impairment of Financial Assets

The Bank assesses at each balance sheet date whether, as a result of one or more events that occurred after initial recognition, there is objective evidence that a financial asset or group of financial assets are impaired. Evidence of impairment may include indications that the borrower or group of borrowers are experiencing significant financial difficulty, default or delinquency in interest or principal payments or the debt being restructured to reduce the burden on the borrower.

The Bank first assesses whether objective evidence of impairment exists either individually for assets that are separately significant or collectively for assets that are not separately significant. If there is no objective evidence of impairment for an individually assessed asset it is included in a group of assets with similar risk characteristics and collectively assessed for impairment.

If there is objective evidence that an impairment loss on loans and receivables has been incurred, the amount of the loss is measured as the difference between the carrying amount of the asset(s) and the present value of expected future cash flows, discounted at the asset's original effective interest rate, except when the sole (remaining) source of repayment for the loan is the operation or liquidation of the collateral. In these cases the current fair value of the collateral, less selling costs is used instead of discounted cash flows. The resultant allowances are deducted from the appropriate asset values in the balance sheet.

If there is objective evidence of impairment for financial assets classified as available-for-sale, the amount of impairment relating to credit losses is recognised in net income and the decrease in fair value relating to factors other than credit losses are recognised in Other Comprehensive Income (loss).

The methodology and assumptions used for expected future cash flows are reviewed regularly by the Bank to reduce any difference between loss estimates and actual experience.

## Past Due, Non-accrual and Impaired Loans

Non-accrual loans are those on which the accrual of interest is discontinued.

Commercial, Commercial real estate and Consumer loans (excluding credit card consumer loans) are placed on non-accrual status immediately if:

- in the opinion of management, full payment of principal or interest is in doubt; or
- principal or interest is 90 days past due.

Residential mortgages are placed on non-accrual status immediately if:

- in the opinion of management, full payment of principal or interest is in doubt; or
- when principal or interest is 90 days past due, unless the loan is well secured and any ongoing collection efforts are reasonably expected to result in repayment of all amounts due under the contractual terms of the loan.

The entire balance of an account is contractually delinquent if the minimum payment of principal or interest is not received by the specified due date. Delinquency is reported on loans that are 30 days or more past due.

Interest accrued but not collected at the date a loan is placed on non-accrual status is reversed against interest income. In addition, the amortisation of net deferred loan fees is suspended. Interest income on non-accrual loans is recognised only to the extent it is received in cash. However, where there is doubt regarding the ultimate collectivity of the loan principal, all cash thereafter received is applied to reduce the carrying value of the loan. Loans are restored to accrual status only when interest and principal payments are brought current and future payments are reasonably assured.

The Bank recognises charge offs when it determines that loans are uncollectible and this generally occurs when all commercially reasonable means of recovering the loan balance have been exhausted.

Commercial and Consumer loans are either fully or partially charged off down to the fair value of collateral securing the loans when:

- management judges the loan to be uncollectible;
- repayment is expected to be protracted beyond reasonable time frames;
- the asset has been classified as a loss by either the Bank's internal loan review process or external examiners; or
- the customer has filed bankruptcy and the loss becomes evident owing to a lack of assets or cash flow.

The outstanding balance of Commercial and Consumer real estate secured loans and residential mortgages that are in excess of the estimated property value, less cost to sell, are charged off once there is reasonable assurance that such excess outstanding balance is not recoverable.

Credit card consumer loans that are contractually 180 days past due and other consumer loans with an outstanding balance under \$100,000 that are contractually 180 days past due are written off and reported as charge-offs. Subsequent recoveries of amounts previously written off decrease the amount of the impairment loss recorded in the income statement. Loans subject to individual impairment assessment are subject to ongoing review to determine whether they remain impaired or are considered to be past due.

