Chapter 4 Banking-sector overview

1. Introduction

This chapter provides an overview of the financial and risk information submitted by registered banks during 2008. In previous reports comparative information represented the two years prior to the year to which the report related. However, the implementation of Basel II with effect from 1 January 2008 entailed, *inter alia*, a radical change in reporting methodology, revised regulatory returns and greater alignment of regulatory reporting requirements with International Financial Reporting Standards (IFRSs). Consequently, other than Figures 3 and 4, no comparative information prior to 1 January 2008 is available and thus all data presented in this chapter relate to the period 1 January 2008 to 31 December 2008, and all ratios have been calculated on an unsmoothed basis. With additional historic data becoming available in ensuing reporting periods, the format of future reports will be adjusted accordingly.

The banking-sector data are compiled by way of aggregation of individual South African registered banks' data (i.e., on a solo basis). Branches and subsidiaries of South African banks operating in international jurisdictions are excluded. However, for information purposes, the global presence of South African banks is depicted in Figure 2, which includes subsidiaries, branches and representative offices.

four largest banks constituted 84,4 per cent of banking-sector assets

The reports and graphs presented in this chapter are mainly reflective of the size of the balance sheets of the four largest banks, which constituted 84,4 per cent of banking-sector assets at the end of December 2008. A list of the size of the individual banks' balance sheets is provided in Appendix 2.

Basel II introduced a menu of approaches

The implementation of the Basel II framework introduced a menu of approaches to banks for calculating minimum capital-adequacy requirements for credit risk, market risk and operational risk, which form the basis for the completion of banks' prescribed risk returns. Banks are required to obtain prior approval from the Registrar to apply the more advanced approaches for calculating capital requirements for these specific risk areas. Consequently, it is not possible in certain instances to aggregate the data for a specific risk area due to the differences in approaches applied. In such instances, the discussion, graphs and reports of a specific risk area will be based on the relevant approach followed.

2. Structural features of the banking sector

2.1 Shareholding structure

international shareholders accounted for 46 per cent of banking-sector shares

The shareholding structure of the South African banking sector (Figure 1) shows that international shareholders accounted for 46 per cent and domestic shareholders for 32 per cent of the banking-sector shares in issue at the end of December 2008. Minority shareholders (i.e., shareholders with individual shareholdings to the value of less than 1 per cent) accounted for 22 per cent of the banking-sector shares in issue.

2.2 Banking sector global presence

international banking presence

South African banks have expanded their international banking presence through subsidiaries, branch networks and representative offices. Figure 2 represents the main geographical areas in which banking groups are represented.

Figure 1 Shareholding structure of the South African banking sector (nominal value of shares) (per cent)

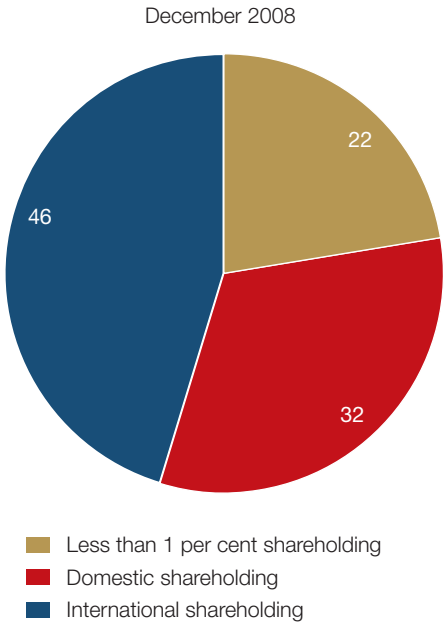
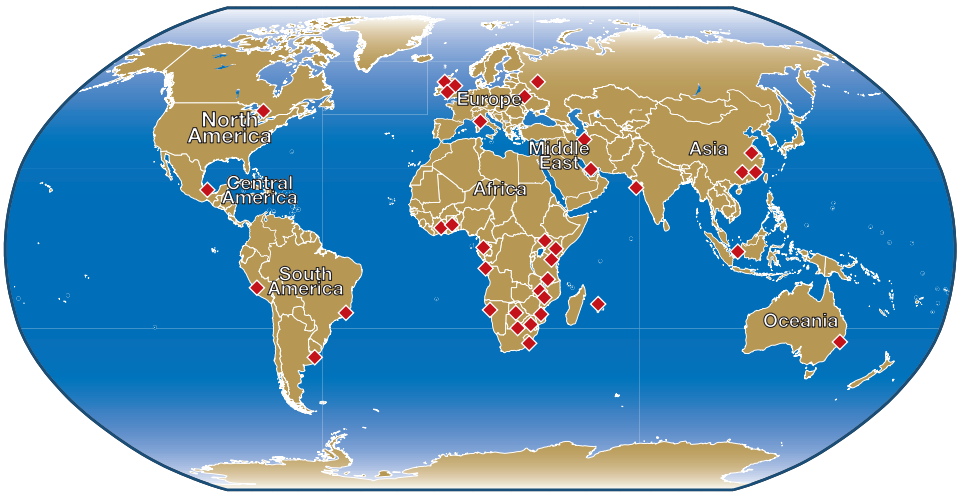


Figure 2 Global presence of South African banks



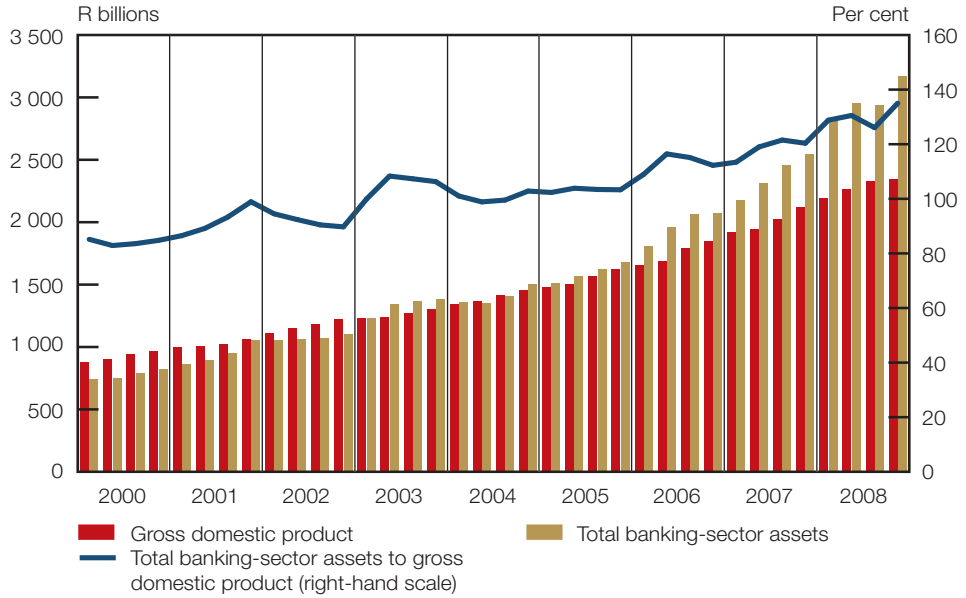
2.3 Banking-sector assets to gross domestic product

The banking-sector's assets measured in relation to the size of the domestic economy, when compared with those of other economies, provides some insight into the developmental stage of a banking sector. As the current international financial market crisis unfolded, increased attention has been paid to the size of individual banks in relation to their domestic economy. In many jurisdictions governments had to provide guarantees and/or capital injections as part of rescue resolution plans to individual banks considered "too big to fail" or systemically relevant.

banking sector has experienced strong growth

Measured since the start of 2000, the South African banking sector has experienced strong annual growth rates, exceeding that of the gross domestic product[1] (GDP). As a result, the ratio of banking-sector assets to GDP increased to 135,0 per cent at the end of December 2008, up from 120,4 per cent at the end of December 2007 (March 2000: 85,1 per cent), as illustrated in Figure 3.

Figure 3 Total banking-sector assets to gross domestic product

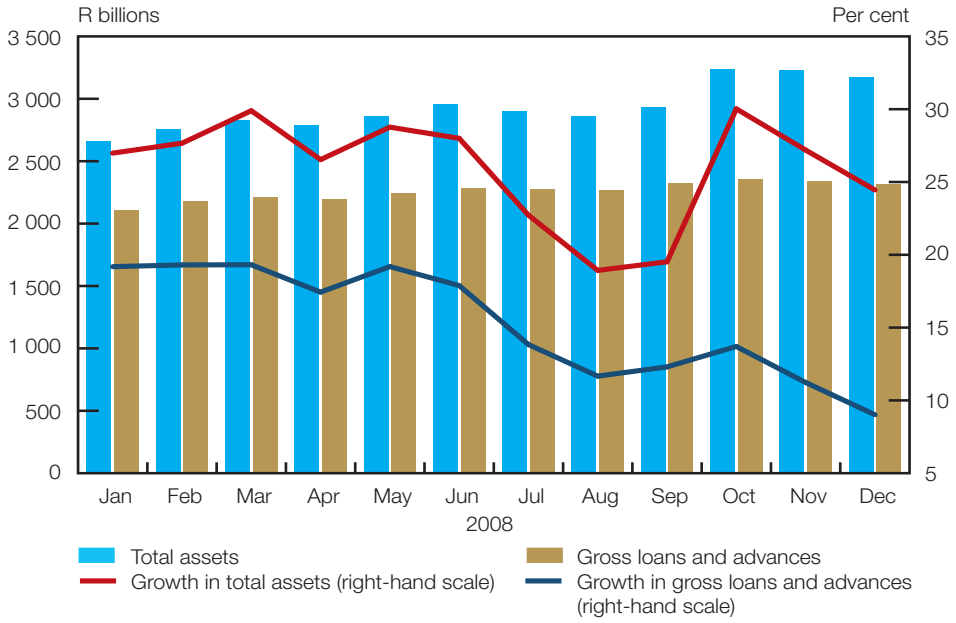


3. Balance sheet

3.1 Assets

Figure 4 illustrates the growth in banking-sector assets, and gross loans and advances during 2008 (measured year on year). During the first half of 2008, banking-sector assets

Figure 4 Total assets, gross loans and advances and the respective growth rates (year on year)



grew at a rate in excess of 25 per cent (March 2008: 29,9 per cent). The growth rate slowed down in the third quarter of 2008 to 18,9 per cent at the end of August 2008, but subsequently increased to 30,0 per cent at the end of October 2008 (the highest level recorded during 2008). At the end of 2008, banking-sector assets amounted to R3 170 billion, representing an annual growth rate of 24,5 per cent year on year (January 2008: 27,0 per cent). The increase in the growth rate at the end of October 2008 was mainly due to a substantial increase in derivative financial instruments to R507,3 billion at the end of October 2008 (September 2008: R244,7 billion). The increase was reported mainly by the five largest banks and some registered branches of international banks.

however, growth rate slowed in the third quarter of 2008

The growth in gross loans and advances eased to 9 per cent at the end of December 2008 compared with 19,2 per cent at the end of January 2008. The lower growth rate in gross loans and advances during 2008 may be attributed to a tighter monetary policy stance and the implementation of more stringent risk-based lending criteria by banks.

growth in gross loans and advances eased

The composition of banking-sector assets at the end of both January 2008 and December 2008 is reflected in Figure 5. Loans and advances to customers remained the largest portion of banking-sector assets, amounting to R2 276 billion at the end of December 2008 (71,8 per cent of banking-sector assets), compared with R2 077 billion at the end of January 2008 (78 per cent of banking-sector assets). Derivative financial instruments, the second-largest constituent, increased from R228,5 billion at the end of January 2008 to R455,5 billion at the end of December 2008, representing 8,6 per cent and 14,4 per cent of banking-sector assets respectively.

loans and advances largest portion of banking-sector assets

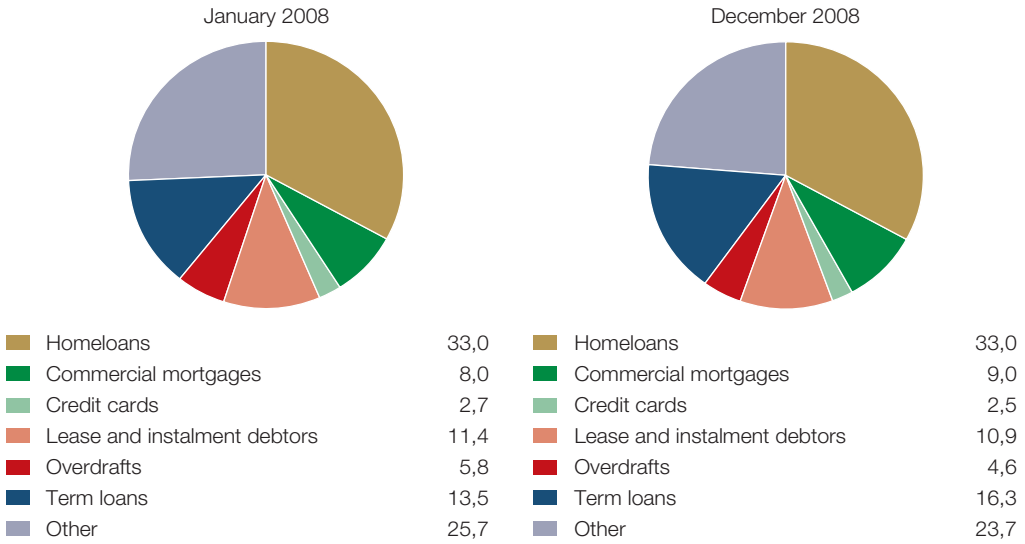
Figure 5 Composition of total assets (per cent)

	January 2008	December 2008
Cash and balances with central bank	2,1	2,1
Short-term negotiable securities	3,5	3,9
Loans and advances to customers	78,0	71,8
Investment and trading securities	4,4	5,3
Derivative financial instruments	8,6	14,4
Other	3,4	2,5

The composition of loans and advances to customers amounting to R2 276 billion at the end of December 2008 remained fairly stable throughout 2008. As illustrated in Figure 6, homeloans and other loans represented the main portions of loans and advances to customers, with the former amounting to R763,5 billion (January 2008: R693,5 billion) and the latter amounting to R549,6 billion at the end of December 2008 (January 2008: R540,3 billion).

The main contributors to 'other' loans were loans and advances to banks (R333,3 billion) and foreign-currency loans and advances (R177,5 billion), and to a lesser extent, repurchase agreements.

Figure 6 Composition of loans and advances to customers (per cent)



inter-bank market continued to function as normal

Figure 7 depicts loans and advances to banks expressed as a percentage of gross loans and advances. The loans and advances to banks, amounting to R333,3 billion, represented 14,4 per cent of gross loans and advances at the end of December 2008 (January 2008: 17,3 per cent). The loans and advances to banks as a percentage of gross loans and advances fluctuated between 14,4 per cent and 18,8 per cent during 2008, which shows that the inter-bank market continued to function as normal throughout the year.

