CENTRAL BANK OF OMAN

FINANCIAL STABILITY REPORT

Issue 2: May 2014
His Majesty Sultan Qaboos bin Said
The bankruptcy of Lehman Brothers on Monday, September 15, 2008, was the game-changer. It occurred to the surprise of many even while inflation was benign and estimated output gaps were small reflecting a seemingly calm macroeconomic surface. That gave rise to a sensible conclusion that “well-managed monetary policy may be necessary for economic stability, it is not sufficient”\(^1\) and focus on safeguarding financial stability should get consistent priority “even in (or perhaps, especially in) stable and prosperous times”\(^2\). A growing feeling across central banks is not only to remain armoured with the lender-of-last-resort function to provide liquidity to ease market conditions during periods of panic or incipient panic but also to keep working on ways to prevent them or at least contain the quantum of possible damage. This requires devised mechanism to identify and defuse risks not only to individual firms but to the financial system as a whole, to understand and assess the inter-linkages between different financial actors and between financial institutions and sovereigns - an approach known as macrofinancial surveillance. Central banks are learning to consider the importance of the complementarities among regulatory and supervisory policies (including macroprudential policy), lender-of-last-resort policy, and the standard monetary policy.

Episodes of financial instability have inflicted grave damage to the broader economy. The intensity of damage is increasing too. “Median output losses (computed as deviations of actual GDP from its trend) for the recent crises of 25 per cent of GDP, which is almost 5 percentage points higher than its historical median of 20 per cent”\(^3\). The period of recovery from the costs of banking crises could be quite protracted and hence crippling as well. “On average it takes about eight years to reach the pre-crisis level of income; the median is about 6 ½ years. Five to six years after the onset of the current crisis only Germany and the US (out of 12 systemic crisis cases\(^4\)) have reached their 2007-2008 peaks in per capita income.”\(^4\)

While trying out for ways to ensure that banks are able to ride out the next set of financial shocks much more capably than before, both for their own sake and for that of the credit they intermediate, one should not miss the woods for the trees. Past events suggest that insufficient capital does not force bank to fail, rather unbearable losses do. Losses are incurred as unmanageable risks are taken. Such risks arise as banks lull themselves in to “reckless business strategies, flawed business models or by making unforgivable mistakes”\(^5\). Adequacy of capital is a built-in loss-absorber, “no more than an ‘airbag’ and ‘seat belt’ for the banking industry’s passengers,”\(^5\) what is of utmost importance especially in the current dynamic world of modern finance, is a culture of prudence and risk governance which is a better guarantee of safety and soundness. This is more so given the characteristics of institutions, products, markets, and trading strategies changing fast enough to generate vulnerabilities in response to new kinds of shocks and new channels of contagion. Systemically Important Banks are also the special points of focus in this regard. Interconnectedness facilitates iterative effects when portfolios are adjusted in the same way at the same time at many banks leading to magnification of crisis in a downward spiral. Size exacerbates it further. Accordingly, identification and revisit of regulation/supervision regimes for such banks, understanding their vulnerability in a crisis and the impact those may have on the financial system have acquired the rightful priority.

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3 France, Germany, Greece, Iceland, Ireland, Italy, Netherlands, Portugal, Spain, Ukraine, UK, and US.
Oman has since got its identified Apex Systemic Risk Authority, Higher Committee for Financial Stability in place. With this, a formal coordination mechanism among the Central Bank of Oman (regulator of banks, financial companies, money market, foreign exchange market, Government securities market as also the lender-of-last resort), the Capital Market Authority (regulator of capital market, the insurance and mutual funds sectors) and the Government (Ministries of Finance and Commerce & Industries) for managing financial stability has been established.

Oman has had an elaborate micro-prudential regulatory and supervisory framework. Several macroprudential instruments have been in use to strengthen the process whenever necessary. Credit reporting system, explicit deposit guarantee scheme and emergency liquidity adjustment framework are in vogue. Work on a suitable Crisis Management Mechanism which would include an Early Warning System and a Crisis Resolution Framework is on. ‘Top-Down’ Stress Testing Framework includes macro-stress testing, while ‘Bottoms-Up Stress Testing’ at the end of the banks has started. Their results are part of this issue of the Financial Stability Report. International developments in this area anchored by Financial Stability Board (FSB) and International Monetary Fund (IMF) are keenly followed. It is the avowed approach of the CBO to remain in the learning curve in this direction.

Oman’s growth scenario continued to look comfortable in 2013 with global activities on rails backed by comfortable economic recovery in the advanced economies. Such a sustained growth process was also a manifestation of an improved diversification of the economy reflected in terms of increase in the excess of contribution of non-oil sector to GDP growth vis-à-vis the oil sector. Consumer price inflation remained benign as it fell on an average basis to 1.1 per cent in 2013 from 2.9 per cent in 2012. With positive fiscal balance for 2013 (0.8 per cent of nominal GDP) and low debt-GDP ratio (6.9 per cent) fiscal sector risk continued to remain low. External sector was elegant as the current account continued to remain in surplus consecutively in the last four successive years.

Banking sector in Oman continued to remain healthy and efficient during 2013. The gross Non Performing Loan (NPL) ratio was low at 2.0 per cent with the net NPL ratio staying put at around 0.6 per cent. The benchmark CRAR of the banking sector stayed steady at 16.2 per cent. At system level, even the core capital segment was sufficient enough to meet both the stipulations of CBO (at 12 per cent) and BIS (at 8 per cent).