The following table shows the past due loans and allowances for impaired exposures and charges to the income statement for the period ended 30 June 2011:

	Commercial loans \$m	Commercial real estate loans \$m	Consumer loans \$m	Residential mortgage loans \$m	Total \$m
Neither Past due nor impaired	621.1	809.5	365.2	2,142.1	3,937.9
Impaired but not delinquent	0.4	1.8	0.5	9.3	12.0
Delinquent:					
30 to 59 days	2.7	2.2	8.7	44.3	57.9
60 to 89 Days	0.5	0.8	2.1	16.7	20.1
Over 90 Days	13.4	78.0	5.0	48.0	144.4
	<b>16.7</b>	<b>81.0</b>	<b>15.8</b>	<b>108.9</b>	<b>222.4</b>
<b>Total Exposures</b>	<b>638.2</b>	<b>892.3</b>	<b>381.5</b>	<b>2,260.3</b>	<b>4,172.3</b>
Allowances for credit losses	(8.8)	(30.5)	(10.1)	(22.9)	(72.2)
<b>Net Exposure</b>	<b>629.5</b>	<b>861.9</b>	<b>371.4</b>	<b>2,237.3</b>	<b>4,100.1</b>
Charge for the period	0.3	1.9	2.2	2.1	6.4

The amounts shown as delinquent represent the full amount of the loan outstanding, not just the amount that is delinquent. Further details of the Bank's non-accrual and delinquent loans can be found in Note 5 of the Bank's 2010 Consolidated Financial Statements.

### Allowance for Credit Losses

The Bank maintains an allowance for credit losses, which in management's opinion is adequate to absorb all incurred credit related losses in its portfolio relating to on and off balance sheet lending portfolio. The allowance for credit losses consists of specific allowances and a general allowance, each of which is reviewed on a regular basis. The allowance for credit losses is included as a reduction of the related asset category.

### Specific Allowances

Specific allowances are determined on an item by item basis and reflect the associated estimated credit loss. The specific allowance for credit loss is computed as the difference between the recorded investment in the loan and present value of expected future cash flows from the loan. The effective rate of return on the loan is used for discounting the cash flows. However, when foreclosure of a collateral-dependent loan is probable, the Bank measures impairment based on the fair value of the collateral. The Bank considers estimated costs to sell, on a discounted basis, in the measurement of impairment if those costs are expected to reduce the cash flows available to repay or otherwise satisfy the loan. If the measurement of an impaired loan is less than the recorded investment in the loan, then the Bank recognises impairment by creating a specific allowance with a corresponding charge to provision for credit losses.

### General Allowance

The allowance for credit losses attributed to the remaining portfolio is established through a process that estimates the probable loss inherent in the portfolio based upon various analyses. These analyses consider historical default rates and loss severities, internal risk ratings, and geographic, industry, and other environmental factors. Management also considers overall portfolio indicators including trends in internally risk rated exposures, cash-basis loans, historical and forecasted write-offs, and a review of industry, geographic and

portfolio concentrations, including current developments within those segments. In addition, management considers the current business strategy and credit process, including limit setting and compliance, credit approvals, loan underwriting criteria and loan workout procedures.

Each portfolio of smaller balance, homogeneous loans, including consumer mortgage, installment, revolving credit, and most other consumer loans, is collectively evaluated for impairment. The allowance for credit losses attributed to these loans is established via a process that estimates the probable losses inherent and incurred in the portfolio, based upon various analyses. Management considers overall portfolio indicators including historical credit losses; delinquent (defined as loans with payments contractually over 30 days past due), non-performing, and classified loans; trends in volumes and terms of loans; an evaluation of overall credit quality; the credit process, including lending policies and procedures; and economic, geographical, product, and other environmental factors.

The following table summaries the movement in bad debt allowances for the period ended 30 June 2011:

	Specific Allowance \$m	General Allowance \$m	Total \$m
Balance at 1 January 2011	30.3	36.5	66.8
Provision taken during the period	9.1	(2.7)	6.4
Recoveries	0.2	2.5	2.7
Charge-offs	(3.3)	(0.4)	(3.7)
<b>Balance at 30 June 2011</b>	<b>36.4</b>	<b>35.8</b>	<b>72.2</b>

## 5.7 Credit Risk Concentrations

Concentration Risk is defined as: any single exposure or group of exposures with the potential to produce losses large enough (relative to the Bank's capital, total assets or overall risk level) to threaten the Bank's health or ability to maintain core operations.