Figure 7 Loans and advances to banks

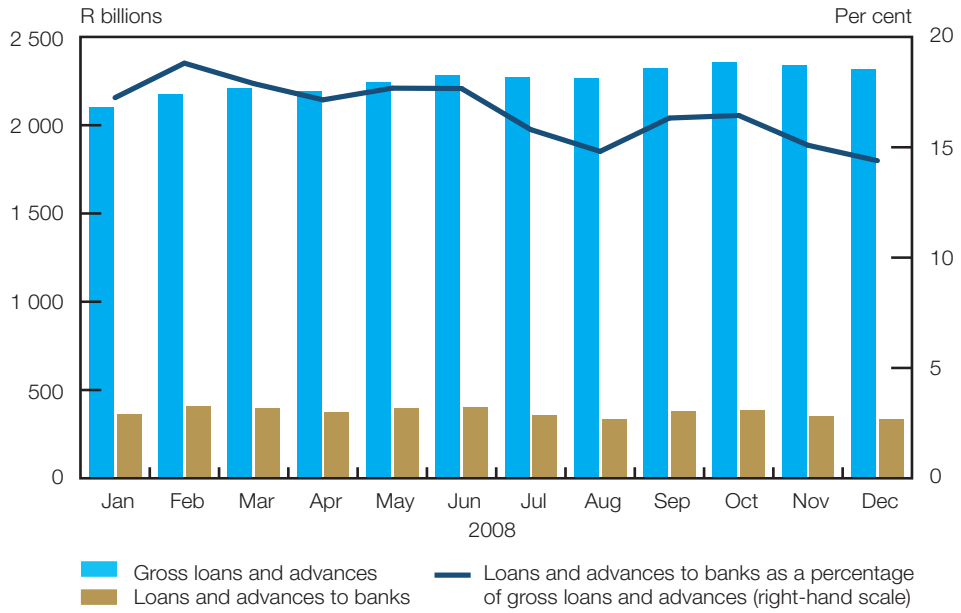
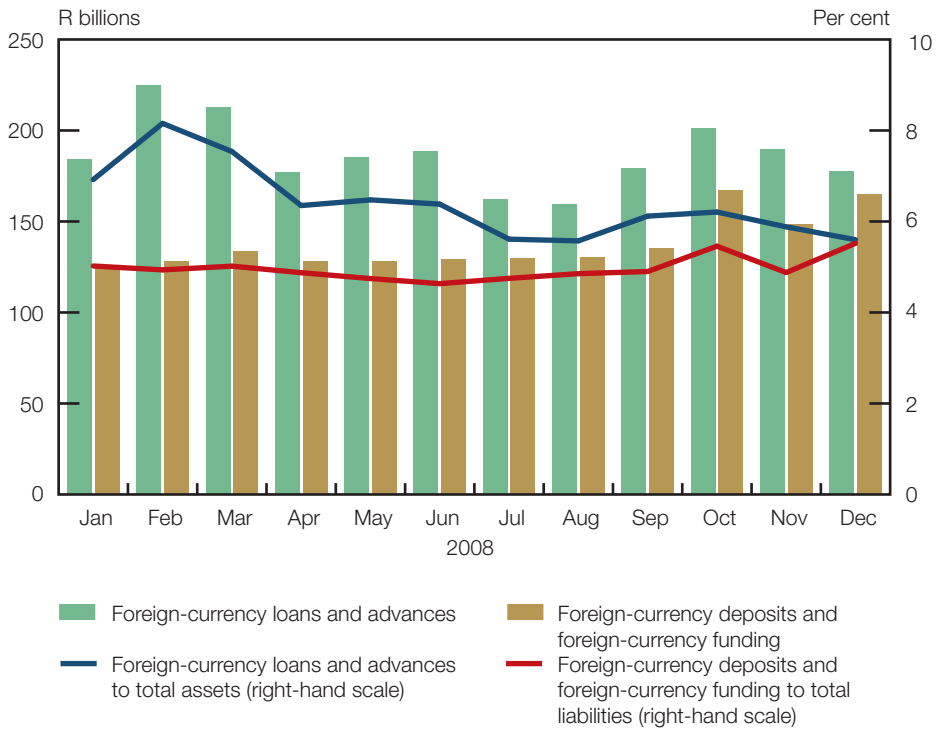


Figure 8 shows foreign-currency loans and advances, and foreign-currency deposits and funding. Expressed as a percentage of banking-sector assets, foreign-currency loans and advances accounted for 5,6 per cent of banking-sector assets at the end of 2008 (January 2008: 6,9 per cent). Foreign-currency loans and advances at a total of R224,9 billion reached its highest level for the year at the end of February 2008, mainly due to an increase reported by one of the large banks. At the end of December 2008 foreign-currency loans and advances amounted to R177,5 billion (January: R184,3 billion).

Foreign-currency deposits and foreign-currency funding increased from R126 billion at the end of January 2008 to R165 billion at the end of December 2008. However, expressed as a percentage of total liabilities, foreign-currency deposits and foreign-currency funding remained fairly stable during 2008, reaching 5,5 per cent at the end of December 2008 (January 2008: 5 per cent).

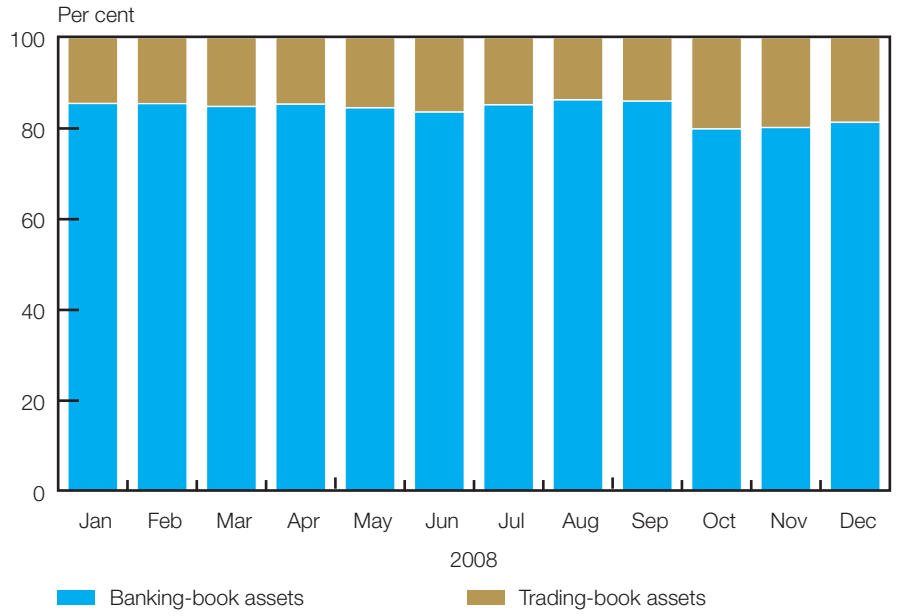
Figure 8 Foreign-currency loans and advances (as a percentage of total assets) and the total of foreign-currency deposits and foreign-currency funding (as a percentage of total liabilities)



banking-book assets 81,3 per cent of banking-sector assets

As reflected in Figure 9, throughout 2008 banking-book assets represented a large portion of banking-sector assets compared to trading-book assets. At the end of December 2008, banking-book assets amounted to 81,3 per cent of banking-sector assets (January 2008: 85,5 per cent). During the fourth quarter of 2008, trading-book assets increased, reaching 18,7 per cent of banking-sector assets at the end of December 2008 (January 2008: 14,5 per cent).

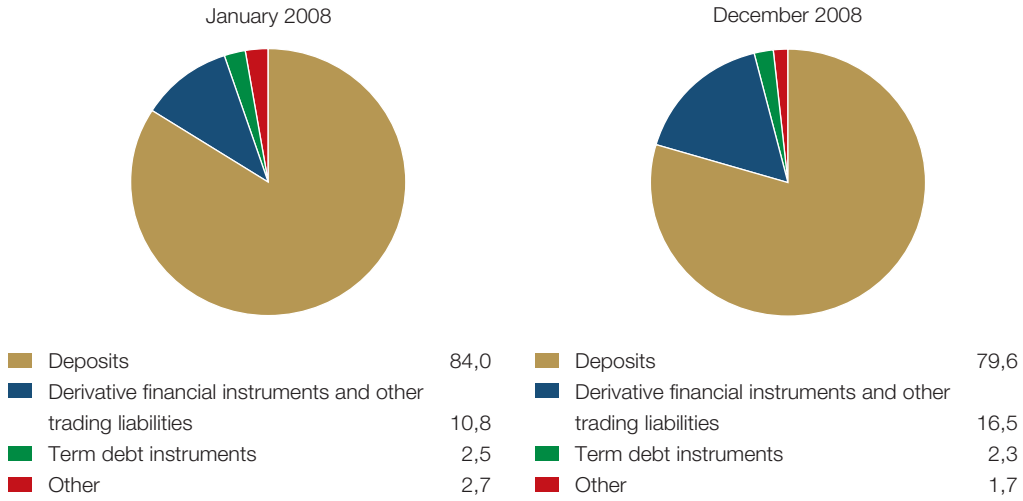
Figure 9 Banking-book versus trading-book assets (as a percentage of total assets)



3.2 Liabilities

The composition of total liabilities of the banking sector (not including equity) is depicted in Figure 10. At the end of 2008, banking-sector liabilities amounted to R2 989 billion (January 2008: R2 509 billion), of which R2 379 billion was made up of deposits (January 2008: R2 108 billion), while derivative financial instruments amounted to R492 billion at the end of December 2008 (January 2008: R271 billion).

Figure 10 Composition of liabilities (per cent)

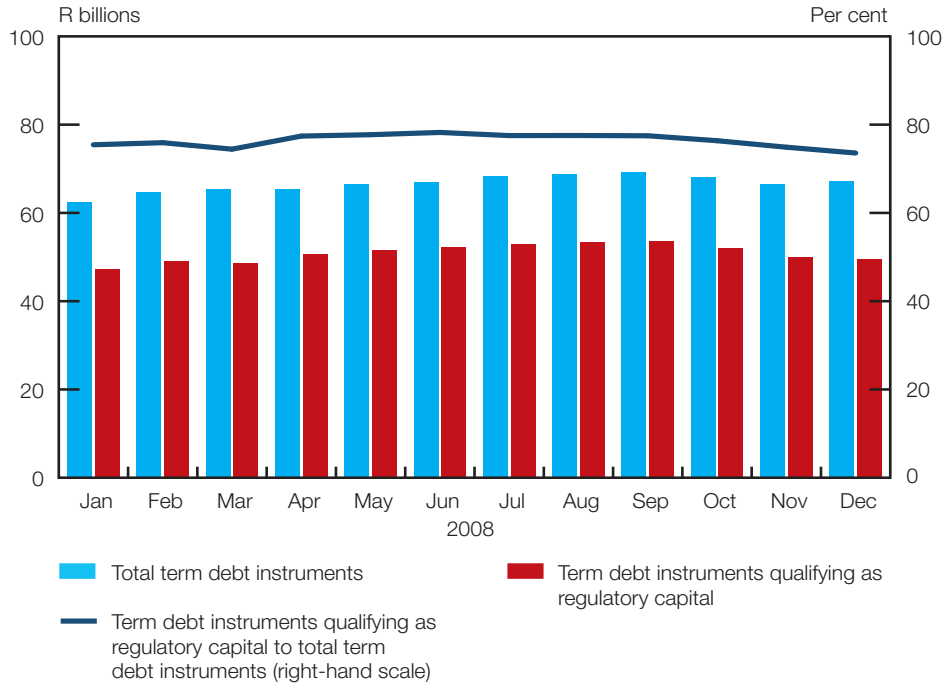


Total equity, which amounted to R181 billion at the end of December 2008, is discussed in more detail in paragraph 3.3 on page 52 (also refer to Figure 14).

Term debt instruments amounted to R67,3 billion

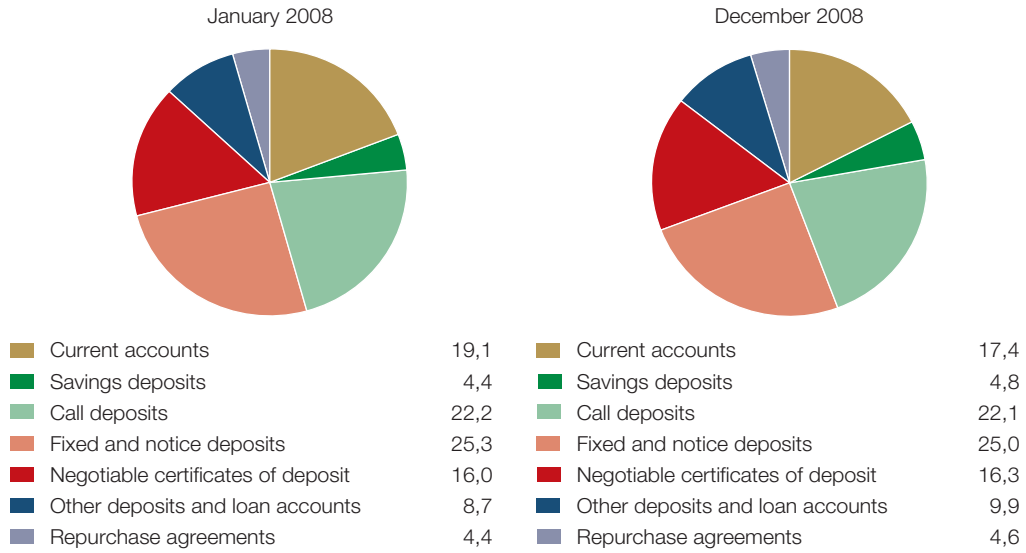
Term debt instruments amounted to R67,3 billion at the end December 2008, representing 2,3 per cent of banking-sector liabilities (January 2008: 2,5 per cent). Of the term debt instruments, 73,6 per cent qualified as regulatory capital at the end of December 2008 (January 2008: 75,4 per cent) (Figure 11).

Figure 11 Term debt instruments qualifying as regulatory capital (as a percentage of total term debt instruments)



An analysis of banking-sector deposits, as reflected in Figure 12, reveals that the composition remained fairly stable during 2008. Total deposits amounted to R2 379 billion at the end of December 2008 (January 2008: R2 108 billion), of which, fixed and notice

Figure 12 Composition of deposits (per cent)

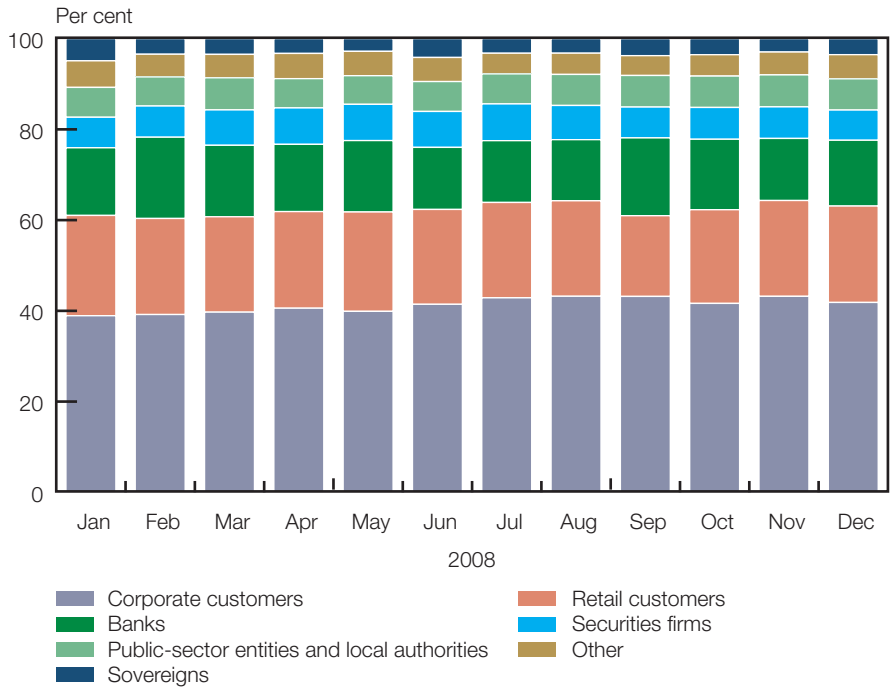


deposits, call deposits and current accounts were the main contributors. At the end of December 2008, fixed and notice deposits amounted to R593 billion (January 2008: R533 billion), call deposits to R525 billion (January 2008: R467 billion), and current accounts to R415 billion (January 2008: R403 billion).

corporate and retail customer deposits represented a significant portion of funding

The sources of banking-sector deposits are outlined in Figure 13. Expressed as a percentage of total deposits, corporate and retail customer deposits represented a significant portion of the funding of the banking sector throughout 2008 (63,2 per cent at the end of December 2008). At the end of 2008, corporate and retail customer deposits represented 41,9 per cent and 21,3 per cent respectively of total deposits. Bank deposits represented 14,5 per cent of total deposits at the end of December 2008 and has remained stable throughout the year. In addition to the aforementioned, the banking sector sourced deposits from securities firms (6,7 per cent), public-sector entities and local authorities (6,9 per cent), as well as from other depositors (5,3 per cent). Furthermore, sovereign deposits accounted for 3,5 per cent of banking-sector deposits at the end of December 2008.