Hamood Sangour Al-Zadjali
The Executive President
20th May 2014
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CMM Crisis Management Mechanism
COU Central Operating Unit
CPI Consumer Price Inflation
CPOC Central Point of Contract
CPSS Committee on Payment and Settlements Systems
CRAR Capital to Risk-weighted Assets Ratio
CRAs Credit Rating Agencies
CRD Capital Requirements Directives
CRk Concentration Ratio of ‘k’ number of banks
CRO Chief Risk Officer
CRR Capital Requirements Regulation
CRWA Credit Risk Weighted Assets
DIA Deposit Insurance Agency
DIS Deposit Insurance System
DR Disaster Recovery
D-SIBs Domestic Systemically Important Banks
D-SIFIs Domestic Systemically Important Financial Institution
DTCC Depository Trust & Clearing Corporation
DW Durbin Watson Test Value
EAD Exposure at default
ECC Electronic Cheques Clearing
EDA Emerging and Developing Asia
EMV Euro pay, MasterCard, and Visa
ESMA European Securities and Markets Authority
EU European Union
FASB Financial Accounting Standards Board
FDIC Federal Deposit Insurance Corporation
FISIM Financial Intermediation Services Indirectly Measured
FLCs Finance and Leasing Companies
FPC Financial Policy Committee
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<td>Higher Committee on Financial Stability</td>
</tr>
<tr>
<td>HHI</td>
<td>Herfindahl-Hirschman Index</td>
</tr>
<tr>
<td>HICP</td>
<td>Harmonized Index of Consumer Prices</td>
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<tr>
<td>HLA</td>
<td>Higher Loss Absorbency</td>
</tr>
<tr>
<td>HP</td>
<td>Hedrick Prescott</td>
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<tr>
<td>HQLAs</td>
<td>High Quality Liquid Assets</td>
</tr>
<tr>
<td>IAS</td>
<td>International Accounting Standards</td>
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<tr>
<td>IASB</td>
<td>International Accounting Standards Board</td>
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<td>ICOR</td>
<td>Incremental Capital Output Ratio</td>
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<tr>
<td>IEA</td>
<td>International Energy Agency</td>
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<td>IFRS</td>
<td>International Financial Reporting Standards</td>
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<td>International Monetary Fund</td>
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<td>IOSCO</td>
<td>International Organization of Securities Commissions</td>
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<td>LAC</td>
<td>Latin America and Caribbean</td>
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<tr>
<td>LCR</td>
<td>Liquidity Coverage Ratio</td>
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<tr>
<td>LEI</td>
<td>Legal Entity Identifier</td>
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</tbody>
</table>
LHS  Left Hand Side
LOUs  Local Operating Units
LTV  Loan-to-Value
M0  Reserve Money
M2  Broad Money
MENA  Middle East and North Africa
MENAP  Middle East North Africa and Pakistan
MIS  Management Information System
MoCI  Ministry of Commerce and Industry
MoF  Ministry of Finance
MRWA  Market Risk Weighted Assets
MSM  Muscat Securities Market
MSP  Major Swaps Participant
NBCI  National Bureau of Credit Information
NBFI  Non-Banking Financial Institution
NCSI  National Center for Statistics and Information
NEER  Nominal Effective Exchange Rate
NIM  Net Interest Margin
NOE  Non-oil Expenditure
NOFB  Non-oil Fiscal Balance
NOR  Non-oil Revenue
NPLs  Non-Performing Loans
NPSL  National Payment Systems Law
NRI  Node Risk Index
NSFR  Net Stable Funding Ratio
OBS  Off Balance Sheet
OCC  Comptroller of the Currency
OECD  Organization for Economic Cooperation and Development
OLA  Orderly Liquidation Authority
OPCs  Oil Producing Countries
OTC  Over-the-Counter
PD  Probability of default
POS  Point of Sale
PR   Panzar and Rosse
PRA  Prudential Regulation Authority
PSEs Public Sector Enterprises
RAF  Risk Appetite Framework
RBS  Risk Based Supervision
RCGs Regional Consultative Groups
RHS  Right Hand Side
RO   Rial Omani
ROA  Return on Assets
ROC  Regulatory Oversight Committee
ROE  Return on Equity
RoW  Rest of the World
RRP  Recovery and Resolution Plan
RSA  Rate Sensitive Assets
RSL  Rate Sensitive Liabilities
RTGS Real Time Gross Settlement
RWA  Risk Weighted Assets
SD   Swaps Dealer
SDRM Sovereign Debt Restructuring Mechanism
SEC  Securities and Exchange Commission
SFT  Security Financing Transaction
SME  Small and Medium Enterprise
SPE  Single Point of Entry
SRM  Single Resolution Mechanism
SRS  Systemic Risk Survey
SSA  Sub-Saharan Africa
TA   Total Assets
TBTF Too Big to Fail
TR   Trade Repository
USD  United States Dollar
YoY  Year on Year
FINANCIAL STABILITY ASSESSMENT OF OMAN

AN OVERVIEW

Oman Professes to be on the Learning Curve of Global Financial Regulatory Reforms Agenda – Apex Body Formed to Manage Systemic Risk

1. The Central Bank of Oman (CBO) derives legal strength from the Banking Law 2000 which sets its objective “to ensure maintenance of financial stability”. An elaborate micro-prudential regulatory and supervisory framework is in operation. The progressive migration to an improved supervisory regime, Risk Based Supervision (RBS) in the on-site examination framework stands completed. The process of adherence to international revised capital and liquidity norms has been initiated with right earnest.

2. Macropurudential regulatory stance to promote financial stability and macro-financial surveillance has become the current focus. Use of several macropurudential instruments has been the practice. Regular monitoring and analysis of systemic risks have been introduced to take a macro-view on the financial-economic system and is meant to supplement to the extant micro-assessment undertaken by the regulation/supervision/monetary policy making functions. Work on a suitable Crisis Management Mechanism (CMM) which would include an Early Warning System and a Crisis Resolution Framework are on. Policy formulation is at an advanced stage towards getting banks (especially local D-SIBs) to adopt similar strategies including Bottoms-Up Stress Testing. A dedicated Higher Committee on Financial Stability (HCFC) to act as the apex body to monitor and manage systemic risk in the economy has been formed which is chaired by the Executive President of CBO with Executive President of Capital Markets Authority (CMA) and senior representatives from the Ministries of Finance and Commerce & Industries as its members.

3. Credit reporting system, explicit deposit guarantee scheme and emergency liquidity adjustment framework – the sine qua non of an efficient systemic risk management edifice are in operation. 

Stakeholders Confidence on the System Continued to be Favourable – The Bi-Annual Systemic Risk Survey

4. The Systemic Risks Survey conducted by CBO revealed that most of the respondents felt ‘Very Confident’ on the Stability of the System. The general perception of the market players remained unchanged over the year under review even while the level of confidence tended to fall a bit. Oil price movements was indicated as the most perceived potential distress while operational risks were viewed as the most unmanageable.

MACRO-FINANCIAL SCENARIO

Economic Growth in Oman Looking Up – Set to be Sustainable even under Severely Stressed Scenarios.

5. Oman’s growth scenario continued to look comfortable in 2013 with global activities on rails backed by comfortable economic recovery in the advanced economies. With global growth estimate projected to rise from 3.0 per cent in 2013 to 3.6 per cent in 2014 and 3.9 per cent in 2015, under the baseline, Oman’s real GDP growth is projected at 5.1 per cent in 2013 and 3.4 per cent each for 2014 and 2015 respectively. The world oil prices forecast being at US $ 104.1 in 2013, US $ 104.2 in 2014 and 97.9 per barrel in 2015, the economic growth scenario for Oman is set to look up in the coming few years.
6. Even under severely stressed scenarios of lower global growth and adverse oil prices movement in 2014 and 2015, Oman’s real GDP growth would decrease to 1.9-2.5 per cent in 2014 and 1.6-2.2 per cent in 2015, a risk factor reflective of the dependence of the Omani growth process on the oil prices together with the global growth.