The management of concentration risk is addressed in the first instance by the Group's large exposure policy and related credit guidelines, which require that credit facilities to entities that are affiliated through common ownership or management are aggregated for adjudication and reporting purposes. The policy also defines what constitutes a large exposure and the related reporting requirements. The Credit Risk Management (CRM) function also undertakes monitoring and assessment of our exposure to concentration risk, reporting the results of these analyses to the Group Credit Committee, the Group Risk Committee and Risk Policy & Compliance Committee of the Board.

The factors taken into consideration when assessing concentration risk are as follows:

- single or linked counterparty;
- industry or economic sector (e.g. hospitality, property development, commercial office building investment);
- geographic region;
- product type;
- collateral type;
- maturity date (whether of the facility or of interest rate fixes).

5.7.1 **Counterparty Concentration** is the risk associated with assuming a high level of exposure to a single counterparty, the failure of which could have an adverse impact on the Bank.

It is a written policy and practice that any exposure greater than 25% of the Large Exposure Capital Base (LECB) is submitted to the Group Credit Committee, the Risk Policy & Compliance Committee of the Board and the Bermuda Monetary Authority ("BMA") for their respective approvals. In addition, the top 20 loan account exposures and the top 20 bank exposures are reported to the BMA quarterly.

Large exposures are reviewed quarterly by CRM for the loan portfolio and the treasury / investment portfolios. CRM and Treasury work closely together on daily treasury positions and exceptions.

All large exposures and concentrations in the portfolio are reviewed and agreed by the Financial Institutions Committee on a quarterly basis and are reported to the Board as a part of this process. The review of large exposures considers:

- Facility total.
- Any link with other facilities.
- Total linked facility being within guidelines.
- Borrower risk rating.
- Security value on the facility.
- Loan to value percentage against Minimum Security Covenants

**5.7.2 Industry Concentration** encompasses the scenario that a risk factor inherent within an industry is tied to an entire portfolio of accounts or investments; e.g. a portfolio made up of a large number of small individual loans where all the counterparties are steel producers. Due to the nature of the Group's client base, industry exposure in this traditional sense is not a relevant risk. It is recognised that our exposure to the property, insurance and fund sectors could be classified as an industry concentration, and our exposure to the property sectors in Bermuda, Guernsey and the UK are more properly addressed through the concentration risk factors described below.

**5.7.3 Geographic Concentration** of the book is monitored as follows:

- Reports are generated which provide details of all the property loan exposure of the Bank. Through this, loans are subdivided into regional exposure.
- From this, the percentage breakdown per region of the Bank's property exposure is analysed and reported to Group Credit Committee and to the Group Risk Policy Committee. Assessment of the exposure allows the committees to decide whether the Bank should decline further lending in any area in which it is becoming over-weighted.

The geographic distribution of loans by originating Jurisdiction is presented in Section 5.5 above:

**5.7.4 Product Concentration** is defined in the context of credit risk, as an over-weighting in the portfolio to a given product type, making the Bank vulnerable to the impact of a variety of external factors that could either reduce demand for the product itself or lead to an increase in the level of default rates experienced.

Butterfield operates as a full service "community bank" in Bermuda, Cayman and Barbados and aims to satisfy the requirements of its customers these communities through the range of products and services it offers. Accordingly, there is no dependence or concentration on a single product in these markets outside of the residential mortgage portfolios which comprise 51% of the Group's loan book, in Bermuda residential mortgage lending makes up 56% of the Bermuda loan book, and that loans for many purposes (education, business support, family requirements) are made in the form of residential mortgages.

Product category analysis confirms that the total lending portfolio is concentrated in the property market; this has been addressed in stress testing performed.

**5.7.5 Collateral Concentration** considers whether the Bank's loan book is secured by a limited number of collateral types. An example of this would be when a large value of loans to a diversified group of borrowers is all secured by shares in the same company or by the shares of various companies within the same industry sector. Any decline in the value of these shares or in the performance of the sector as a whole could have an adverse impact on the Bank's security position across all affected borrowers.