Figure 13 Sources of deposits (as a percentage of total deposits)

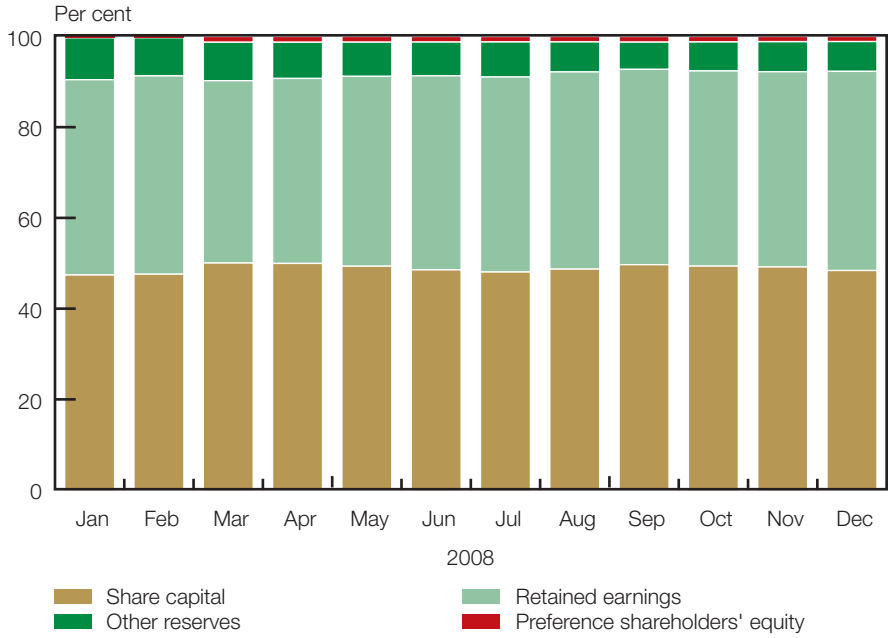


3.3 Equity

total equity amounted to R181 billion

A breakdown of total equity is shown in Figure 14. Total equity amounted to R181 billion at the end of 2008, compared with R154,4 billion at the end of January 2008. Share capital and retained earnings comprised a significant portion of total equity throughout 2008 (approximately 90 per cent), increasing from R73,2 billion and R66,5 billion respectively at the end of January 2008 to R87,6 billion and R79,5 billion respectively at the end of December 2008. Other reserves and preference shareholders' equity accounted for a small portion throughout 2008, amounting to R11,9 billion (January 2008: R14,3 billion) and R2 billion (January 2008: R452,7 million) respectively at the end of December 2008.

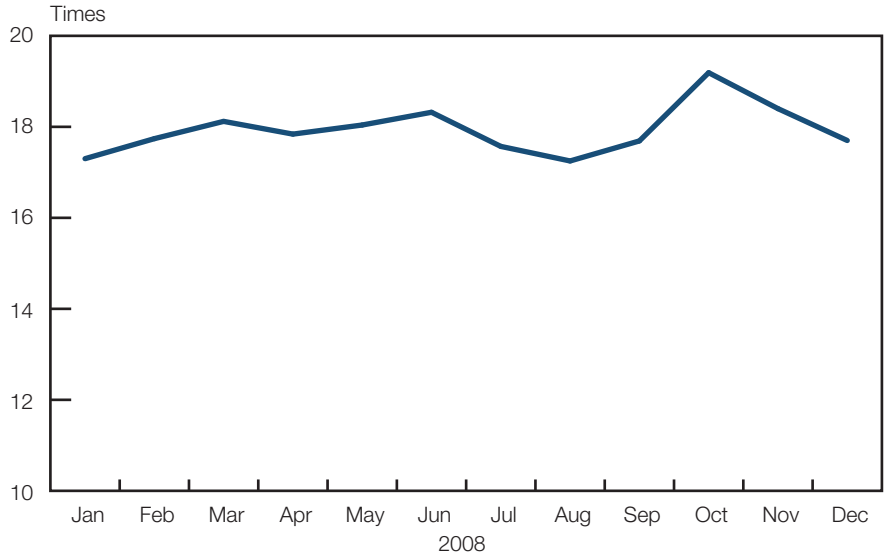
Figure 14 Composition of total equity



The financial leverage ratio for the banking sector is portrayed in Figure 15 and is derived by dividing banking-sector assets by total equity attributable to equity holders. A paper by the World Bank titled 'Banking and the leverage ratio'[2] sheds more light on the leverage ratio. According to this paper, there is now a growing consensus that, among other factors, the excessive leverage of banks contributed to the global financial crisis. This has intensified the debate among policy-makers on the benefits of a simple measure of leverage complementing the existing risk-sensitive capital requirements. Figure 15 illustrates that during 2008 the financial leverage ratio fluctuated between 17,3 times and 19,2 times. At the end of December 2008, the financial leverage ratio for the domestic banking sector amounted to 17,7 times (January 2008: 17,3 times). In comparison, many large global banking institutions reflected leverage ratios in excess of 30 times and, in certain instances, as high as 60 times.

financial leverage ratio amounted to 17,7 times

Figure 15 Financial leverage ratio



4. Off-balance-sheet activities

off-balance-sheet items represented 11,6 per cent of banking-sector assets

Figures 16 and 17 provide an analysis of off-balance-sheet activities of banks. Off-balance-sheet items amounted to R366,3 billion at the end of December 2008 compared with R340,8 billion at the end of January 2008. Off-balance-sheet items remained below R400 billion and varied between R340,8 billion and R375,4 billion throughout the year. Expressed as a percentage of banking-sector assets, off-balance-sheet items represented 11,6 per cent of banking-sector assets at the end of December 2008 (January 2008: 12,8 per cent). The ratio remained slightly above 12 per cent during the first three quarters of 2008 and dropped slightly in the fourth quarter due to an increase in banking-sector assets.

Figure 16 Total off-balance-sheet items to total assets

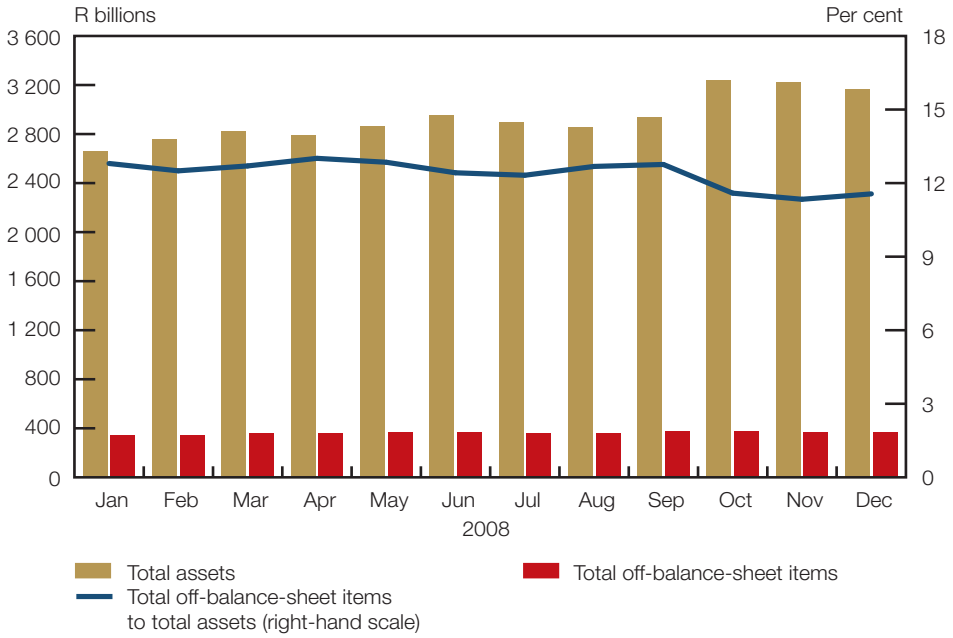
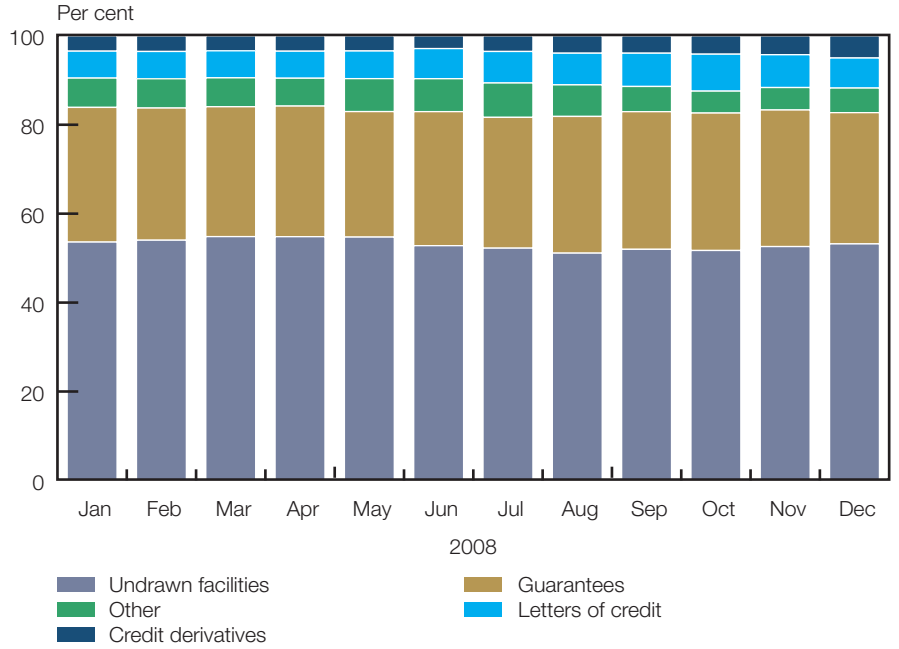


Figure 17 Composition of total off-balance-sheet items



The composition of off-balance-sheet items is depicted in Figure 17 and there has been no significant change in the structure during the period under review. Undrawn facilities and guarantees constituted a large portion of off-balance-sheet items and amounted to 53,2 per cent (January 2008: 53,6 per cent) and 29,5 per cent (January 2008: 30,3 per cent) respectively at the end of December 2008. Letters of credit amounted to 6,8 per cent, other to 5,5 per cent and credit derivatives amounted to 5 per cent at the end of December 2008.

5. Profitability

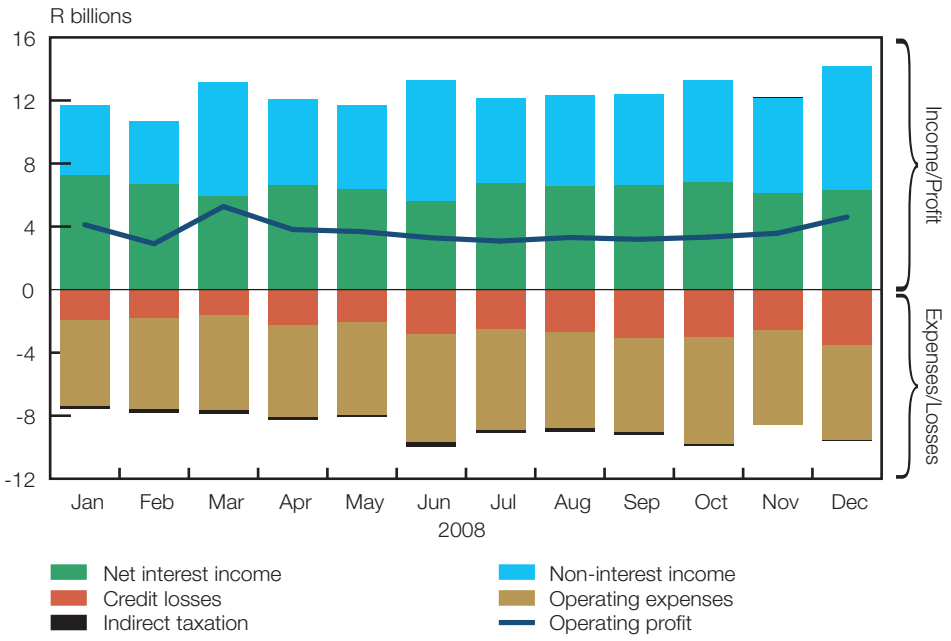
As mentioned in the introductory remarks to this chapter, the implementation of Basel II on 1 January 2008 encompassed, *inter alia*, a radical change in reporting methodology, revised regulatory returns and greater alignment of regulatory reporting requirements with IFRSs. As a result of these changes, all profitability ratios are calculated on an unsmoothed basis, since comparison with previous years is not possible.

Banks reported favourable profitability ratios throughout 2008, despite the global financial market turbulence.

total profit (after tax) amounted to R35 billion

The composition of the banking sector's income statement is presented in Figure 18. Gross operating income, that is, the sum of net interest income (R77,7 billion for the year ending December 2008) and non-interest income (R71,4 billion for the year ending December 2008) amounted to R149,1 billion for the year ending December 2008. Banks generated operating profit for the year of R44,2 billion (i.e., gross operating income less credit losses, operating expenses and indirect taxation) and the total profit (after tax) for the year amounted to R35 billion.

Figure 18 Composition of the income statement



Non-interest income was derived mainly from net fee and commission income, and to a lesser extent from net trading income, amounting to R46,8 billion and R14 billion respectively for the year ending December 2008. As illustrated in Figure 18, two significant increases in non-interest income occurred at the end of March 2008 and

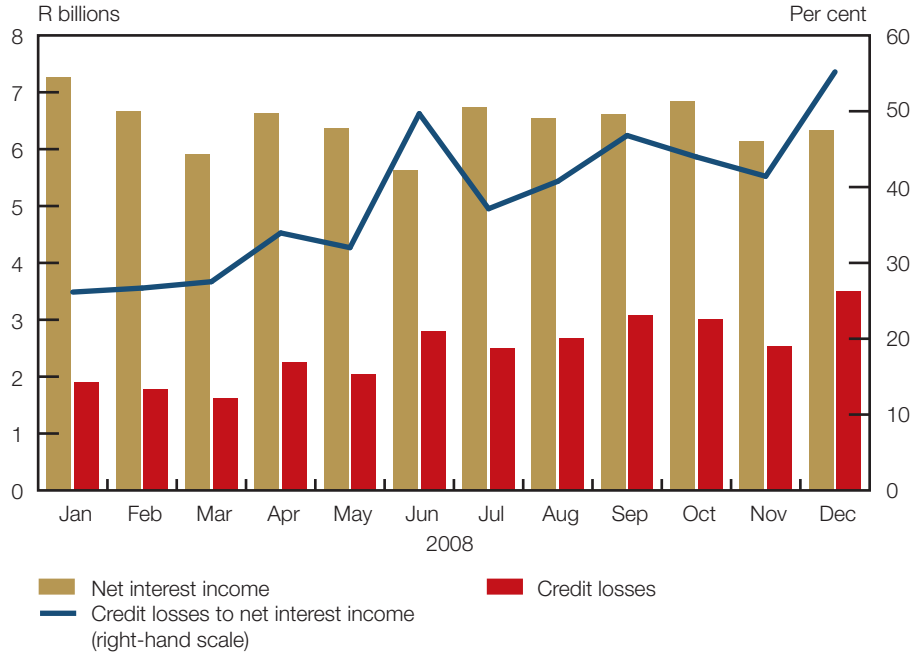
December 2008. The increase for March 2008 was due to an increase in other gains and other operating income reported by two large banks, and the increase reported for December 2008 was due to a number of reasons, namely increases in dividends from subsidiary companies, fair value gains, net fee and commission income, trading income and other operating income.

Operating expenses for the year ending December 2008 amounted to R73,1 billion, while credit losses[3] totalled R29,7 billion. Credit losses increased during 2008, while operating expenses remained relatively stable. Indirect taxation amounted to R2,1 billion for the year ending December 2008.

credit losses increased sharply

Credit losses and net interest income are depicted in Figure 19. Expressed as a percentage of net interest income, credit losses deteriorated during 2008 and remained above 40 per cent in the second half of 2008. At the end of December 2008, the ratio of credit losses to net interest income was 55,2 per cent, compared with 26,2 per cent at the end of January 2008. At the end of June 2008 and December 2008, credit losses increased sharply. The upward trend in the ratio reflects the deterioration in the asset quality experienced by banks.

Figure 19 Credit losses to net interest income (unsmoothed)



A breakdown of gross operating income is reflected in Figures 20 and 21. For the reporting month of December 2008 net interest income and net fee and commission income amounted to R6,3 billion and R4,9 billion respectively (January 2008: R7,3 billion and R3,3 billion respectively). Other income amounted to R2,1 billion for the reporting month of December 2008 (January 2008: R283 million) and consisted of dividend income, other gains less losses (mainly fair value gains and losses) and other operating income, and these items fluctuated considerably on a month-to-month basis during 2008. Net trading income equalled R806 million for the reporting month of January 2008 and R831 million for December 2008, but also fluctuated during the period under review.