**Contribution of Non-Oil Sector Rising – Corporate Profitability Up and Confidence on Stock Market Buoyant.**

7. A sustained growth process in Oman was a manifestation of an improved diversification of the economy reflected in terms of increase in the excess of contribution of non-oil sector to GDP growth vis-à-vis the oil sector. Added to this has been the welcome trend of increasing credit dependence of the growth process culminating in rising financial development feeding to growth through efficiency of investment. The planned small and medium enterprises (SME) driven economic activities would accelerate this process further.

8. Corporate profitability has been on an uptrend since 2011 with the total net profit of 107 listed companies registering 17.2 per cent growth during 2013. The stock market grew by 18.6 per cent in 2013 with buoyant investors’ confidence noticeable with foreign investment in the stock market moving up from 25.6 in 2012 to 27.8 per cent in 2013.

**Benign Pressures of Inflation – An Offshoot of Moderated Global Food Prices and Favourable Domestic Factors**

9. Oman’s consumer price inflation on an average basis fell to 1.1 per cent in 2013 from 2.9 per cent in 2012. This moderation in inflation was attributed to low imported inflation due in turn to benign global inflation outlook in general and easing global food prices in particular. Domestic favourable factors, namely, lower growth in bank credit, broad money, real sector and Government expenditure contributed a lot to this favourable trend. A consistent trend of co-movement of falling inflation with rising government subsidies was also discerned. This bared open a trade-off between short-term reduced inflation risk and long-term potential fiscal risk.

10. The continued trend of Oman’s inflation getting mainly influenced by global commodity prices and food in particular was an issue of concern. With the group ‘food and non-alcoholic beverages’ (weight 23.903 per cent as per base year 2012) contributing around 60.8 per cent to the average inflation at 1.1 per cent in the year 2013 and food accounting for around 9.6 per cent of recorded imports in 2012, a rise in global food inflation may have adverse implications for inflation in Oman. Further rising subsidies may cloud the fiscal space leaving scope for reduced growth-inducing expenditures.

**Fiscal Balance Continued to be Elegant – Positive Gap between Global Oil Prices and Oman’s Fiscal Break-even Oil Price Narrowing.**

11. With positive fiscal balance for 2013 (0.8 per cent of nominal GDP) and low debt-GDP ratio (6.9 per cent) fiscal sector risk continued to remain low in Oman. These fiscal indicators looked very strong in the face of GCC and MENA averages of 14.7 per cent and 27.6 per cent respectively for 2013, as projected by IMF. Such positive space in the face of global uncertainties and the increase in the public sector wage bill and subsidies was the outcome of buoyant revenues from high oil prices and the high oil price gap having offset the increase in government expenditure. The positive gap between global oil prices and Oman’s fiscal break-even oil price has narrowed in 2013 precipitating potential fiscal risk.

**External Balance Continued to be Robust – Non-Oil Exports Showing Modest Growth.**

12. Oman’s current account continued to be in surplus consecutively in last four successive years
between 2010 and 2013. With capital and finance account registering a lower net outflow than the previous year, in part aided by the sharp turnaround in the portfolio investment, positive overall balance in the balance of payments position in these years resulted in strong accruals under reserve assets with both government and CBO. In addition, non-oil exports grew by 18.9 per cent with the resultant share of non-oil exports in total exports improving to 33.9 per cent in 2013 up from 31.1 per cent in 2010. Position of external debts has been low and showing falling trend too.

FINANCIAL INSTITUTIONS

BANKS

Loans Business of Banks Grew albeit Slowly – Lending to Corporates Remained Strong while Regulations Kept Personal Loans under Check.

13. Banking sector in Oman continued to remain healthy and efficient. Total assets grew by 11 per cent during FY-13 helped by total loans business (inclusive of the Islamic banking finance) rising by 9 per cent and the component of the private sector credit to non-oil GDP also rising by 7 per cent over the last year. The lending growth had however slowed down despite a 100 basis points reduction in interest rate ceiling because of personal loans’ growth rate almost getting halved to 8 per cent during the year under review. This happened due to tightening of prudential norms and limits. Corporate lending however remained robust.

14. The widening wedge between credit and deposit growth was indicative of excess structural liquidity in the banking sector. If the trend of slower credit growth (vis-à-vis deposit growth) continues, it would adversely affect earning potentials apart from production in the economy.

Assets Quality of Banks was Very Strong – Three Quarters of Contaminated Assets were in ‘Loss’ Category.

15. The gross Non Performing Loan (NPL) ratio marginally declined to 2.0 per cent over the course of the year with the net NPL ratio staying put at around 0.6 per cent. The existing loans portfolio of banks was well covered against expected losses through adequate provisions with coverage ratio (provisions to NPLs) of 72 per cent (138 per cent including general provisions). Considering even the ‘performing but delinquent’ loans in the Special Mention category at 3.4 per cent and the component of performing restructured loans (whose ratio of to gross loans had declined to 0.83 per cent from 1.13 per cent a year ago), the overall quality of loans assets of the banks was considered quite strong.

16. But a few negative features were also observed. More than three-quarters of the NPLs of the banking sector were classified in the Loss category and the accretion to this category continued for the last two years. Incremental rise in new NPLs outpaced the quantum of recovery by the banks. The unrated loans were about one-third of the total loans in terms of value and 80 per cent in terms of volume.

Concentration Level was Moderately High – Potentials of Contagion Risk from Overseas Remained.

17. In Oman, the degree of concentration in the banking sector, as measured by Herfindahl-Hirschman Index (HHI) was seen to be moderately high and which was in line with the peer group of GCC countries. The top five (three) banks accounted for about 80 per cent (62 per cent) of total banking sector assets. Government and Public Sector Enterprises (PSEs) continued to contribute about one-third share in the total deposits. Personal Loans had the lion’s share of the total portfolio, performing well though with lesser share of NPLs. The five largest borrower groups, account for about seven per cent of the banks’ total credit portfolio.
18. Banks had limited claims on each other within Oman and appeared to be in favour of overseas placements. While lower domestic interbank exposures implied a lower level of interconnectedness and limited contagion risk, higher overseas exposures carried the potentials of the risk of contagion from overseas resulting out of indirect interconnectedness through the same counterparties/exposure in same countries abroad.