The most obvious and relevant example of collateral concentration is the Bank's exposure to real estate property values. Ignoring cash-backed facilities, the largest collateral concentrations within the portfolio are to residential and commercial property. Credits secured by the underlying assets held by mutual funds had been considered significant up to 2007/2008; but have fallen off considerably in 2009/2010.

The greatest risk with collateral concentration is that the value of the security could be severely reduced. To simulate this, the Bank's stress testing process incorporates a scenario in which all real estate collateral is devalued by a factor of 40%.

5.7.6 **Maturity concentration** has been classified as the concentration of loans that are either:

- Maturing at any similar time ('Loan Maturity'), leading to a sudden fall in the value of the portfolio and the income that this generates; or
- Have fixed interest rates that are approaching maturity at similar times, potentially impacting the repayment obligations on the borrowers (if rates have subsequently risen) and therefore the risk of default in the affected portfolio.

## 5.8 Credit Risk Mitigation

The Bank uses a wide range of techniques to reduce credit risk of its lending. The most basic of these is performing an assessment of the ability of a borrower to service the proposed level of borrowing without distress. However, the risk can be further mitigated by obtaining security for the funds advanced.

### Residential mortgages

Residential property is the Bank's main source of collateral and means of mitigating credit risk inherent in the residential mortgage portfolio. All mortgage lending activities are supported by an appropriate form of valuation using an independent firm of valuers.

All residential property must be insured to cover property risks through a third party, which may include a Bermuda based insurance company in which the bank has a minority interest. Additional protection is also afforded to borrowers through optional payment protection insurance.

### Commercial

Commercial property is the Bank's primary source of collateral and means of mitigating credit risk inherent in its commercial portfolios. Collateral for the majority of commercial loans comprises first legal charges over freehold or long leasehold property but the following may also be taken as security:

Life policies	Credit balances	Assignments
Shares	Guarantees	Equitable charges
Debentures	Chattel mortgages	Charges over residential property

For property-based lending, supporting information such as professional valuations are an important tool to help determine the suitability of the property offered as security and, in the case of investment lending, generating the cash to cover interest and principal payments.

All standard documentation is subject to in-house legal review and sign-off in order to ensure that the Bank's legal documentation is robust and enforceable. Documentation for large advances may be specifically prepared by independent solicitors.

Insurance requirements are always fully considered as part of the application process and the Bank ensures that appropriate insurance is taken out to protect the property against an insurable event.

### Treasury

Collateral held as security for treasury assets, including investments, is determined by the nature of the instrument. Loans, debt securities, treasury and other eligible bills are generally unsecured with the exception of asset-backed securities and similar instruments, which are secured by pools of financial assets.

The International Swaps and Derivatives Association (ISDA) Master Agreement is the Bank's preferred method of documenting derivative activity. It is common in such cases for a Credit Support Annex to be executed in conjunction with the ISDA Master Agreement in order to mitigate credit risk on the derivatives portfolio. Valuations are performed, agreed with the relevant counterparties, and collateral is exchanged to bring the credit exposure within agreed tolerances.

The Bank's legal documentation with its counterparties for derivative transactions grants legal rights of set-off for those transactions. Accordingly, for credit exposure purposes, negative market values on derivatives will offset positive market values on derivatives with the same counterparty in the calculation of credit risk, subject to an absolute exposure by counterparty.

The exposure value to the counterparty is measured under the counterparty credit risk mark to market method. The exposure value is derived by adding the gross positive fair value of the contract (replacement cost) to the contracts potential future credit exposure, which is derived by applying a multiple base on the contracts residual maturity to the notional value of the contract.