Figure 20 Composition of gross operating income (unsmoothed) (per cent)

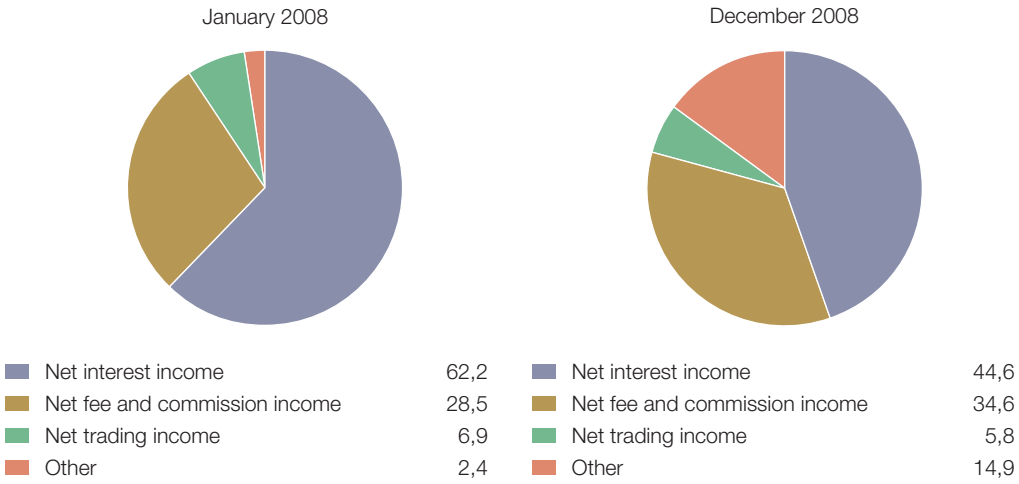
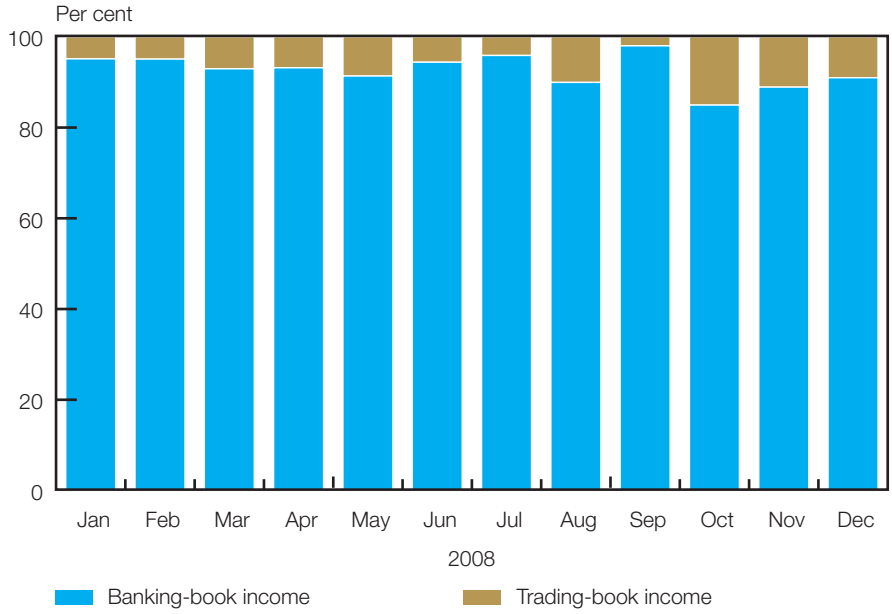


Figure 21 illustrates that more than 80 per cent of gross operating income was derived from banking-book income during 2008. At the end of December 2008 banking-book income represented 91 per cent of gross operating income (January 2008: 95,1 per cent) and trading-book income contributed 9 per cent to gross operating income (January 2008: 4,9 per cent). Trading-book income declined substantially during September 2008 due to lower levels of trading income reported by three of the large banks and a registered branch of an international bank. However, trading-book income improved again during October 2008, and remained higher during the final quarter of 2008 as a result of the large fluctuations in exchange rates and increased volatilities in the financial markets.

80 per cent of gross operating income derived from banking-book income

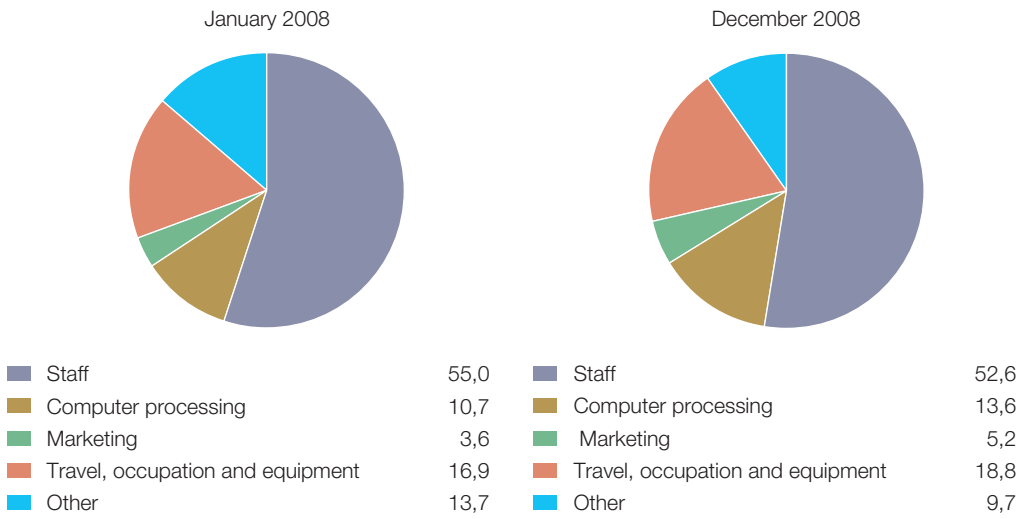
Figure 21 Banking-book income versus trading-book income (as a percentage of gross operating income)



The structure of operating expenses (Figure 22) was relatively stable during the period under review. Staff expenses continued to be the main contributor to operating expenses, amounting to R39,7 billion for the year ending December 2008. For the

reporting month of December 2008, staff expenses amounted to R3,2 billion (January 2008: R3,0 billion). For the year ending December 2008, expenses relating to travel, occupation and equipment amounted to R12,1 billion, 'other' amounted to R10,3 billion and computer processing amounted to R7,7 billion. 'Other' expenses comprised fees and insurances, auditors' remuneration and other expenses. Marketing amounted to R3,5 billion for the year ending December 2008.

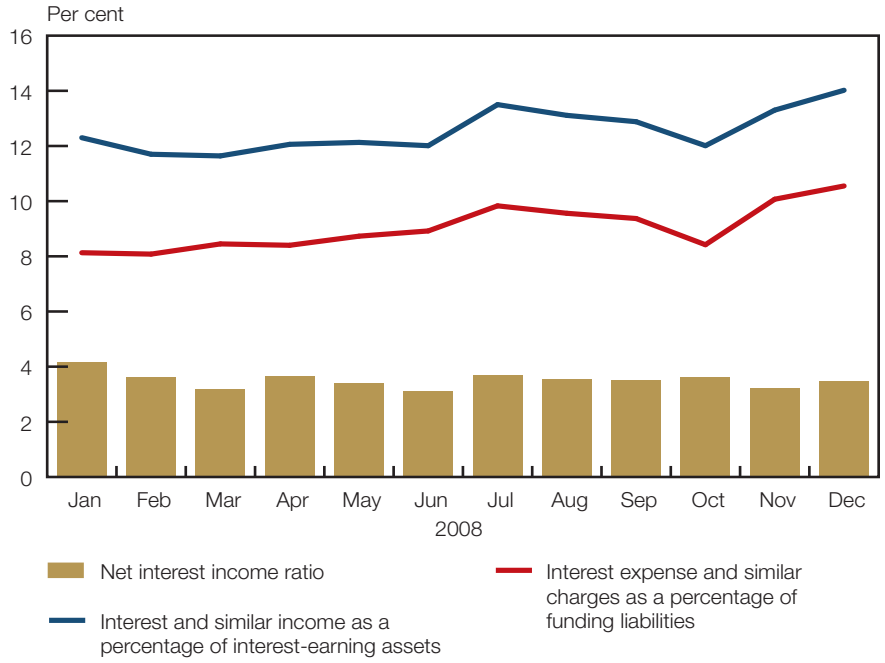
Figure 22 Composition of operating expenses (unsmoothed) (per cent)



net interest income ratio equalled 3,5 per cent

The net interest income ratio (spread), which is the difference between "interest and similar income as a percentage of interest-earning assets" and "interest expense and similar charges as a percentage of funding liabilities", is depicted in Figure 23. At the end of December 2008, the ratio equalled 3,5 per cent (January 2008: 4,2 per cent). Expressed as a percentage of interest-earning assets, interest and similar income increased to 14 per cent at the end of December 2008 (January 2008: 12,3 per cent).

Figure 23 Net interest income ratio (unsmoothed)

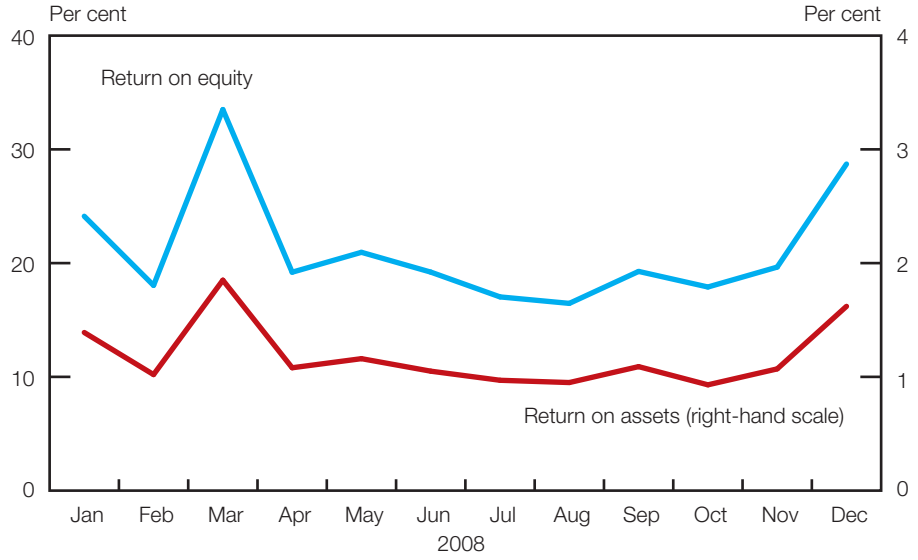


The ratio remained fairly stable during the first half of 2008, and fluctuated between 12 per cent and 14 per cent during the second half of 2008. It increased from 12,0 per cent at the end of June 2008 to 13,5 per cent at the end of July 2008, mainly due to an increase in interest and similar income from government and other dated securities, and loans and advances to customers. The increase in government and other dated securities was reported by three of the large banks at the end of July 2008. Interest expense and similar charges as a percentage of funding liabilities increased from 8,1 per cent at the end of January 2008 to 10,6 per cent at the end of December 2008. The ratio increased to 10,1 per cent at the end of November 2008 (October 2008: 8,4 per cent), mainly due to an increase in interest expense and similar charges on other deposits and loans (reported mainly by one large bank), and term debt instruments.

ROE ratio amounted to 28,7 per cent and ROA ratio amounted to 1,62 per cent

Figure 24 presents the return on equity (ROE) ratio and the return on assets (ROA) ratio. Considerable increases in non-interest income during March 2008 and December 2008 respectively (refer to Figure 18 for an explanation) resulted in increases in both the ROE and ROA ratios during the aforementioned reporting months. At the end of December 2008 the ROE ratio amounted to 28,7 per cent and ROA ratio amounted to 1,62 per cent (January 2008: 24,1 per cent and 1,39 per cent respectively).

Figure 24 Profitability ratios (unsmoothed)

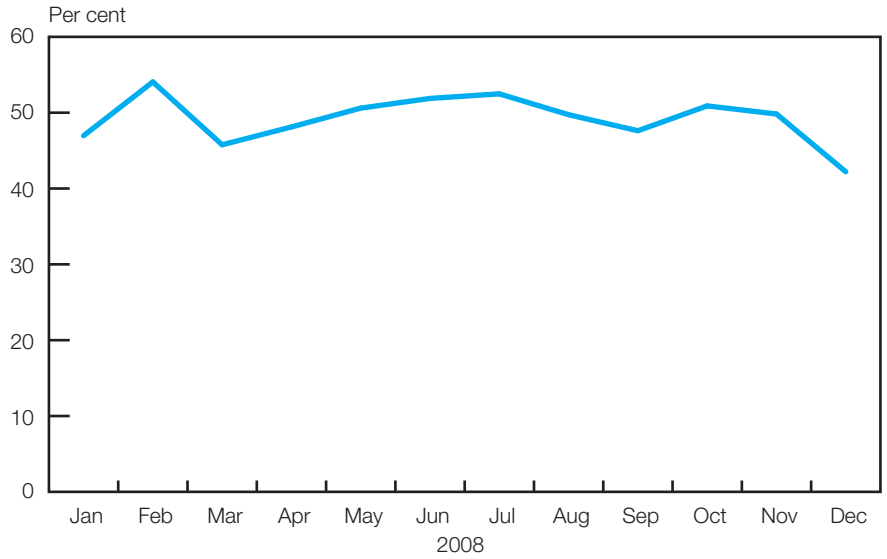


the cost-to-income ratio amounted to 42,2 per cent

The cost-to-income ratio (unsmoothed), that is, operating expenses as a percentage of gross operating income, is illustrated in Figures 25 and 26. The ratio fluctuated between 42,2 per cent and 54 per cent during 2008 (Figure 25). At the end of 2008, the cost-to-income ratio amounted to 42,2 per cent compared with 47 per cent at the end of January 2008. The ratio improved to 45,8 per cent at the end of March 2008 and 42,2 at the end of December 2008 due to the increases in non-interest income as illustrated in Figure 18.

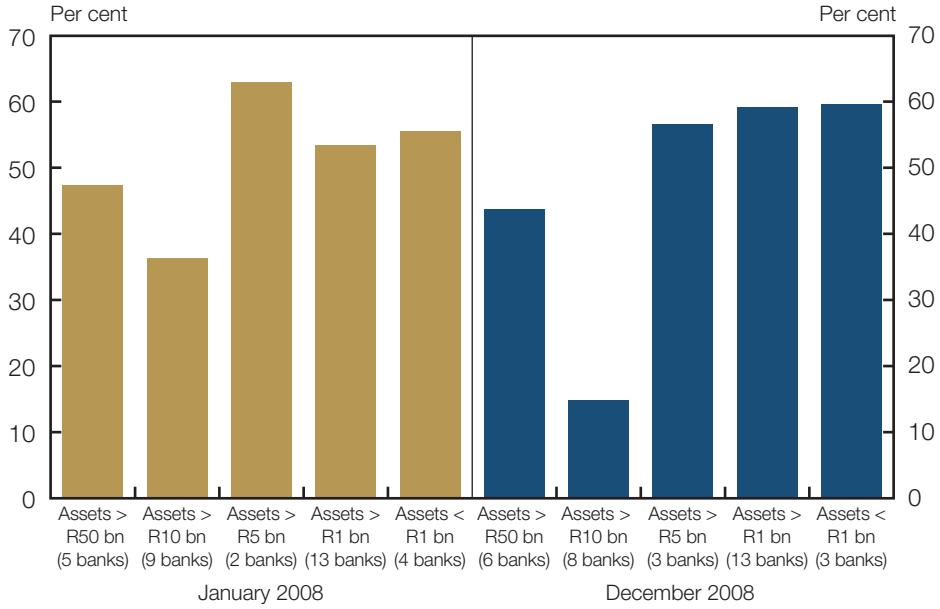
The analysis of the cost-to-income ratio of individual banks (grouped by the asset value of the individual banks) for January 2008 and December 2008 is presented in Figure 26. At the end of January 2008, banks with assets greater than R10 billion, but below R50 billion, reported a ratio of 36,4 per cent and banks with assets greater than R50 billion reported a ratio of 47,4 per cent. The remaining banks reported a

Figure 25 Cost-to-income ratio (unsmoothed)



cost-to-income ratio above 50 per cent at the end of January 2008. At the end of December 2008, the cost-to-income ratio of banks with assets greater than R10 billion, but below R50 billion (eight banks), was 14,8 per cent. Their low ratios are mainly due to high gross operating income and relatively lower operating expenses. Banks with assets greater than R50 billion reported a ratio of 43,7 per cent at the end of December 2008. The cost-to-income ratio for the remaining banks varied between 56,6 per cent and 59,5 per cent at the end of December 2008.