**Solvency Position of Banks Quite Comfortable – Strong Profitability Augured Well for Future**

19. The benchmark CRAR of the banking sector stayed steady at 16.2 per cent. At system level, even the core capital segment was sufficient enough to meet both the stipulations of CBO (at 12 per cent) and BIS (at 8 per cent). The leverage ratio (Core Capital to On and Off-balance sheet exposure) of the banking sector worked out to over ten per cent as against the Basel Committee’s requirement of minimum three per cent. Similarly, ‘Equity Multiplier’ (On-balance sheet exposure to total capital) remained modest at 5 times depicting satisfactory solvency position of banks.

20. During the year, banks netted RO 397 million of profits as compared to RO 346 million during last year. The profitability ratios, ROA and ROE, remained steady at 1.8 per cent and 12.5 per cent, respectively. The profitability of the banking sector was supported by a steady NIM of 3.8 per cent.

**NON-BANKS**

*Non-Bank Sector was Small but Rising – Insurance Sector Needed a Big Boost*

21. The loans and advances of Finance and Leasing Companies (FLCs) grew by 16 per cent over the year to reach RO 824 million even as the gross NPL ratio showed improvement from 7.5 per cent to 6 per cent. Owing to adequate provisioning, the Net NPL ratio however, had stayed put at 0.3 per cent. FLCs posted pre-tax profits of RO 30.3 million during 2013 up from RO 27.6 million last year. The profitability indicators ROA and ROE, supported by strong NIM and stable NPL ratio, remained healthy at 3 per cent and 12.8 per cent respectively.

22. The insurance penetration, defined as the ratio of insurance premiums to GDP, was about 1.2 per cent. This though comparable to that of GCC countries was much lower than the global average of 6.5 per cent. Similarly, Insurance Density, defined as insurance premiums divided by population, was about RO 100 per person in Oman which was much smaller than the GCC average of RO 141 and global average of RO 252.

**PAYMENT AND SETTLEMENT SYSTEMS**

*Payment and Settlement Systems Remained Vibrant - Level of Concentration Continued to be Skewed.*

23. Transactions both in value and volume terms continued to mount with RTGS-based segment taking the lion’s share. Volume of transactions through “OmanNet” as also ‘cheques clearing’ kept on increasing. The System remained awash with liquidity with levels rising and fluctuating. Four banks dominated with 66 per cent of the total payments turnover.

**STRESS TESTING OF THE BANKING SECTOR**

*Outlook for Banking Sector Solvency Stable - Resiliency In-Tact despite Severe Hypothetical Shocks.*

24. Thanks to the comfortable capital levels in the banking sector in Oman, even after the application of severe shocks, the system as a whole appeared quite resilient and stayed complied with not only the BIS mandated CRAR of 8 per cent, but also remained conformed to the more conservative CBO prescribed CRAR of 12 per cent.
25. There is no immediate threat to the solvency of the banking sector in Oman. Should all the applied stressed scenarios materialize, the banking system would need an amount of RO 77.5 million to recapitalize all five deficient banks to the 12.0 per cent level. This amount worked out to about 0.37 per cent of the risk-weighted assets and 19.39 per cent of the net profits of the banking system.

The Liquidity Stress Tests Continued to Show a Good Level of Comfort – Local Banks can Survive Hypothetical Liquidity Crisis for 17 days

26. When assessed with respect to the international benchmarks, most of the banks were found to be in a comfortable position to face the liquidity shocks under the assumed scenarios. As at end-December 2013, banks would be able to sustain for an average of 19 days with cash and 21 days with cash and securities (14 days with cash and 17 days with cash and securities for local banks and 25 days each for both the categories in respect of foreign banks).


27. It was seen that a decrease of GDP growth by 1 percentage points increased the default rate by less than 0.04 percentage points. An increase of interest rates by 1 percentage points increased the default rate by 0.17 percentage points, whereas an increase of inflation by 1 percentage points increased the default rate by 0.009 percentage points and a decrease of stock market prices by 1 percentage points increased the default rate by 0.003 percentage points. Using these coefficients, the default rates for December 2014 were estimated. When these shocks are applied, the results showed that five banks fell below the CBO mandated minimum CRAR ratio in severe and two banks under moderate scenarios.

Contagion Stress Tests Showed Banks’ Resilence – Banks Remained Adequately Capitalized after Cross-border and Domestic Interbank Contagion Stress

28. Capital adequacy of some banks may get affected adversely by up to 157 basis points by cross-border and domestic interbank contagion stress. Overall, the impact on the sector as a whole was not significant, as banks maintained CRAR of 15.47 after fully absorbing the complete cycle of additional provisions.
Chapter I
MACRO-FINANCIAL SCENARIO

Macro-economic environment – both global and domestic - has critical implications for systemic risk because of key linkages between macroeconomic developments and the health of the financial sector. They also condition the financial market trends, the stock market in particular. Global uncertainties can have considerable impact on movements in current and capital accounts of Balance of Payments (BoP) as well as fiscal position in an oil producing economy, like Oman. Accordingly, some macroeconomic variables – both headline and underlying - can serve as indicators of increased systemic risk for the financial system. At the overall macro-level, higher and less volatile real GDP growth indicates macroeconomic stability if accompanied with price stability, as high inflation rate is a sign of macro-economic volatility and project uncertainty. The recent European experience suggests that concerns over fiscal solvency can precipitate systemic risk, as persistent fiscal imbalances result in high levels of public sector debt that could raise concerns about sustainability, threaten macroeconomic stability, and weigh on economic growth and entail sharp losses in employment.

1.1. INTERNATIONAL CONTEXT
Output Growth is Set to Look up Globally – US Leading the Trend

1.1.1 Global activities are back on rails. Economic recovery is projected to strengthen from 3.0 per cent in 2013 to 3.6 per cent in 2014 (Graph 1.1), and further to 3.9 per cent in 2015, largely on account of recovery in the advanced economies. In US, real gross domestic product (GDP) is estimated to have risen at an average annual rate of more than 3/2 per cent in the third and fourth quarters, up from a 1/4 per cent pace in the first half. In Euro area, following two quarters of positive real GDP growth, moderate recovery continued in the last quarter of 2013. The United Kingdom has experienced robust economic growth as well in recent quarters. In emerging market and developing economies, notwithstanding their relatively slower growth pick up in the second half of 2013, would continue to contribute more than two-thirds of global growth with their growth projected to increase from 4.7 per cent in 2013 to 4.9 per cent in 2014 and 5.3 per cent in 2015. In this setting, downside risks have diminished - emerging market risks have increased and geopolitical risks have resurfaced. Overall, the balance of risks, while improved, remains on the downside.