The following table shows the exposures to counterparty credit risk for derivative contracts as at 30 June 2011:

	Gross Positive Fair Value of Contracts	Potential Credit Exposure	Total Derivatives Credit Exposure
	\$m	\$m	\$m
Interest rate contracts	2.6	0.01	2.6
Foreign exchange contracts	39	66.5	105.5
<b>Total</b>	<b>41.6</b>	<b>66.5</b>	<b>108.1</b>

## 5.9 Securitisations

The Bank has not, to date, securitised assets that it has originated. The Bank's total exposure to purchased securitisation positions as at 30 June 2011 was \$1.2 billion by market value with U.S. government and federal agencies accounting for the majority of this exposure.

The following table provides an analysis of the Bank's investments in securitisation positions by exposure type:

<b>Underlying asset type</b>	Exposure Value \$m
Residential mortgages	1025.1
FFELP Student Loans	146.5
Securitisation/ re-securitisation	31.7
<b>Total</b>	<b>1,203.3</b>

A combination of ratings published by Fitch, Moody's and S&P are used to derive the external rating to be used under the standardised approach for securitisation exposures. In line with the BMA's Revised Framework for Regulatory Capital Assessment, where two credit assessments by ECAs are available, the less favourable of the two credit assessments is applied. Where more than two credit assessments are available, the two most favourable credit assessments are used and where the two most favourable assessments are different, the less favourable of the two is applied.

The following table shows the aggregate amount of the bank's purchased securitisations as at 30 June 2011 broken down by risk weighting:

Risk Weight %	Exposure Value \$m	Exposure Value after Credit Risk Mitigation \$m
20%	1,171.6	41.9
50%	-	-
100%	-	-
350%	-	-
Look through to underlying assets	31.7	31.7
	<b>1,203.3</b>	<b>73.6</b>

## 6. Market and Liquidity Risk

### 6.1 Market Risk Overview

Market risk is the risk of a loss in earnings or decrease in value of the Group's balance sheet due to adverse movements in market factors such as interest rates, foreign exchange rates, credit spreads, prepayment risk and equity prices. The most significant risk for the Bank are those arising from movements in interest rates.

Market risk exposures are generally calculated and monitored independently of each other. All market risks are monitored closely and regularly reported to GALCO by the Market Risk division of Risk Management.

### 6.2 Interest Rate Risk

Interest rate risk is our exposure to adverse movements in interest rates. Such risk is a normal part of banking and exposure to it can be an important source of profitability and shareholder value. However, where risk is excessive, the threat to earnings and capital can be significant. Changes in interest rates affect earnings by changing net income as well as the level of other interest-sensitive income and expenses. Such changes also affect underlying value of assets, liabilities and off balance-sheet instruments, and hence the economic value of the Bank, since the present value of future cash flows changes as interest rates shift. This risk only arises in the banking book, as the Bank does not run a trading book, and therefore does not have the type of higher risk exposure run by many banking institutions.

According to the Bermuda Monetary Authority "an institution's trading book consists of positions in financial instrument and commodities held either with the intention of trading or in order to hedge other elements of the banking book. Positions not assigned to the trading book fall into the banking book". Further, "each licensed institution must agree a trading book policy statement with the Authority. This includes the case of institutions seeking exemption from the detailed market risk calculation since exemption is dependent on receipt by the Authority of such a statement". As such, the Bank has submitted a policy statement to the BMA which declares the activities of the Group as non-trading.

The principal objective of our interest rate risk management is to maximise profit potential while minimising exposure to changes in interest rates by means of managing the ratio of interest rate sensitive assets to interest rate sensitive liabilities within specified maturities or re-pricing dates. Our actions in this regard are taken under the guidance of GALCO. The Committee is actively involved in formulating the economic assumptions that we use in our financial planning and budgeting processes and establishes policies which control and monitor the sources, uses and pricing of funds. From time to time, we utilise hedging techniques to reduce interest rate risk. GALCO uses interest income simulation analysis to measure inherent risk in our balance sheets at specific points in time.

Appetite for interest rate risk is documented in the Bank's policies on Interest Rate Risk and Investments, and includes the following key measures:

**Net Interest Income Quarterly Stress Test:** Net interest income shall not decline more than 10% from its base case in the one year measurement period for each +/-200 basis point (2.00%) immediate and sustained shift in interest rates.