Figure 26 Cost-to-income ratios of individual banks (categorised by the asset value of each bank) (unsmoothed)



6. Capital adequacy

The prescribed minimum capital-adequacy ratios for banks on a solo and consolidated basis are 7 per cent in respect of tier 1[4] capital and an overall 9,5 per cent as the total minimum capital-adequacy ratio (i.e., including tier 2[5] capital). However, the required minimum capital-adequacy ratio applicable to individual banks (and banking groups) may be higher due to additional add-ons that are specified by the Registrar, based on each bank's (or banking group's) risk profile. In this section, the discussion on capital adequacy will go beyond that of individual banks (solo reporting) to include information relating to banking groups (consolidated banking group reporting).

Figure 27 presents the capital-adequacy ratios for the banking sector on a solo and consolidated basis.

capital-adequacy and tier 1 capital-adequacy ratios improved throughout 2008

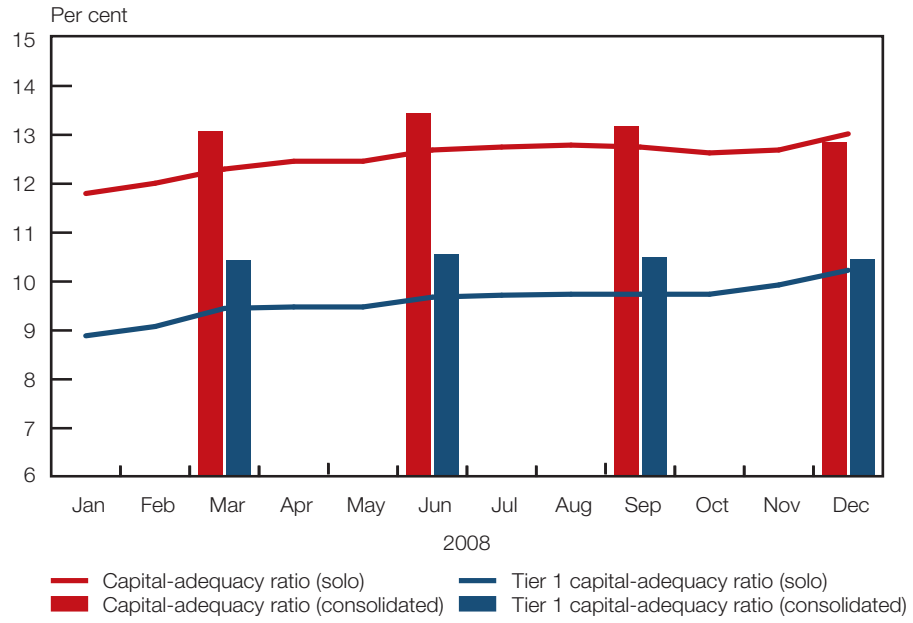
For banks, from a solo reporting perspective, both the total capital-adequacy and the tier 1 capital-adequacy ratios improved throughout 2008 from 11,8 per cent and 8,9 per cent respectively at the end of January 2008 to 13,0 per cent and 10,2 per cent respectively at the end of December 2008. The two key reasons for the improving trends were (1) the increase in qualifying primary capital and (2) the slowdown in asset growth.

From a consolidated banking group perspective, data are reported on a quarterly basis. Total qualifying capital and reserve funds (from a consolidated banking group perspective) increased by 3,8 per cent over the period, amounting to R245 billion at the end of December 2008 (March 2008: R236 billion) and primary capital and reserve funds increased from R188 billion at the end of March 2008 to R199 billion at the end of December 2008, representing a 5,8 per cent increase during the period.

consolidated tier 1 capital-adequacy ratio was 10,5 per cent

However, owing to an increase in risk-weighted exposure during the period under review, the total consolidated capital-adequacy ratio representing banking groups declined slightly from 13,1 per cent at the end of March 2008 to 12,8 per cent at the end of December 2008. The total risk-weighted exposure increased by 5,6 per cent, reaching R1 909 billion at the end of December 2008 (March 2008: R1 808 billion). At the end of December 2008 the consolidated tier 1 capital-adequacy ratio was 10,5 per cent (January 2008: 10,4 per cent).

Figure 27 Capital-adequacy ratios (solo and consolidated)



qualifying regulatory capital and reserve funds increased by 17,8 per cent

Figure 28 provides the composition of qualifying regulatory capital and reserve funds for banks (reported on a solo basis). Total qualifying regulatory capital and reserve funds increased by 17,8 per cent during 2008, reaching R202,6 billion at the end of December 2008 (January 2008: R172 billion), as a result of an increase in primary capital and reserve funds during the period. Primary capital and reserve funds increased by 22,9 per cent during the period, amounting to R159,2 billion at the end of December 2008 (January 2008: R129,6 billion). Secondary capital and reserve funds increased marginally by 2,9 per cent during 2008 and amounted to R43,1 billion at the end of December 2008 (January 2008: R41,9 billion). Tertiary capital decreased from R593 million to R300 million during the period under review, representing a decline of 49,4 per cent.

Figure 28 Composition of qualifying regulatory capital and reserve funds (solo)

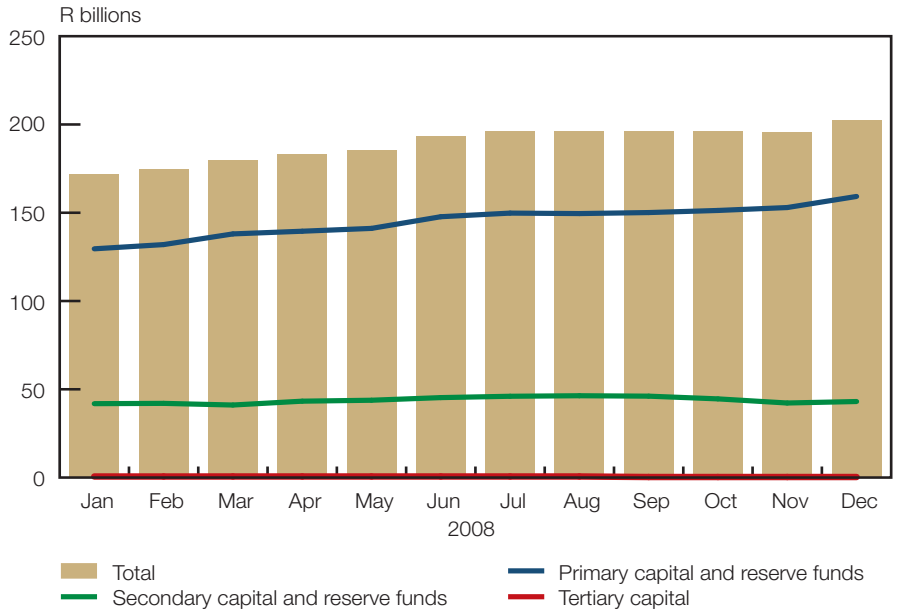
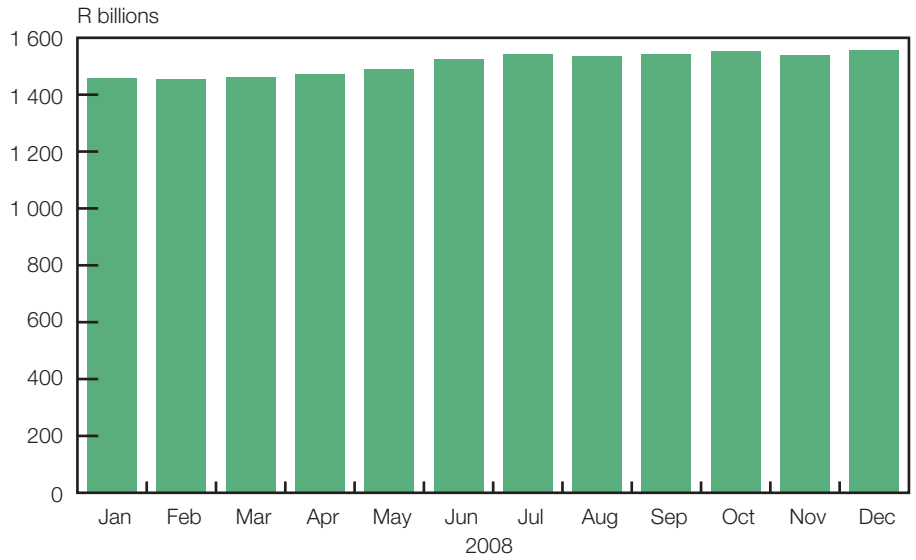


Figure 29 illustrates that the total risk-weighted exposure for banks on a solo basis increased by 6,8 per cent during the period under review, amounting to R1 556 billion at the end of December 2008 (January 2008: R1 457 billion).

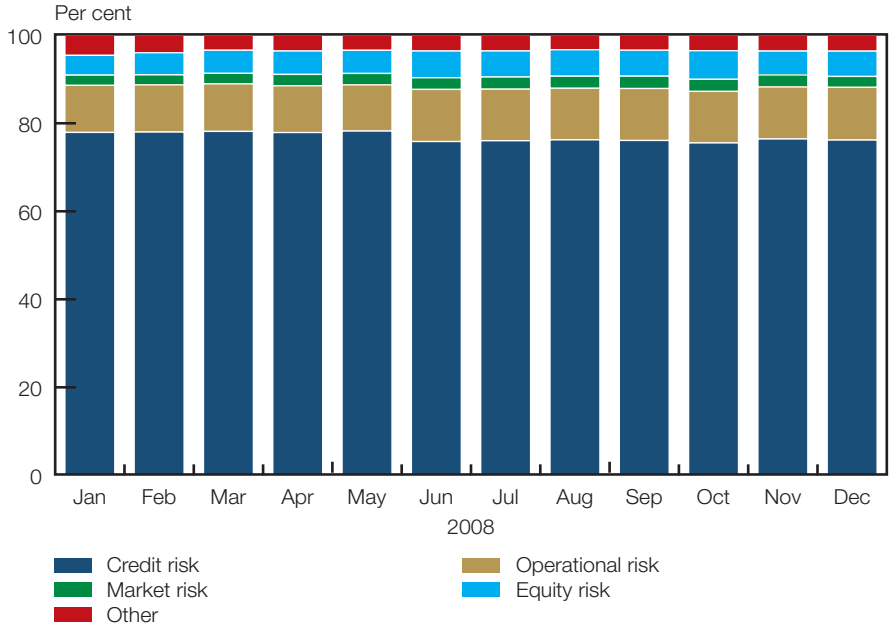
Figure 29 Total risk-weighted exposure (solo)



credit accountable for 76,2 per cent of the total regulatory capital requirement

The composition of the total regulatory capital requirement for 2008 is presented in Figure 30 (solo reporting). Credit risk was accountable for 76,2 per cent of the total regulatory capital requirement at the end of December 2008 (January 2008: 77,9 per cent), followed by operational risk at 12,0 per cent (January 2008: 10,7 per cent), equity risk at 5,8 per cent (January 2008: 4,5 per cent), other risk at 3,6 per cent (January 2008: 4,6 per cent) and market risk at 2,5 per cent (January 2008: 2,3 per cent).

Figure 30 Composition of total regulatory capital requirement (solo)

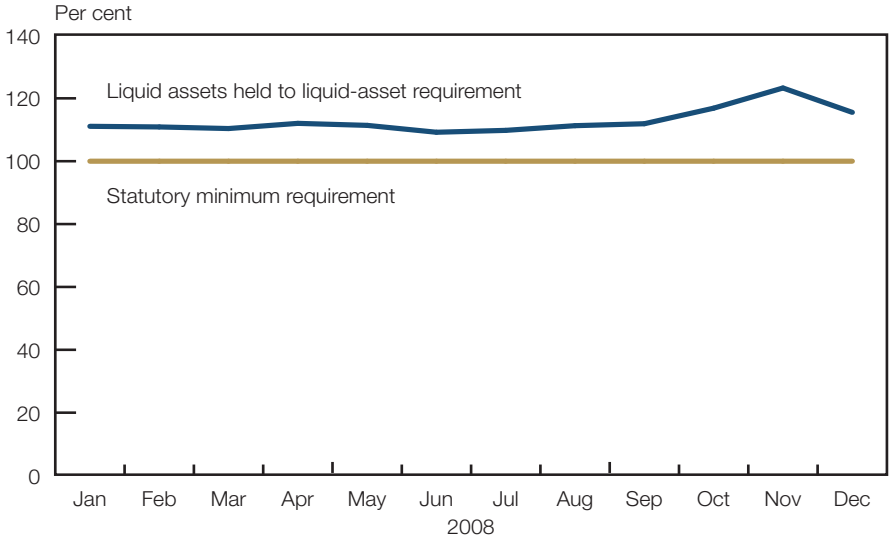


7. Liquidity risk

liquid assets held by banks consistently exceeded the minimum regulatory requirement

In terms of the provisions of section 72(1) of the Banks Act, banks are required to hold an average daily amount of liquid assets that shall not be less than 5 per cent of adjusted liabilities.[6] Figure 31 illustrates the average liquid assets held as a percentage of the regulatory liquid-asset requirement. During 2008, the average liquid assets held by banks consistently exceeded the minimum regulatory requirement by an increasing margin.

Figure 31 Statutory liquid assets (actual versus required)



The liquid assets held, measured against the minimum liquid asset requirement, increased from 111,1 per cent at the end of January 2008 to 115,5 per cent at the end of December 2008. The ratio for November 2008 increased to 123,3 per cent due to a large bank temporarily increasing its liquid assets during the month, whereafter it reverted to previous levels.

maturity profile of liabilities

Figures 32 and 33 provide information on the maturity of liabilities as a percentage of total liabilities (not including equity). The maturity buckets include maturity within the next day, 2 to 7 days, 8 to 31 days, more than one to two months and, finally, more than two to three months. The difference between the two illustrations is that Figure 32 relates to the contractual maturities and Figure 33 reflects the so-called "business-as-usual" maturities, taking into consideration historic behaviour and assumptions built into banks' asset-and-liability models.