1.1.2 Forward-looking global indicators too corroborate this outlook. Organisation for Economic Co-operation and Development (OECD)’s composite leading indicators (CLIs) continue to show signs of an improving economic outlook in most advanced economies notably the United States, the United Kingdom and Japan, but a more mixed picture in the emerging market economies (Graph 1.2). At 53.9 in January up from 53.8, the JPMorgan Global All-Industry Output Index (News Release, February 5, 2014) posted a further sideways movement to signal that the growth rate of global output continued to track at a solid clip. The combined output of the world manufacturing and service sectors has now risen for 16 successive months.

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1 Source: World Economic Outlook (WEO), International Monetary Fund (IMF), April 2014.

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2 Designed to anticipate turning points in economic activity relative to trend.
3 With a tentative increase in momentum in China but muted growth around trend in China, Brazil and Russia and below trend in India.
Global Consumer Inflation Remains Subdued – Thanks to Low Commodity Prices

1.1.3 The outlook for global inflation is benign too with the projected rate falling from 3.8 per cent each in 2013 and 2014 to 3.6 per cent in 2015 (Graph 1.3). Inflation decelerated in the majority of advanced economies, with the exception of Japan, while the picture in emerging market economies has been relatively mixed and volatile, with inflation falling in China and India and increasing in Russia and Brazil. Inflation in US remained low, price indexes rising only about 1 per cent last year, well below the Federal Open Market Committee (FOMC)'s 2 per cent objective for inflation over the longer run. Euro area annual Harmonised Index of Consumer Prices (HICP) inflation was at 0.8 per cent in December 2013, while in the U.K, it was set to remain below, but close to 2 per cent. Declines in the prices of commodities, especially fuels and food, have been a common force behind recent decreases in headline inflation across the globe. Vis-à-vis 2012, all commodity price index fell in end-2013 driven by across-the-board fall in energy and non-fuel price indices, after strengthening in Q3-2013 for fuel group due to supply constraints (Graph 1.4). A fall in global food prices index particularly since Q2-2013 is a welcome trend for Oman and other countries in the MENA region in the period ahead, particularly if these trends persist.

Growth Outlook not-so-satisfactory in Middle East, North Africa, Afghanistan, and Pakistan (MENA) Region – Savings Falling Short of Oil Windfall

1.1.4 In 2013 economic performance across the oil exporters in MENAP region was weak at 1.9 per cent, down from 4.6 per cent growth in the period 2008-12. The slowdown in 2013 was largely because of lower global demand and domestic oil supply disruptions in Iraq and Libya, falling oil exports in Iran in response to tightening sanctions and a modest fall in oil production in Saudi Arabia. With these factors being expected to unwind in 2014, economic activity should be back at the levels experienced in the recent past. As such, the MENAP region is not generating adequate savings commensurate to its oil windfall and, should this continue, is expected...
to run an aggregate fiscal deficit beginning in 2016. From a surplus of 0.63 per cent of GDP in 2015, IMF projects it to turn to a fiscal deficit-GDP ratio of 0.01 per cent in 2016 and continue to deteriorate to 0.82 per cent in 2017 and 1.7 per cent in 2018\(^5\).

**Macro Outlook for Oman’s Trading Partners**

1.5 Oman’s trading partners are projected to have registered a growth of 3.4 per cent in 2013, which is expected to move up to higher growth trajectories of 3.6 per cent in 2014 and 3.8 per cent in 2015. Inflation is projected to rise from 3.9 per cent in 2013 to 4.3 per cent in 2014 and 4.4 per cent in 2015.

1.2. **OMAN’S DOMESTIC MACRO-ECONOMY**

**GDP Growth**

*Oman’s Growth Performance Continues to be Stable – As Public Spending Surges Ahead*

1.2.1 Since domestic economic growth trend and oil prices tend to move together, a rising trend in oil prices have resulted in surplus in both external and fiscal accounts. Given the global growth estimate of 3.0 per cent in 2013 (the slowest pace since the 2009 recession), projected to rise to 3.6 per cent in 2014 and 3.9 per cent in 2015, world oil prices forecast at US $104.1 in 2013, US $104.2 in 2014 and 97.9 per barrel in 2015, under the baseline, Oman’s real GDP growth is projected at 5.1 per cent in 2013 and 3.4 per cent each for 2014 and 2015 respectively (Graph 1.5).

1.2.2 During the period of the global crisis, in the resource rich economy of Oman, the slender global growth performance did not make a major impact to growth, thanks to the expansionary fiscal and accommodative monetary policy pursued in the aftermath of the crisis and the spillover from the non-oil growth through the fiscal channel. Since 2000, non-oil real GDP growth has been robust and at a level higher than oil GDP and overall GDP growth (both real), excepting 2009 and 2010 – thus imparting stability to Oman’s growth process (Graph 1.6). There appears to be a high degree of correlation between hydrocarbon GDP and non-hydrocarbon GDP, which can be interpreted as a reflection of the spillover-effects, mainly through the fiscal channel of public spending. Since 2011, each of these three indicators is looking up.

1.2.3 However, under stressed scenarios of lower global growth and adverse oil prices movement in 2014 and 2015, these baseline projections for Oman’s growth would

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6 Top 10 countries as per their share in Oman’s non-oil exports for 2012, namely, India, UAE, Saudi Arabia, China, USA, Pakistan, Iraq, Indonesia, Malaysia and Qatar.
Box 1.1

Oman’s Real GDP Growth under Stressed Scenarios

Driven by the co-movement between Omani real GDP growth with oil prices and global GDP growth, a simple OLS-type macro model was estimated using the revised macro-economic data for Oman on an annual basis for the period beginning 1998. The specification links real GDP growth in Oman (OMAN_GROWTH) with oil prices (OIL_PRICES) and global real GDP growth (GLOBAL_GROWTH) sourced from IMF WEO April 2014, to capture the impact of oil prices and global GDP growth on Oman’s real GDP growth.

OMAN_GROWTH

= -2.68 + 0.89* GLOBAL_GROWTH (-2)

(-1.23) (2.26)

+ 0.05 * OIL_PRICES

(2.02)

R-squared = 0.43; Adjusted R-squared = 0.34 and Durbin-Watson stat = 1.61

Parenthetic figures are t-values, which are significant at conventional level of significance.