**Economic Value of Quarterly Equity Stress Test:** Economic value of equity shall not decline more than 10% from its base case value given a +/-200 basis point (2.00%) immediate and sustained shift in interest rates.

**Other Comprehensive Income Stress Test:** On an ongoing basis, the available for sale (AFS) portfolio will be shocked given a +/- 200 basis point (2.00%) immediate and sustained shift in interest rates resulting in an unrealized gain/loss within the AFS investment portfolio. Under either stress scenario, the charge to Other Comprehensive Income (OCI) shall not cause the Group's accumulated negative OCI to exceed specified internally monitored parameters.

**Tangible Common Equity to Tangible Assets Quarterly Stress Test:** On a quarterly basis, the AFS investment portfolio will be shocked given a +/-200 basis point (2.00%) immediate and sustained shift in interest rates resulting in an unrealized gain/loss within the AFS investment portfolio. Under either stress scenario, tangible common equity to tangible assets shall not decline below specified internally monitored parameters.

If any of the above risk limits are exceeded, GALCO will provide a plan to executive management to bring the exposure back within tolerance. The plan does not have to bring the exposure back within limit immediately, but must adjust the exposure within a reasonable amount of time.

Additional details are given in the Risk Management Report in the Bank's Annual Report for the year ended 31 December 2010.

### 6.3 Foreign Exchange Risk

The Bank holds various non-U.S. Dollar denominated assets and liabilities and maintain investments in subsidiaries whose domestic currency is either not the U.S. Dollar or their domestic currency is not pegged to the U.S. Dollar. The domestic currencies of Barbados, Bermuda, the Cayman Islands and The Bahamas are all pegged to the U.S. Dollar; although that does not mean that will always remain the case. Assets and liabilities denominated in currencies other than the U.S. Dollar are translated to Bermuda Dollars at the rates of exchange prevailing at the balance sheet date. The resulting gains or losses are included in foreign exchange revenue in the consolidated statement of income. Assets and liabilities of subsidiaries outside of Bermuda are translated at the rate of exchange prevailing on the balance sheet date while associated revenues and expenses are translated to Bermuda Dollars at the average rate of exchange prevailing through the accounting period. Unrealised translation gains or losses on investments in foreign currency based subsidiaries are recorded as a separate component of shareholders' equity within Accumulated Other Comprehensive Income. Such gains or losses are recorded in the consolidated statement of income only when realised. Our foreign currency subsidiaries which may give rise to significant foreign currency translation movements against the U.S. Dollar are located in Guernsey and the United Kingdom. We also provide foreign exchange services to our clients, principally in connection with our community banking and wealth management businesses, and effect other transactions in non-U.S. Dollar currencies. Foreign currency volatility and fluctuations in exchange rates may impact the value of non-U.S. Dollar denominated assets and liabilities and raise the potential for losses resulting from foreign currency trading positions where aggregate obligations to purchase and sell a currency other than the U.S. Dollar do not offset one another, or offset each other in different time periods. If the policies and procedures we have in place to assess and mitigate potential impacts of foreign exchange volatility are not followed, or are not effective to mitigate such risks, our results and earnings may be negatively affected.

The Bank maintains a clearly articulated foreign exchange risk exposure tolerance framework which limits exposures to select currencies. A full definition of the tolerance framework is contained in the Bank's Treasury Policy and Foreign Exchange Risk policy.

Note 14 of the Consolidated Financial Statements as at 31 December 2010 provides details of the Bank's foreign exchange and other derivative instruments as at that date.

### 6.4 Liquidity Risk

The objectives of liquidity risk management are to ensure that the Group can meet its cash flow requirements and capitalise on business opportunities on a timely and cost effective basis. Liquidity is defined as the ability to generate cash adequate to meet our needs for day-to-day operations and material long and short-term commitments. Liquidity risk is the risk of potential loss if the Bank were unable to meet its funding requirements at a reasonable cost.