Figure 32 Contractual maturity of liabilities (as a percentage of total liabilities)

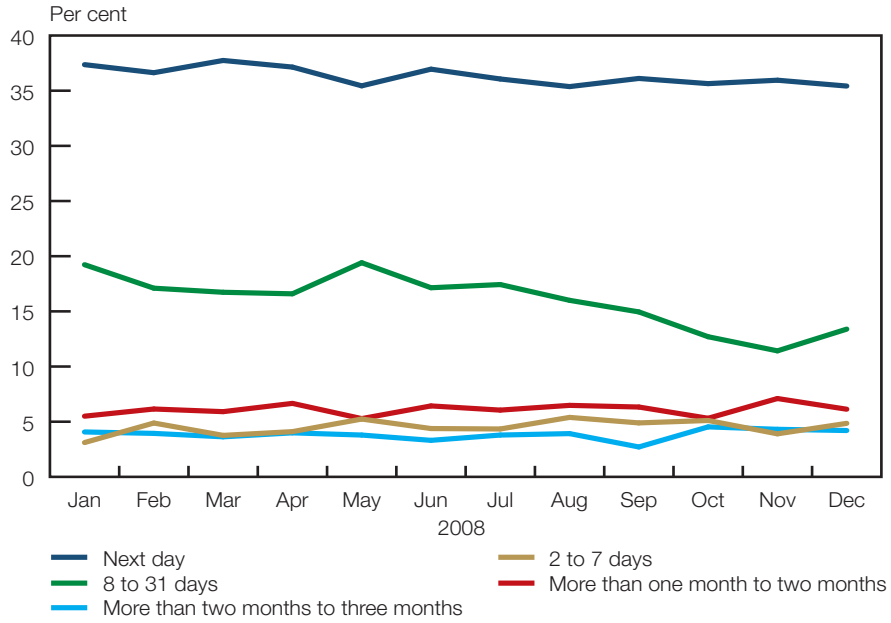
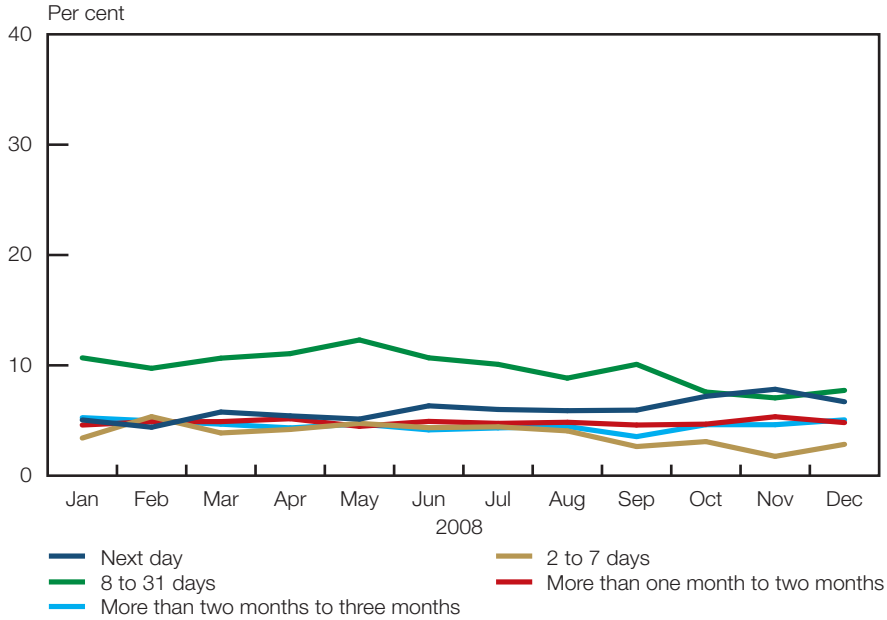


Figure 33 "Business-as-usual" maturity of liabilities (as a percentage of total liabilities)



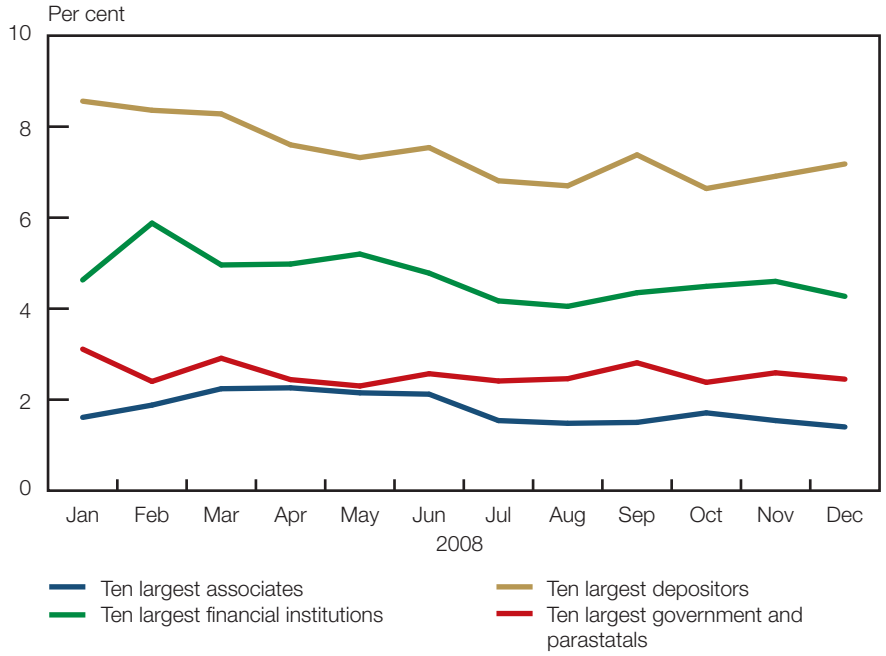
Total short-term liabilities (the sum of liabilities contractually maturing within one month) as a percentage of total liabilities improved from 59,7 per cent at the end of January 2008 to 53,7 per cent at the end of December 2008. The "business-as-usual" maturity ratios in Figure 33 are more favourable than the ratios in Figure 32 as a result of the ability of banks to retain funding or deposits, notwithstanding the actual contractual arrangements pertaining to such funding or deposits.

Short-term liabilities, as mentioned above, represented a large portion of total liabilities (53,7 per cent at the end of December 2008). An analysis of the main sources of the short-term deposit funding could identify possible funding concentration risk. Figure 34 provides a summary of total short-term deposit funding received from the ten largest depositors. It also provides detail of short-term deposit funding received from the ten largest financial institutions, the ten largest government and parastatals, and the ten largest associates.

ten largest short-term depositors declined

The ten largest short-term depositors as a percentage of total liabilities (not including equity) declined from 8,6 per cent at the end of January 2008 to 7,2 per cent at the end of December 2008. Similarly, as a percentage of total liabilities, deposit funding received from the ten largest financial institutions decreased from 4,6 per cent, the ten largest government and parastatals from 3,1 per cent, and associates from 1,6 per cent at the end of January 2008 to 4,3 per cent, 2,5 per cent and 1,4 per cent respectively at the end of December 2008.

Figure 34 Concentration of short-term deposit funding (as a percentage of total liabilities)



8. Credit risk

During 2008, credit risk remained a key focus area of the Department, considering the challenging local and international economic developments. The implementation of Basel II on 1 January 2008 introduced new methodologies, terminologies and a menu of approaches for the measurement of banks' exposure to credit risk for the calculation of minimum capital requirements. In this section the aim is to discuss the developments in credit risk exposure during 2008 and to familiarise the reader with the Basel II terminology or concepts.[7]

The credit risk section is introduced by a summary of salient reporting items in Table 1, followed by more detailed discussions on specific credit risk areas. Where appropriate, a distinction will be made between banks that report in terms of SA and banks that report exposure to credit risk in terms of the IRB approach.

SA for the measurement of credit risk exposures is conceptually similar to the measurement applied by banks under Basel I (prior to the implementation of Basel II). Under SA, banks are required to match the credit exposures with a selection of supervisory risk categories based on observable characteristics of the exposures.[8]

internal measures for key risk drivers of credit risk

Under the advanced IRB approach, banks are allowed to use their own internal measures for key risk drivers of credit risk (i.e., PD, LGD, EAD, effective maturity of the exposure) as primary inputs to the capital calculation, subject to strict methodological and disclosure standards, as well as explicit supervisory approval. These risk measures are converted into risk weights and regulatory capital requirements by means of risk weight formulae as specified by the Basel Committee.[9]

Table 1 Salient banking-sector credit risk information

	January 2008 (R billions)	December 2008 (R billions)
Gross loans and advances (on-balance sheet)	2 103,2	2 315,9
Gross credit exposures (including on- and off-balance-sheet exposures, repurchase/resale agreements and derivative instruments)	3 327,2	3 767,5
Risk-weighted exposures (credit)	1 135,5	1 185,5
Impaired advances	47,6	87,3
Specific credit impairments	17,6	28,5
	(Per cent)	(Per cent)
Average risk weight of gross credit exposures	34,1	31,5
Impaired advances to gross loans and advances	2,3	3,8
Specific credit impairments to impaired advances	37,0	32,7
Specific credit impairments to gross loans and advances	0,8	1,2

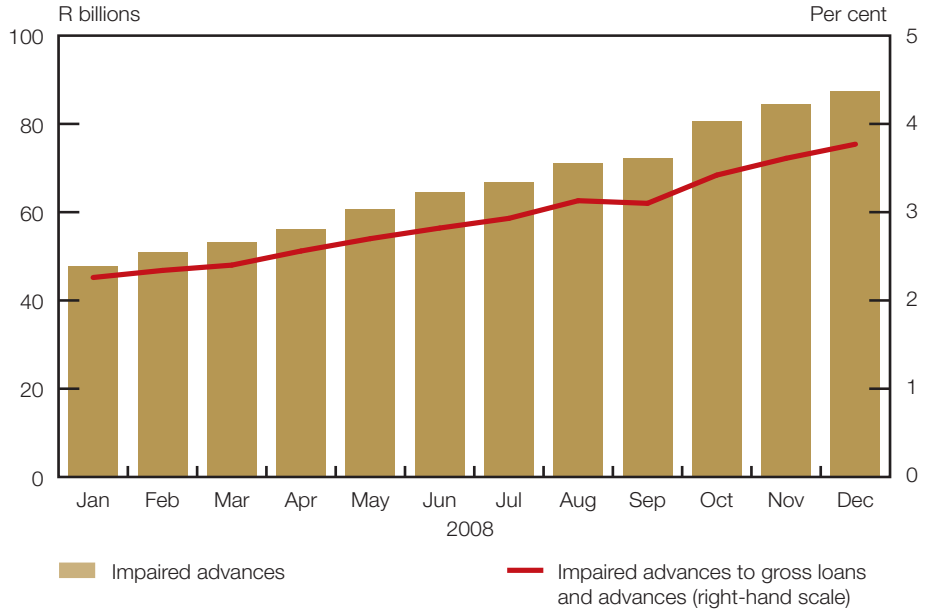
8.1 Total impaired advances

'Impaired advances' is defined in the Regulations relating to Banks as advances against which a specific credit impairment has been raised. Impaired advances as a percentage of gross loans and advances (as reported on the balance sheet) is one of the measures of credit quality or credit performance of the banking sector, especially from a trend analysis perspective. As stated above, this ratio is calculated for the total banking sector, that is, representing all approaches for reporting credit risk.

total impaired advances increased

Figure 35 presents total impaired advances, and impaired advances as a percentage of gross loans and advances. Total impaired advances increased from R47,6 billion at the end of January 2008 to R87,3 billion at the end of December 2008, representing an increase of 83,4 per cent for the period. Coupled with the slowdown in the growth of gross loans and advances, the ratio of impaired advances to gross loans and advances increased from 2,3 per cent at the end of January 2008 to 3,8 per cent at the end of December 2008. The main contributor to this deterioration during 2008 was the delinquencies experienced in the retail asset class, with specific reference to mortgage loans (homeloans) and revolving credit, a more detailed discussion of which will follow.

Figure 35 Impaired advances to gross loans and advances



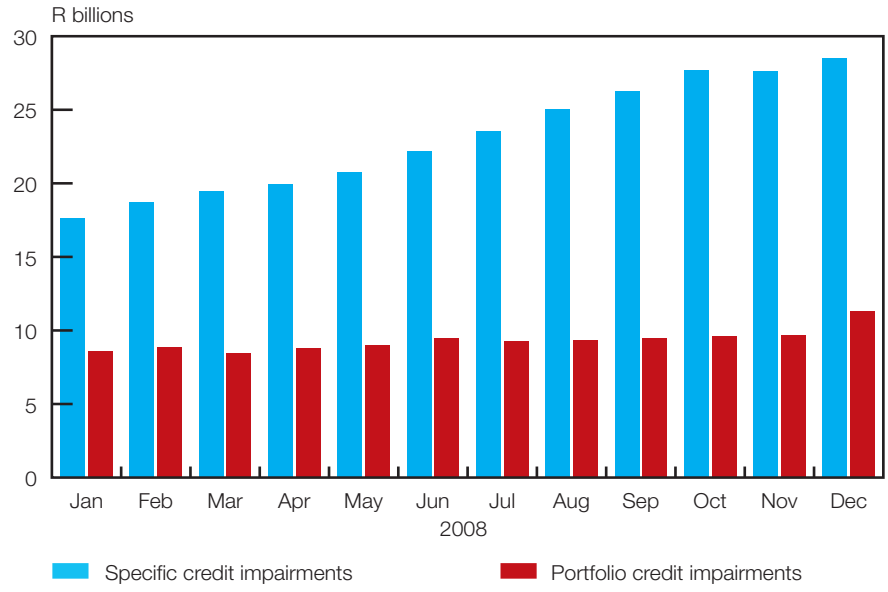
Among other things, the cumulative 500 basis point increase in the repurchase rate since mid-2006 had an influence on the increase in credit risk for the South African banking sector. The repurchase rate, as announced by the Monetary Policy Committee of the Bank, increased by 200 basis points (cumulatively) during 2006, followed by a 200 basis point cumulative increase in 2007. During the first half of 2008, the repurchase rate continued to increase by two consecutive 50 basis point increases, whereafter a 50 basis point decline followed on 15 December 2008.

8.2 Credit impairments

credit impairments increased during 2008

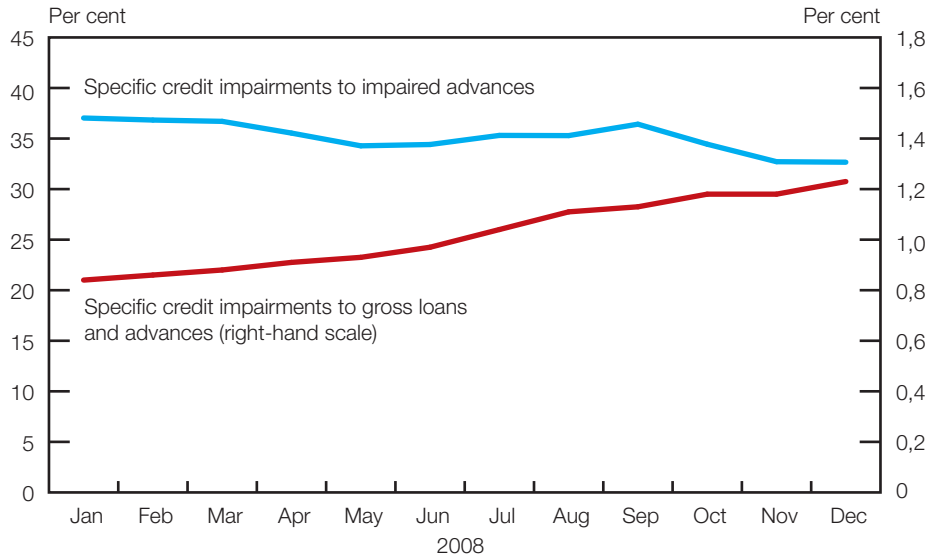
Credit impairments comprise specific and portfolio impairments, as defined in the Regulations relating to Banks. Credit impairments increased during 2008 mostly owing to defaults. As shown in Figure 36, specific and portfolio credit impairments increased

Figure 36 Specific and portfolio credit impairments



by 61,6 per cent and 32 per cent respectively, reaching R28,5 billion and R11,3 billion at the end of December 2008. As discussed earlier in this chapter under profitability, these increases impacted profits negatively, being included under the collective income statement line description "credit losses". Expressed as a percentage of impaired advances, specific credit impairments decreased from 37,0 per cent at the end of January 2008 to 32,7 per cent at the end of December 2008 (refer to Figure 37). The decline was caused by larger defaults occurring in the residential mortgage asset class, which is secured borrowings. Expressed as a percentage of gross loans and advances, specific credit impairments increased from 0,8 per cent at the end of January 2008 to 1,2 per at the end of December 2008.

Figure 37 Specific credit impairment ratios



8.3 The standardised approach banks

average risk weighting increased

At the end of 2008, banks that utilised SA for reporting exposure to credit risk represented 15,6 per cent of the banking sector's gross on-balance-sheet exposures (January 2008: 15,8 per cent). Figure 38 illustrates the risk weight distribution of credit exposures of SA banks. The average risk weighting of the gross credit exposures increased from 39,8 per cent at the end of January 2008 to 45,2 per cent at the end of December 2008 owing to an increase in exposures reported as "past due".

8.4 The standardised approach banks: Classification of credit risk exposures

Figure 39 provides a breakdown of the credit risk exposure classification categories for 2008. The total classified credit exposures increased from R10,4 billion at the end of March 2008 to R16 billion at the end of December 2008, representing a 53,2 per cent increase.