The final specification suggests that a decline in world real GDP growth by 1 percentage point results in a decline of Omani real GDP growth by 0.89 percentage point two years later, reflecting certain lags with which the global demand affects Omani economy. At the same time, a decline of oil prices by 1 percentage point results in a decline in Omani real GDP growth by some 0.05 percentage point in the same period, and thus, a decline of oil prices by US $ 20 results in a decline in Omani real GDP growth by some 0.9 percentage point in the same period.

Using the above baseline model, two adverse scenarios were generated for a horizon of the current and next year, i.e., 2014 and 2015 (Graphs 1.7 to 1.9). First, an oil price shock scenario which assumes a large drop in oil prices from current levels of around US $ 104.0/barrel to US $ 82.2/barrel in 2014 and US $ 69.0/barrel in 2015, average oil price during 2005-2013 and 2002-2013 respectively under stressed scenarios of ‘oil price shock’ and ‘loss of confidence’. Also global GDP is expected to grow less than expected in these scenarios than the baseline.

Under these stressed scenarios, resulting impact on the Omani GDP growth from an adverse global growth and oil prices would be quite substantial, reflective of the risk of dependence of the Omani growth process on the oil prices.
experience significant downward revisions causing Oman’s real GDP growth to decrease to 1.9 to 2.5 per cent in 2014 and 1.6 to 2.2 per cent in 2015, a risk factor reflective of the dependence of the Omani growth process on the oil prices together with the global growth (Box 1.1; Graphs 1.7 to 1.9). It may, however, be noted that the oil price scenarios assumed for the stress scenarios for Oman’s growth projections are highly unlikely to materialize given the projected oil demand scenario during 2014 and 2015 8.

**Diversification in the Economy Visible – Will Strengthen Stability in the System**

1.2.4 The overall growth process in Oman appears sustainable characterized by an improved diversification of the economy. Since 2001, in real terms, it is reflected in terms of increase in the excess of contribution of non-oil sector to GDP growth vis-à-vis the oil sector (Graph 1.10). The current trend is one of increasing diversification both in real and nominal terms, particularly since 2009. Moving forward, such reduction in concentration in GDP growth if sustained, would positively impact in moderation of systemic risk facing Oman’s macro-economy. Two factors are expected to help in this process – first is the efficiency in use of capital which is showing better trends in recent times, reflected in Oman’s incremental capital output ratio (ICOR) which is broadly within the upper and lower bands of GCC countries, in the period since 2002. Secondly, relative stability in the Omani growth process is characterised by actual real GDP growth remaining in alignment with its potential growth9. Way forward, this trend is expected to be a risk mitigant for Oman’s evolving inflationary trends.

**Omani Financial Sector and Growth Nexus Visible – Needs to be Strengthened**

1.2.5 Within the non-oil sector, financial intermediation accounts for a small share of 4.4 per cent to Oman’s GDP over the period 1998-2012 with gradual progress of financial development in Oman although. Of particular significance is the income velocity of broad money (Nominal GDP - M2 ratio) – reflective of amount of economic activity associated with a given money supply in a specific period of time– which has been quite stable at 2.7 for the period 2008-12 and rising since 2009 reflecting both higher growth in income and sufficient liquidity to finance the growth process. In view of the benefits that a vibrant, dynamic, and well-functioning financial sector imparts to the macro-economy through several improved economic outcomes10, and also the potential for the phenomenon of resource curse to prevail in resource rich economies, like Oman, the case for strengthening the nexus between growth and finance in Oman needs to be pursued after careful scrutiny of Oman’s experience in this area (Box 1.2). Looking ahead, financial development in Oman needs to accelerate by way of mobilizing much more domestic savings in order to fund private sector-led economic diversification.

**Financial Deepening Improves, albeit Slowly – Augurs Well for Stability**

1.2.6 Bank credit-GDP ratio for Oman stood

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10 It is well established that a vibrant, dynamic, and well-functioning financial sector leads to several improved economic outcomes; it is a critical channel for fostering economic growth and maintaining macro-economic stability - the latter by dampening the volatility of the growth process, as financial systems can alleviate the liquidity constraints on firms and facilitate long-term investment, which ultimately reduces the volatility of investment and growth. It can help dampen the negative impact that exchange rate volatility has on firm liquidity and thus investment capacity, which is especially important in economies that depend heavily on natural resources and are thus subject to high terms of trade and real exchange rate volatility. Finally, financial development increases the effectiveness of monetary policy, widens the fiscal policy space and allows a greater choice of exchange rate regimes. Details in Barajas Adolfo, Ralph Chami, and Seyed Reza Yousefi (2013), The Finance and Growth Nexus Re-Examined: Do All Countries Benefit Equally?, IMF Working Paper, WP/13/130, May.
In contrast with the general understanding that bank credit has profound contribution to economic growth of an economy, in respect of oil-resource-based countries (GCC countries in particular) a negative relationship between real GDP growth per capita and bank credit to the private sector is observed after controlling for other relevant variables which is called a tendency of ‘resource curse’. For such economies, both private credit and stock market activity tends to be weaker and access to credit for businesses is more limited. There is evidence that banks in these countries are more profitable - possibly reflecting lower competition. With less developed financial systems, their role in intermediating funds to the private sector looks limited (Cevik and Rahmati-2013).

In the context of Oman, while currency-to-GDP ratio declined somewhat, it is the sharp increase in deposits-to-GDP ratio since the mid-1970s that pushed up the money supply, reflecting a greater role of the banking sector in economic development. Secondly, the income velocity of broad money (Nominal GDP - M2 ratio) – reflective of amount of economic activity associated with a given money supply in a specific period of time has been quite stable and rising for Oman reflecting both higher growth in income and sufficient liquidity to finance the growth process. (Annual Report, CBO, 2012). Visibly, it looks to be in sync with the generally observed finance-growth nexus. But to drill the point further, to investigate the operation of ‘resource curse’ as in the GCC economies, an empirical exercise was undertaken for Oman using the latest data for the period 1998-2012.