We monitor and manage our liquidity on a group-wide basis. The treasury functions in the Group's banking operations, located in Bermuda, Barbados, Cayman Islands, Guernsey, the United Kingdom and The Bahamas, manage day-to-day liquidity. The Market Risk department of RM has the responsibility for measuring and reporting to senior management on liquidity risk positions. We manage our liquidity based on demand, commitments, specific events and uncertainties to meet current and future financial obligations of a short-term nature. Our objective in managing liquidity is to respond to the needs of depositors and borrowers as well as to earnings enhancement opportunities in a changing marketplace. Management is responsible for establishing and monitoring liquidity targets as well as strategies to meet these targets. The Bank adopts a cautious liquidity risk appetite with internal quantitative liquidity risk tolerances more stringent than regulatory requirements. Specifically the Group manages liquidity against the following internal limits as outlined in the Liquidity Risk Policy:

- Cumulative sight to 7 day coverage ratio in excess of 110%
- Cumulative sight to 30 day coverage ration in excess of 105%

We maintain a balance sheet with loans representing 43.1% of total assets as at 30 June 2011. Further, at that date there were significant sources of liquidity within our balance sheet in the form of cash, and cash equivalents and securities available-for-sale, amounted to \$5.0 billion, or 52.3%, of total assets.

An important element of our liquidity management is our contingent liquidity plan which can be employed in the event of a liquidity crisis. The objective of the contingent liquidity plan is to ensure that we maintain our liquidity during periods of stress. This plan takes into consideration a variety of scenarios that could challenge our liquidity. These scenarios include specific and systemic events that can impact our on-and off-balance sheet sources and uses of liquidity. This plan is reviewed and updated at least annually.

There is no central bank in Bermuda and thus we have no 'lender of last resort', however the Bank benefits from several funding sources including secured and material committed facilities. The Bank also has access to funding from the inter-bank market on an uncommitted basis and has put in place formalised but uncommitted repurchase and collateralised facilities with counterparties which enable us to access funding on a secured basis. However, in a financial crisis, our access to some of these liquidity sources may be restricted or we may not be able to access them at all. Another source of liquidity for us is the ability to draw funding from capital markets globally. The availability and cost of these funds are influenced, in part by our credit rating; as a result, a downgrade in our credit ratings could have an adverse impact on our liquidity funding and the cost thereof. Similarly, a downgrade in Bermuda's sovereign credit rating could also adversely affect our ability to access liquidity.

## 7. Operational Risk

In providing our services, we are exposed to operational risk. This is the risk of loss arising from the impact of external events, the actions of people or systems, or from shortcomings in the design or execution of business processes.

The Bank views the management of operational risk as integral to its objective of creating and maintaining shareholder value. Risk management requires the consideration of the risk and reward relationship in both the management of existing activities and the execution of all new business strategies. Our success is also dependent, in part, upon maintaining our reputation as a well managed institution with shareholders, existing and prospective clients, creditors and regulators. In order to maintain this reputation, we seek to minimise the frequency and severity of operational losses associated with compliance and fiduciary matters, product, process, and technology failures, and business continuity.

Operational risk is mitigated through the combination of a system of internal controls that is documented in the Group's risk management policies and procedures and our risk management practices, which are designed to continuously re-assess the effectiveness of these controls in order to keep the risk we assume at levels appropriate to our overall appetites. Our overall approach is based on the following four guiding principles:

- Assessing risks is a day-to-day business activity that is the concern of every employee;
- Decisions are based on an assessment of all relevant operational risks;
- Risk decisions shall be made at the appropriate level based on delegated authority; and
- Unnecessary risks shall be avoided.

Data on operational losses and any significant control failures incurred are captured through an incident reporting process. These events are reported to both the GRC and RPC, which assess the sufficiency of the corrective actions taken by management to prevent recurrence. Both committees also receive regular reporting on actual performance against established risk tolerance metrics and assessments of the on the Group's overall compliance with all relevant policy and procedural requirements.

For the purposes of calculating its operational risk capital requirements, the Bank has adopted the standardised approach as set out in the Basel Capital Accord. Under this, gross income is regarded as a proxy for the operational risk exposure within each business line. The capital charge for operational risk is calculated separately, based on gross income generated over the preceding three years.



# Butterfield

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