Figure 38 Risk-weighting distribution of credit exposures under the standardised approach

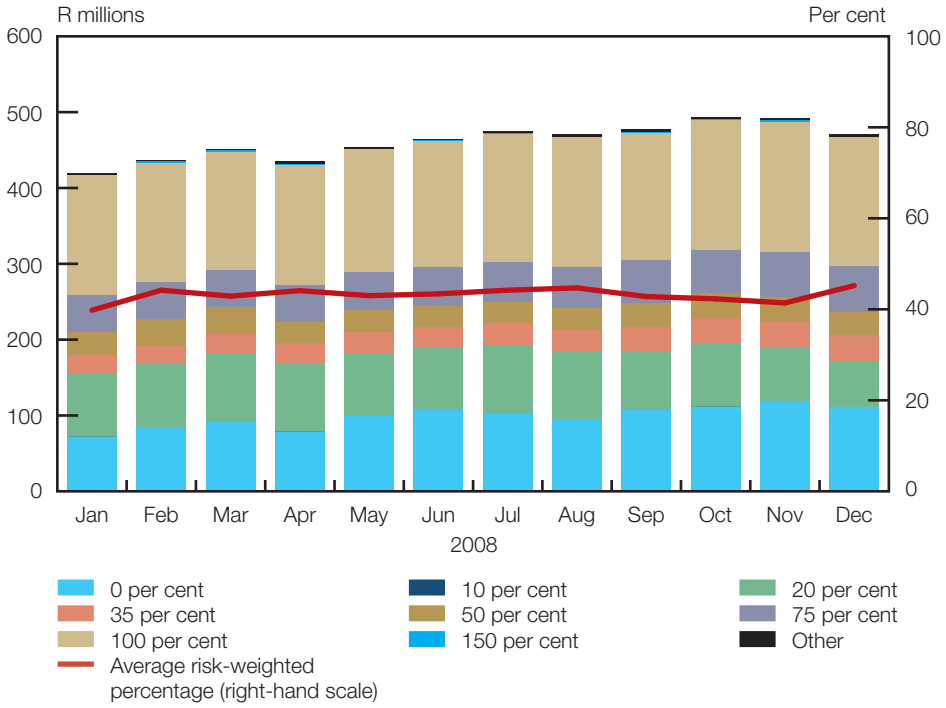
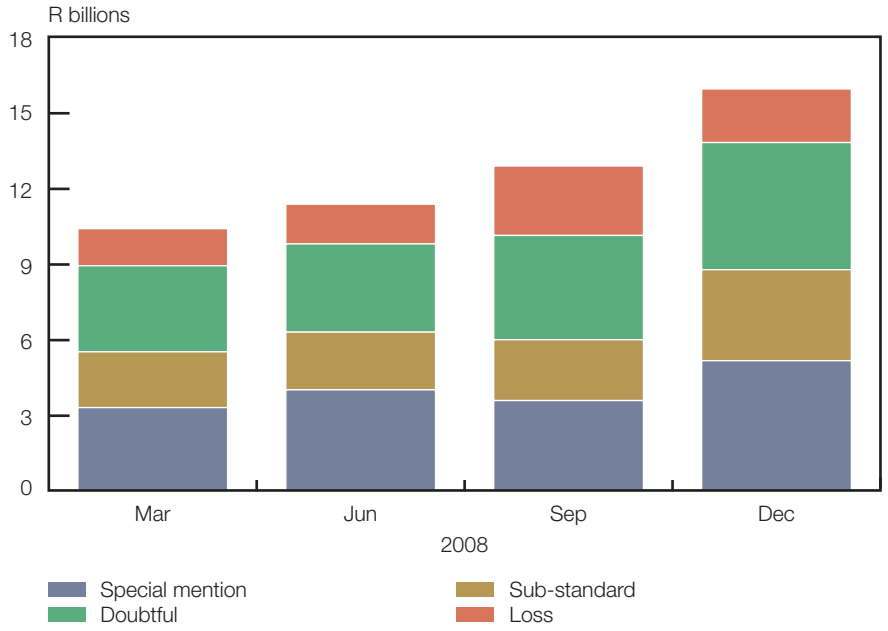


Figure 39 Classification of credit risk exposures under the standardised approach



8.5 Internal ratings-based banks[10]

At the end of 2008, banks that reported exposure to credit risk utilising the IRB approach represented 84,4 per cent of the banking sector's gross on-balance-sheet exposures (January 2008: 84,2 per cent).

key features of credit risk

Table 2 provides a summary of the key features of credit risk as reported by IRB banks as at the end of December 2008. The average PD reported by the IRB banks at the end of December 2008 implies that IRB banks expect that it is probable that, on average, 5,9 per cent of borrowers will default within the next 12 months, considering the ability and willingness of borrowers to repay their debt. In the event of such borrowers actually defaulting, it is estimated further that IRB banks will suffer an average economic loss, that is, an LGD of close to 28 per cent of defaulted exposures. The average PD and average LGD are applied against the bank's total estimated gross exposure to borrowers, which is the EAD. The EAD is measured gross of any specific credit impairment raised or partial write-offs made. The requirements for the measurement of EAD are outlined in regulation 23 of the Regulations relating to Banks.

The aforementioned key features of credit risk translate to an expected loss of 1,6 per cent of defaulted exposures, which IRB banks will cover, *inter alia*, through pricing and the raising of impairments. It also translates to a capital requirement through an average risk weighting of 35,6 per cent.

Table 2 Key features reported by internal ratings-based banks

Feature	December 2008
Exposure at default (R billions)	2,577
Average probability of default (per cent)	5,9
Average loss given default (per cent)	27,8
Expected loss as a percentage of exposure at default (per cent)	1,6
Risk-weighted exposure as a percentage of exposure at default (per cent)	35,6
Advances in default as a percentage of exposure at default (per cent)	3,1

The remainder of the credit risk section will focus on defaults experienced in relation to the EAD.

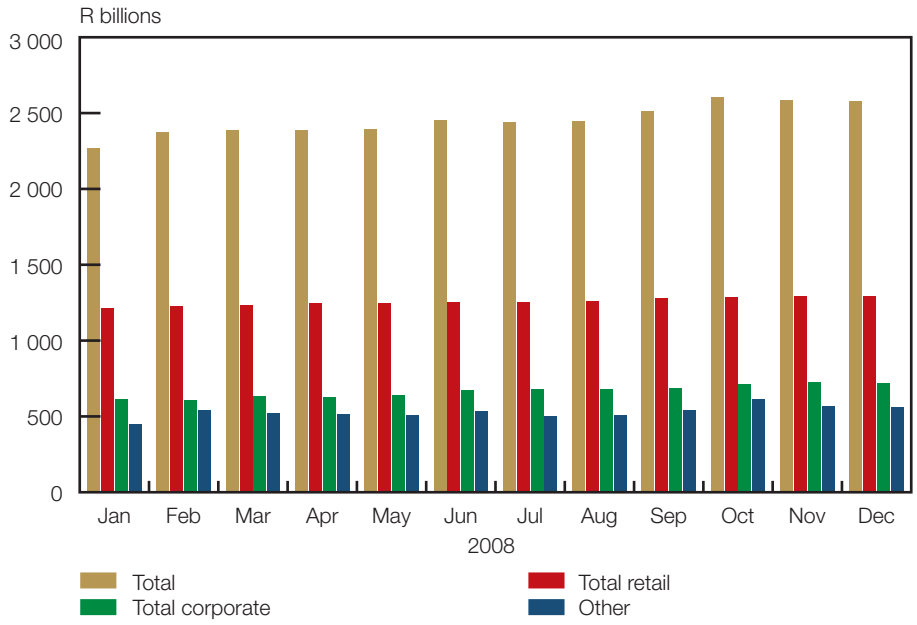
8.6 Exposure at default

EAD has increased by 13,5 per cent

Figure 40 presents the credit exposure (i.e., EAD) per asset class. EAD has increased by 13,5 per cent since January 2008, amounting to R2 576,8 billion at the end of December 2008 (January 2008: R2 270,3 billion). At the end of December 2008, 50,2 per cent of the EAD was classified as retail exposures, followed by the corporate classification (28,0 per cent) and other[11] (21,8 per cent), totalling R1 293,3 billion, R721,8 billion and R561,7 billion respectively.

Exposures classified as 'default',[12] per asset class, are presented in Figure 41. Also included are the default ratios per asset class (i.e., the defaults as a percentage of EAD).

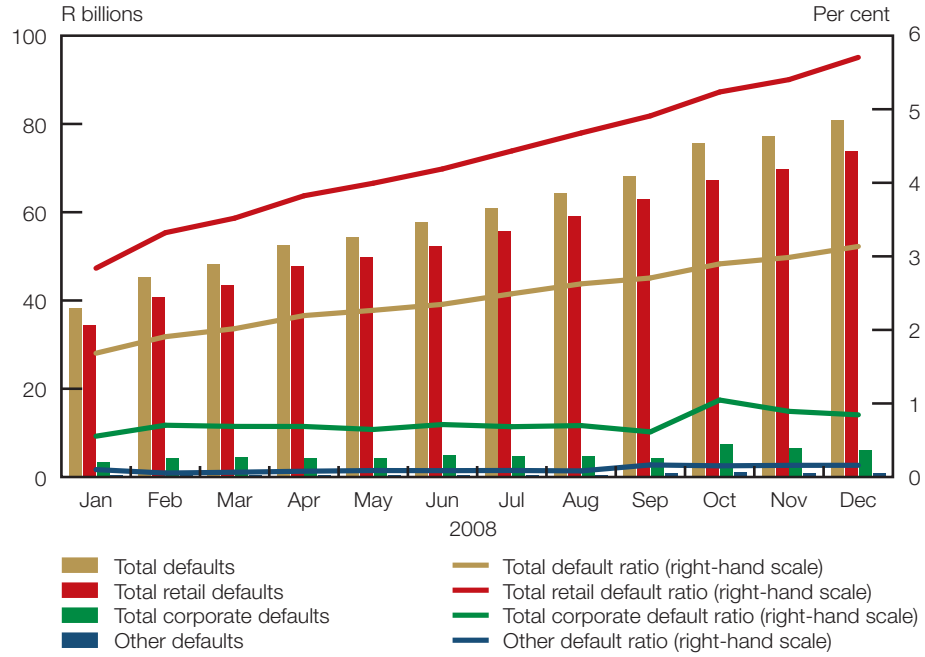
Figure 40 Total exposure at default



total default ratio increased

As presented in Figure 41, total defaults increased from R38,2 billion at the end of January 2008 to R80,8 billion at the end of December 2008, representing an increase of 111,3 per cent over the period. The retail defaults, corporate defaults and other defaults all increased significantly with growth rates over the period amounting to 114,7 per cent, 78,8 per cent and 99,1 per cent respectively. The total default ratio increased from 1,7 per cent of EAD at the end of January 2008 to 3,1 per cent at the end of December 2008. Most noticeably, the retail default ratio increased from 2,8 per cent at the end of January 2008 to 5,7 per cent at the end of December 2008.

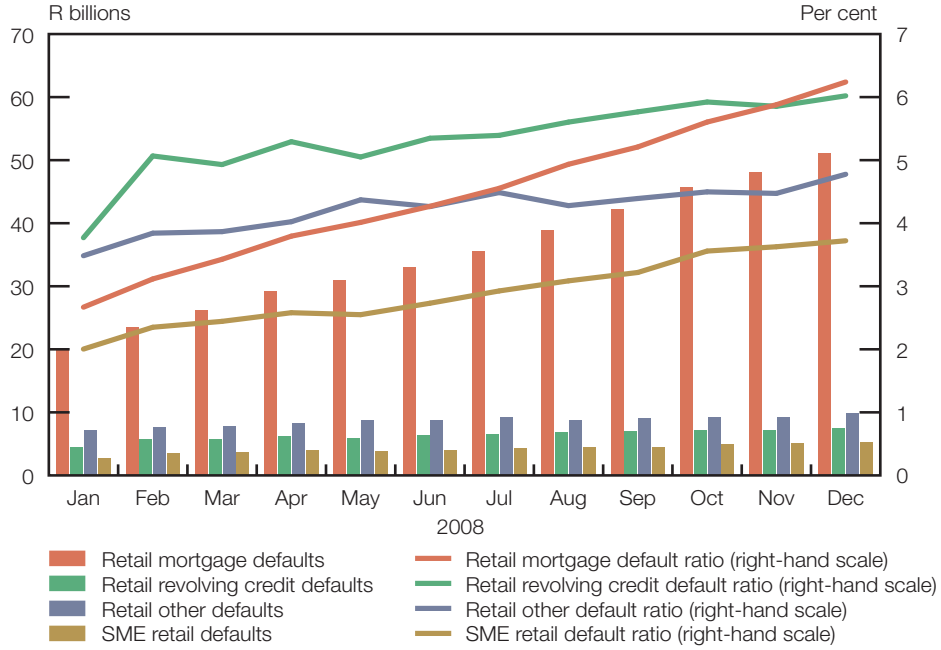
Figure 41 Total default exposure and default ratio per asset class



residential mortgage defaults increased

Figure 42 provides a breakdown of the respective retail defaults and retail default ratios, which deteriorated during the period under review. The increasing interest rate cycle, high levels of household indebtedness, and other unfavourable local and international economic conditions contributed to the deteriorating trend. In particular, residential mortgage defaults increased by 157,6 per cent between January 2008 and December 2008.

Figure 42 Composition of default retail exposures and respective retail default ratios



8.7 Credit concentration risk: Sectoral and geographic distribution of credit exposures

credit exposures according to the sectors or industries

Table 3 provides a breakdown of credit exposures according to the sectors or industries specified and Table 4 presents the geographic distribution of credit exposure. Private households, and financial intermediation and insurance were the largest if measured as a percentage of total credit exposure at 36,5 per cent and 25,4 per cent respectively at the end of December 2008. The distribution remained stable during 2008.

Table 3 Sectoral distribution of credit exposures (as a percentage of total credit exposure)

Concentration	Mar 2008	Jun 2008	Sep 2008	Dec 2008
Private households	34,75	36,65	36,63	36,47
Financial intermediation and insurance	23,86	25,49	24,79	25,39
Other	11,93	9,86	9,69	7,23
Business services	5,60	4,74	4,60	5,65
Real estate	2,77	2,97	3,14	4,83
Manufacturing	4,94	4,30	4,40	4,43
Community, social and personal services	3,63	3,24	3,27	4,14
Wholesale and retail trade	4,14	4,24	4,61	3,60
Mining	3,00	2,90	2,98	2,70
Transport and communication	2,64	2,42	2,43	2,36
Construction	0,87	1,27	1,31	1,28
Agriculture	1,27	1,39	1,37	1,20
Electricity	0,59	0,53	0,78	0,71
Total	**100,00**	**100,00**	**100,00**	**100,00**

Of the total credit exposure, 89,1 per cent is concentrated in South Africa, followed by 8,3 per cent exposure to European countries, at the end of December 2008.

Table 4 Geographic distribution of credit exposures (as a percentage of total credit exposure)

Concentration	Mar 2008	Jun 2008	Sep 2008	Dec 2008
South Africa	89,59	88,73	91,75	89,07
Europe	8,19	8,81	5,98	8,34
North America	1,40	1,65	1,40	1,61
Other African countries	0,55	0,50	0,47	0,51
Other	0,05	0,12	0,25	0,21
Asia	0,22	0,18	0,14	0,16
South America	0,00	0,01	0,00	0,11

9. Market risk

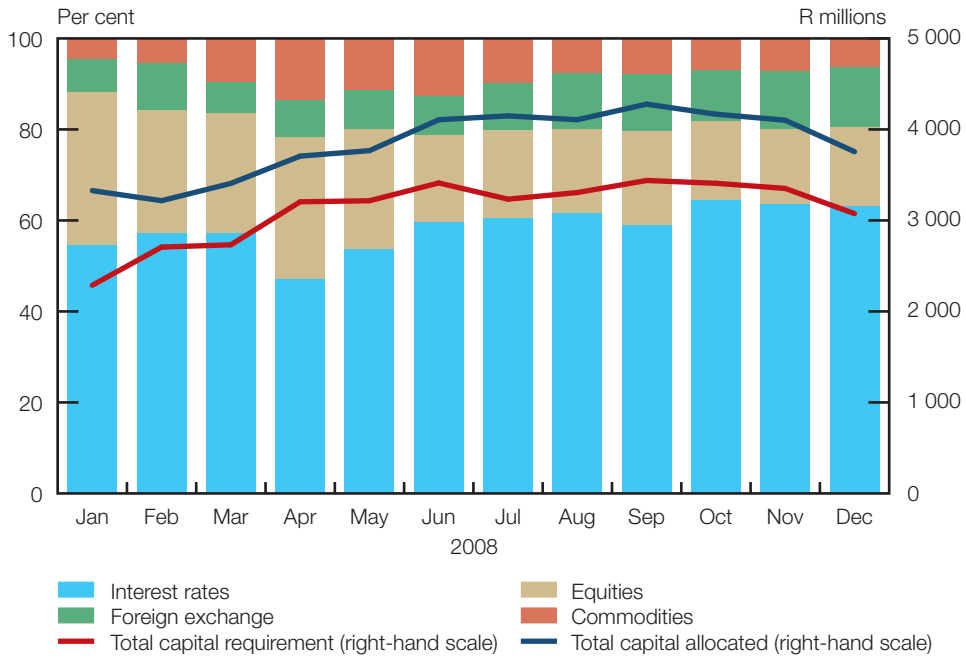
This section provides an overview of the composition of the regulatory capital requirement in respect of market risk, activities and developments in the derivative contract markets and the banking sector's foreign-currency open positions.