According to Cevik and Rahmati-2013, for GCCs, financial intermediation made a negative contribution to real non-hydrocarbon GDP growth with the estimated size of the coefficient on bank lending to the private sector ranging between -0.176 and -0.328 over the sample period 1970–2010. Accordingly, two regressions were performed with the following specifications and the results for level of real GDP and per capita growth terms are given in Table 1.A as under:

$$\log (\text{RGDP}) = C + a_1 \log (\text{REALCREDIT}) + a_2 \log (\text{MKTCAPGDP}) + a_3 \text{OPENNESS} + a_4 \log (\text{REALGOVTEXPENDITURE})$$

where RGDP is real GDP, REALCREDIT is the CPI deflated bank credit, MKTCAPGDP is the market capitalization to GDP ratio, OPENNESS is trade openness defined as export plus imports to GDP ratio, REALGOVTEXPENDITURE is the government expenditure deflated by CPI, G is the rate of real non-hydrocarbon GDP per capita growth at time t, CRED is the ratio of credit to the private sector to non-hydrocarbon GDP, lagged dependent variable G (-1), the rate of change in real price of crude oil (OIL) and the growth rate of real government spending per capita (GOVTSPEND).

In the top panel - Equation 1 – real GDP is regressed on real credit, market capitalization to GDP ratio, trade openness and real government expenditure while in the bottom panel –Equation 2 - following Barajas Adolfo et al (2013), real non-hydrocarbon GDP per capita growth is regressed on financial development, as measured by commercial bank credit to the private sector scaled by non-hydrocarbon GDP, and other potential determinants of growth, such as changes in real price of crude oil, the growth rate of real government spending per capita and trade openness.

The results indicate that financial development proxied by real bank credit has a statistically significant positive effect on real GDP controlling for variables like stock market capitalization-GDP ratio, openness and real government expenditure non-hydrocarbon GDP per capita growth (Top panel, Table 1.A). This is in line with the argument that the aggregate growth impact of banking depth is no different for resource-based economies, like Oman.

However, the regression results at Bottom panel, Table 1.A show that the effect of financial development on non-hydrocarbon GDP growth is not statistically significant, vis-à-vis negative significant impact for GCC countries implying presence of resource curse in a muted form.
It is further observed that a large expansion in government spending as a share of GDP shrinks the private sector’s role in overall economic activity, and thus reflecting a negative effect of total government expenditures on economic growth. As such, it may be noted that in Oman, the share of government current expenditure in total expenditure remains high at 88.0 per cent on average between 2006 and 2013.

These empirical results could be reflective of the fact that as the financial system grows in Oman with further credit deepening and the reliance of SMEs, corporates and households on bank credit for productive growth increases, the challenge will be that banks need to function in a more growth-enhancing manner. Another challenge in this context is that to the extent banks’ funding base is determined in part by the country’s hydrocarbon earnings rather than endogenous dynamics of depository institutions, these exogenous flows of liquidity tend to exceed the intermediation capacity of the financial sector ending up as accumulating excess liquidity part deposited with the central bank or leads to unproductive loans.

Looking forward, financial development in Oman needs to accelerate by way of mobilizing much more domestic savings in order to fund private sector–led economic diversification, as well as to providing a greater range of high-quality financial services. Policy measures to make the banking system less concentrated and more competitive will help in arresting the risk of regulatory gap – a phenomenon seen in GCC countries.

References used:


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Table 1.A: Regression Results

<table>
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<th>Dependent Variable: LOG (RGDP)</th>
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<th>Coefficient</th>
<th>P-value</th>
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<tr>
<td>C</td>
<td>7.22</td>
<td>0.000</td>
<td>7.03</td>
<td>0.000</td>
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<tr>
<td>LOG(REALCREDIT)</td>
<td>0.35</td>
<td>0.008</td>
<td>0.41</td>
<td>0.009</td>
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<td>LOG(MKTCAPGDP)</td>
<td>-0.05</td>
<td>0.073</td>
<td>-0.05</td>
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<td>OPENNESS</td>
<td>-0.01</td>
<td>0.066</td>
<td>-0.01</td>
<td>0.063</td>
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<td>LOG(REALGOVTEXPENDITURE)</td>
<td>0.6</td>
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<tr>
<td>R-squared</td>
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<table>
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<th>Coefficient</th>
<th>P-value</th>
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<tr>
<td>C</td>
<td>142.23</td>
<td>0.045</td>
<td>143.6</td>
<td>0.026</td>
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<td>CRED</td>
<td>0.22</td>
<td>0.472</td>
<td>0.23</td>
<td>0.382</td>
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<td>GOVTSPEND</td>
<td>0.50</td>
<td>0.022</td>
<td>0.49</td>
<td>0.011</td>
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<tr>
<td>OPENNESS</td>
<td>-1.67</td>
<td>0.078</td>
<td>-1.69</td>
<td>0.049</td>
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<td>OIL</td>
<td>-0.02</td>
<td>0.787</td>
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<td>G(-1)</td>
<td>-0.39</td>
<td>0.124</td>
<td>-0.39</td>
<td>0.093</td>
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<tr>
<td>R-squared</td>
<td></td>
<td></td>
<td>0.84</td>
<td>0.84</td>
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<tr>
<td>Durbin-Watson stat</td>
<td></td>
<td></td>
<td>2.05</td>
<td>1.94</td>
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</table>

at 49.6 per cent in 2013, improving from 48.1 per cent a year ago. At this level, it suggests that credit deepening is low when compared with other GCC nations, notwithstanding the significant surge in credit in the last few years. On an average, during the period 2006-13, credit-GDP ratio increased to 44.7 per cent compared with 39.0 per cent in 2001-05. An analysis of data between these two periods suggest that while nominal GDP growth at 10.1 per cent per year outpaced credit growth at 5.6 per cent per year in the former period, the trend reversed in the latter period with average credit growth at 19.2 per cent per year staying above average GDP growth at 13.9 per cent. This is suggestive of increasing credit dependence of the growth process in the recent period - a welcome trend, from the standpoint of growth enhancing effects of financial development through efficiency of investment feeding to growth. This will be particularly beneficial if it continues in future helped by the small and medium enterprises (SMEs) driven economic activities, which is expected to be more credit reliant than hitherto. Two more favourable simultaneous factors poised to help in this process are the improvement in ICOR as highlighted in Financial Stability Report (FSR) 2013 together with the country’s favourable demographics. In such a milieu, the importance of a measure of finance-neutral potential growth for Oman holds key as a macro-prudential tool (Box 1.3; Graphs 1.11 and 1.12).

1.2.7 Excessive credit growth has often been associated with growth in systemic risk, since it has the potential to endanger macroeconomic stability by over-stimulating aggregate demand beyond potential output, thus causing the economy to overheat. The evolution of credit-GDP ratio in Oman shows that the ratio is currently roughly at its trend trajectory and in the period ahead, there may not emerge any significant risks from the buildup of excess credit to financial stability in Oman (Graph 1.13).