9.1 Regulatory capital requirement in respect of market risk

composition of total market risk regulatory capital requirement

Banks can choose between TSA and the IMA to measure and report their market risk regulatory capital requirements. Figure 43 presents an aggregate of both approaches, focusing on the total capital allocated and the total regulatory capital requirement in terms of market risk. The composition of the total market risk regulatory capital requirement is also provided.

Figure 43 Composition of regulatory capital requirement in respect of market risk



market risk regulatory capital requirement increased

The total market risk regulatory capital requirement increased from R2,3 billion at the end of January 2008 to R3,4 billion at the end of June 2008, whereafter it declined to R3,1 billion at the end of December 2008. Total allocated capital for market risk followed a similar trend, increasing from R3,3 billion at the end of January 2008 to R4,3 billion at the end of September 2008, in response to increased volatility in most financial markets, whereafter it eased off to R3,8 billion at the end of December 2008 following efforts by banks to reduce their risk exposures. The utilisation of allocated capital varied between 69 per cent and 87 per cent during the period under review.

interest rate instruments remained the largest contributor to total requirement

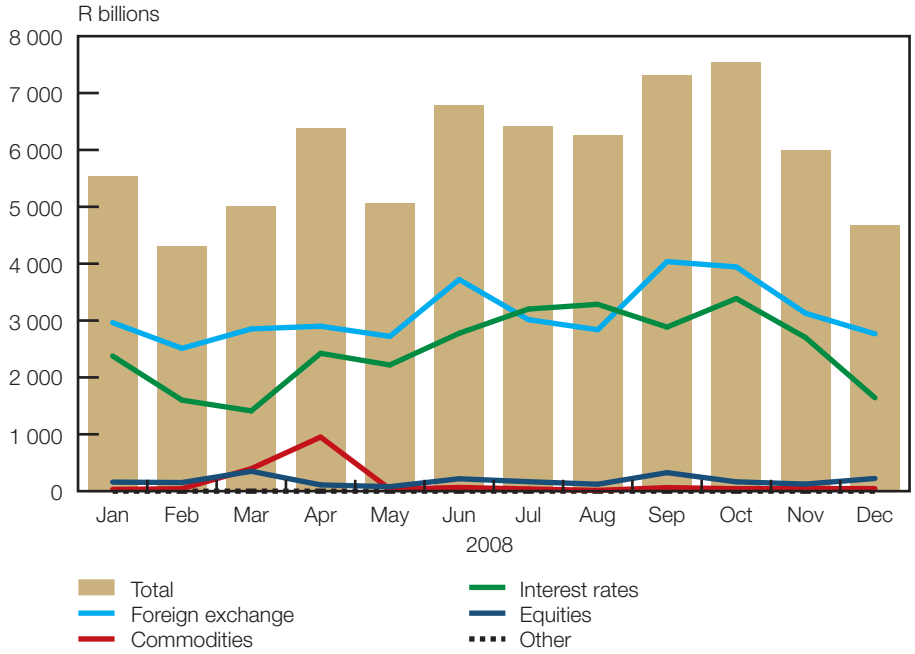
The composition of the total market risk regulatory capital requirement fluctuated a little during the period January 2008 to December 2008. The capital requirement in respect of interest rate instruments remained the largest contributor over the period, representing more than 50 per cent of the total capital requirement for most of the period. The capital requirement in respect of equity positions declined from 33,7 per cent at the end of January 2008 to 17,3 per cent at the end of December 2008 due to the rapidly declining equity markets, banks' closing positions and a general decrease in market activities towards the end of the year. Foreign-exchange instruments, in contrast, raised the market risk regulatory capital requirement, contributing 7,1 per cent at the end of January 2008 and increasing to 13,3 per cent at the end of December 2008. Commodities contributed the least to the total capital requirement at the end of December 2008, namely 6,2 per cent (January 2008: 4,7 per cent).

9.2 Derivative instruments

turnover in derivatives remained strong

The composition of monthly turnover in derivative contracts is shown in Figure 44. The turnover is calculated by aggregating the gross notional long and short positions. Throughout 2008 turnover in derivatives remained strong, reaching a high point at the end of October 2008 due to increased price volatility in all financial and commodity markets. The total turnover increased from R5 530 billion for the reporting month of January 2008 to R7 536 for October 2008, and reduced to R4 677 billion for December 2008.

Figure 44 Composition of monthly turnover in derivative contracts (gross notional value)



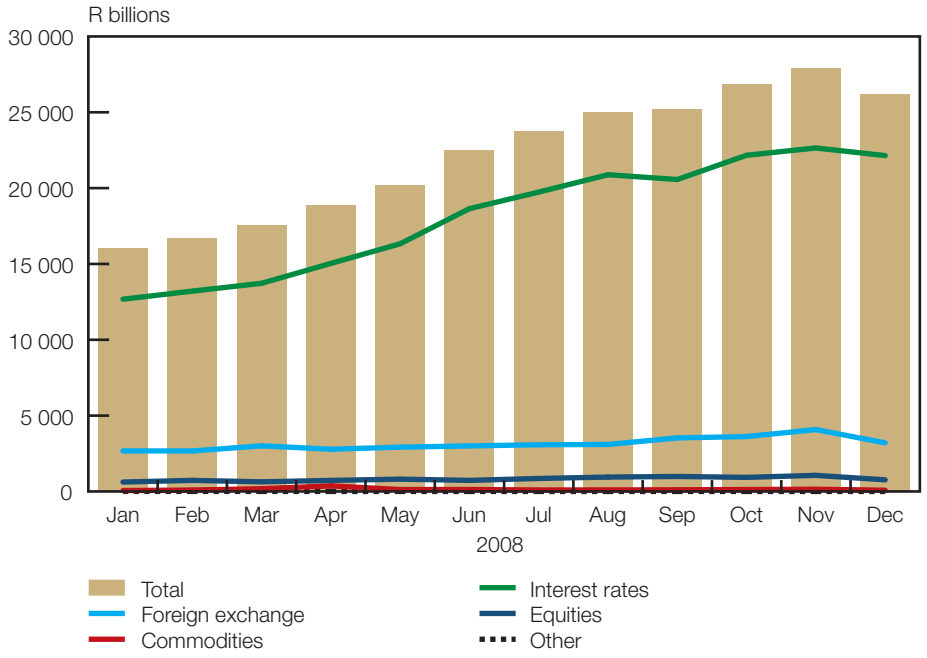
During October 2008, the value of the South African rand depreciated and fluctuated significantly as a result of negative sentiment towards emerging markets and general deleveraging on the part of global markets.

Derivative turnover activities throughout 2008 were mainly in respect of foreign-exchange and interest rate derivative contracts, which amounted to R2 767 billion (January 2008: R2 964 billion) and R1 642 billion (January 2008: R2 376 billion) respectively for the reporting month of December 2008.

increased hedging against expected interest rate changes

Figure 45 depicts the gross notional value of total unexpired derivate contracts and its composition. The total gross notional value of unexpired contracts increased from R16 029 billion at the end of January 2008 to R27 930 billion at the end of November 2008, followed by a marginal decline at the end of December 2008 to R26 194 billion. Unexpired interest rate derivative contracts represented approximately 80 per cent of the total unexpired derivative contracts throughout 2008, which were indicative of increased hedging against expected domestic interest rate changes.

Figure 45 Composition of unexpired derivative contracts at month-end (gross notional value)



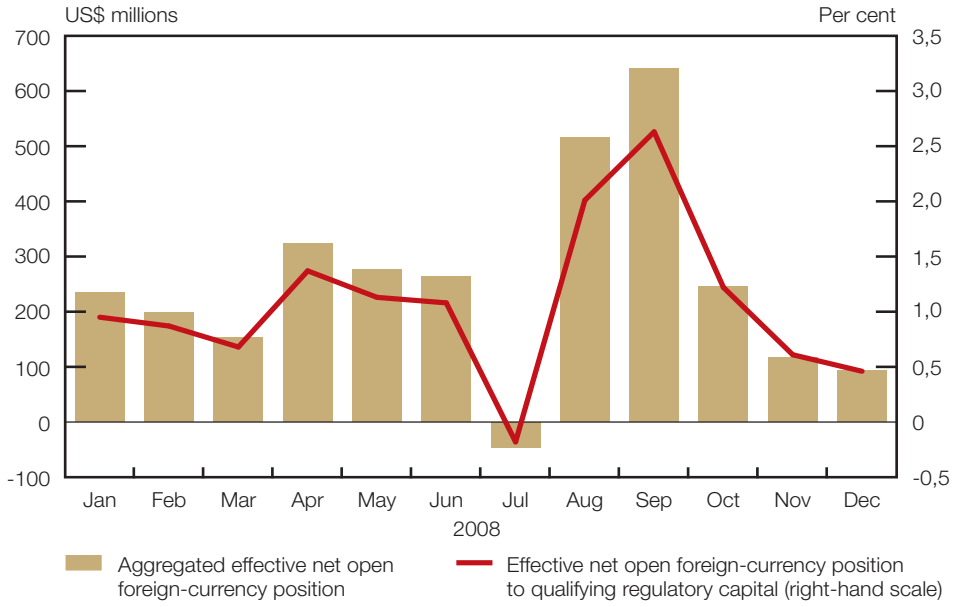
9.3 Currency risk

effective net open foreign-currency position fluctuated substantially during 2008

The aggregated effective net open foreign-currency position (Figure 46) is calculated by the addition of foreign-currency assets, foreign-currency liabilities, commitments to purchase foreign currency and commitments to sell foreign currency. The aggregated effective net open foreign-currency position as a percentage of qualifying regulatory capital fluctuated substantially during 2008 as a result of the significant variation in the actual aggregated effective net open foreign-currency position. Nevertheless, the ratio peaked at 2,6 per cent at the end of September 2008, whereafter it declined to 0,5 per cent at the end of December 2008 (January 2008: 1,0 per cent), remaining well within the 10 per cent regulatory limit.

well within the 10 per cent regulatory limit

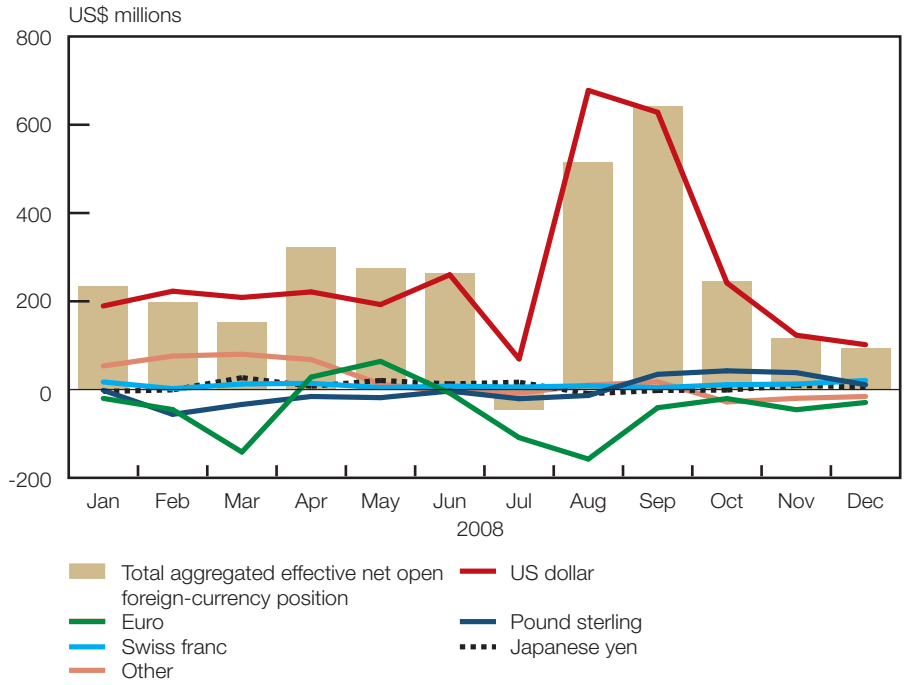
Figure 46 Aggregated effective net open foreign-currency position (as a percentage of qualifying regulatory capital)



US dollar dominated main constituent to fluctuations

Figure 47 indicates the contributions of each currency to the aggregated effective net open foreign-currency position. The US dollar dominated the positions during 2008 and remained the main constituent to the fluctuations experienced.

Figure 47 Aggregated effective net open foreign-currency position per currency

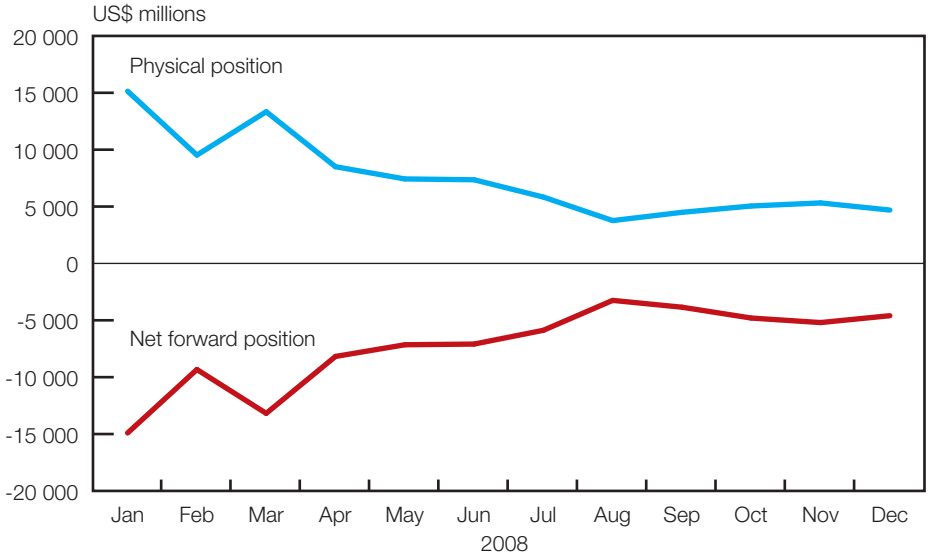


The banking sector's position in foreign-currency instruments can be illustrated by comparing the physical position (difference between current foreign assets and current foreign liabilities) with the net forward position (difference between commitments to sell foreign currency and commitments to purchase foreign currency).

overall net open position in line with regulatory limits

Figure 48 indicates that the physical position decreased from US$15,1 billion at the end of January 2008 to US$4,7 billion at the end of December 2008 and, similarly, the net forward short position decreased from US$14,9 billion at the end of January 2008 to US$4,6 billion at the end of December 2008. The physical position and the net forward short position are mirror images of each other, with the gap between the two narrowing substantially during the latter half of 2008. The mirror image results from banks reducing their net open position by acquiring forward positions to neutralise spot currency holdings and vice versa, in order to maintain a low overall net open position that is in line with regulatory limits.

Figure 48 Position in foreign-currency instruments



Notes

1 Gross domestic product at market prices.
2 Refer to background note by the World Bank, 'Banking and the leverage ratio' (March 2009) (www.worldbank.org).
3 'Credit losses' refers to the net value of credit impairments provision raised, credit impairments provision released, recoveries and suspended interest charge (and when relevant, also includes write-offs not applied directly against the balance sheet, that is, provision not previously raised).
4 'Tier 1' refers to primary capital and primary unimpaired reserve funds.
5 'Tier 2' refers to secondary capital and secondary unimpaired reserve funds.
6 'Adjusted liabilities' refers to total liabilities reduced by (1) funding received from head office or from other branches within the same group; and (2) amounts owing by banks, branches and mutual banks in South Africa.
7 For further reading and clarification, the original Basel II documentation is available on the website of the BIS: http://www.bis.org/publ/bcbsca.htm. The South African Reserve Bank's website (www.resbank.co.za) also contains useful information in this regard.
8 Refer to 'Overview of the new Capital Accord', April 2003, issued by the Basel Committee on Banking Supervision.
9 Refer to 'An explanatory note on the Basel II IRB risk weight functions', July 2005, issued by the Basel Committee on Banking Supervision.
10 'IRB banks' refers to information reported by banks in terms of the IRB approach for reporting credit risk data.
11 'Other' consists of public sector entities, local government, sovereign, banks and securities firms.
12 For a definition of 'default', refer to Chapter VII of the Regulations relating to Banks.