Inflation Risks

Pressures of Inflation Continues to be Benign–Favourable Macro-economic Factors Played a Key Role

1.2.8 As per the recently released data on consumer price inflation (CPI) for Oman with
As is well-known, the output gap is an economic measure of the difference between the actual output of an economy and its potential output. Potential output is the maximum amount of goods and services an economy can turn out when it is most efficient—that is, at full capacity. During economic downturns and upturns (commonly called the business cycle), policymakers need an assessment about how close current output is to an economy’s long-term potential output. Just as GDP can rise or fall, the output gap can go in two directions: positive and negative. A positive output gap occurs when actual output is above potential output, which happens when demand is very high and, to meet that demand, factories and workers operate far above their most efficient capacity. A negative output gap occurs when actual output is less than what an economy could produce at full capacity. A negative gap suggests that there is spare capacity, or slack, in the economy due to weak demand.

One of the recently made arguments in this literature is that financial developments in view of the powerful feedbacks between financial conditions and the real economy, can significantly influence output, sometimes driving it away from sustainable levels, and as such, an integral part of cyclical output swings. The financial cycles occur in three distinct but interdependent market segments: credit, housing, and equities. Credit and housing booms have gone hand-in-hand with strong spending and production. Similarly, during downturns, deteriorating financial conditions have weighed heavily on growth.

The financial cycle - best proxied by credit and property prices (Drehmann et al, 2012) - helps construct estimates of sustainable output by capturing the interaction between financing constraints, collateral values and wealth effects. Compared with traditional potential output estimates, are much more reliable in real time, as well as statistically more precise (Borio, Disyatat, and Juselius 2013). All else being equal, it is expected that in the boom phase this would result in lower estimates of sustainable output, since the surge in credit availability boosts output temporarily and, in some sense, “artificially”. Conversely, in the bust phase the corresponding estimates would be higher, since tighter credit constraints and balance sheet weaknesses restrain economic activity below normal levels.

Drawing from the above perspectives, it is empirically assessed for Oman if embedding information from variables that proxy the financial cycle, credit in particular, leads to estimates of potential output that are much more precise and informative. Apart from bank credit, the other variables used are inflation and real lending rate, and their association with the output gap estimate. In line with Borio et al. (2013), the following specification is considered for Oman for the period 1998-2012:

$$Y_t - Y_t^* = a * (Y_{t-1} - Y_{t-1}^*) + b^* Pt + c^* CR_t + d^* i_t$$

(1)

Where, $Y_t$ is the actual GDP growth, $Y_t^*$ is the potential GDP growth and $Y_t - Y_t^*$ is the output gap, $CR$ is credit growth in per cent, it is ex-post real interest rate, $Pt$ is consumer price inflation, and all variables are mean-adjusted. Each of these variables is allowed to enter (1) only once with a lag, or else take the contemporaneous value chosen to maximise statistical fit.

Turning to the explanatory variables, the results indicate that financial cycle proxies contain substantial information about business cycle fluctuations (Table 1.B).

This is found in Graphs 1.11 and 1.12 which confirms that credit, interest rates and inflation modify substantially the corresponding output gap estimates. Their information content is especially important during financial booms, such as in the second half of the 2000s. In these cases, they reduce the estimates of potential output considerably relative to actual output. They also result in larger negative gaps than the HP filter during the busts.

Way forward, Oman is expected to experience greater credit deepening with promotion of SMEs and further economic diversification where corporate sector will be involved on a larger scale with expectedly greater bank credit participation than hitherto. In such a scenario, the importance of financial development in real sector will increase, providing for higher prominence of this channel in Oman’s business cycle, driven by key factors known to support financial cycles, namely, on-
going financial liberalization and monetary policy frameworks focused on near-term inflation control.

Secondly, such an analytical tool at hand will enable an identification of the interactions among cycles in different financial market segments when designing regulatory policies aimed at ensuring the overall health of the financial system, especially in terms of the design of macro-prudential rules. Since cycles in credit and housing markets tend to enhance each other, it might be necessary to employ stricter rules and standards for mortgage lending as well as larger countercyclical buffers to moderate fluctuations in banks’ capital positions (Terrones et al, 2011).

### Table 1.B: Empirical Result for Finance Neutral Output Gap for Oman

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREDIT_GROWTH_DEMEANED (-1)</td>
<td>0.090245</td>
<td>3.380983</td>
<td>0.0081</td>
</tr>
<tr>
<td>REAL_LENDING_RATE_DEMEANED</td>
<td>-0.610565</td>
<td>-2.60506</td>
<td>0.0285</td>
</tr>
<tr>
<td>CPI_INFLATION_DEMEANED</td>
<td>-0.493537</td>
<td>-1.91385</td>
<td>0.0879</td>
</tr>
<tr>
<td>CONSTANT</td>
<td>-0.15638</td>
<td>-0.22491</td>
<td>0.8271</td>
</tr>
<tr>
<td>R-squared</td>
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<td>0.378903</td>
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<tr>
<td>Adjusted R-squared</td>
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<tr>
<td>Durbin-Watson stat</td>
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<td>1.86949</td>
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</table>

### References used


the base revised to 2012 from 2000, Oman’s consumer price inflation on an average basis fell to 1.1 per cent in 2013 from 2.9 per cent in 2012. On a longer horizon perspective, from an average rate of consumer inflation of 2 per cent during 2002-2007, inflation has tended to show a much higher pace of growth to 12.3 per cent in 2008, since when easing in the inflationary pressure is clearly discernible with inflation remaining at an average rate of 3.0 per cent during the period 2009-2013 (Graph 1.14). At this level, it compares favourably with MENA oil exporters’ average (Graph 1.15). Between 2012 and 2013, the moderation in inflation is attributed to low imported inflation due in turn to easing global food prices in combination with domestic favourable factors, namely, lower growth in bank credit (14.4 per cent to 9.2 per cent), broad money (10.7 per cent to 8.5 per cent), GDP growth (11.5 per cent to 2.8 per cent) and Government expenditure (26.2 per cent to 2.9 per cent) (Graph 1.16).

1.2.9 This redeeming trend since 2008 of inflation being less variable and more stable (with standard deviation reducing to 1.1 during the period 2009-13 from 2.34 during 2002-07) is seen with a consistent trend of co-movement with government subsidies (Graph 1.14). This bares open a trade-off between short-term reduced inflation risk and long-term potential fiscal risk. Further subsidies may cloud the fiscal space leaving scope for reduced growth-inducing expenditures (Box 1.4; Graphs 1.17 and 1.18). On the flip side, trend of Oman’s inflation getting mainly influenced by global commodity prices and food in particular, is becoming apparent. The group ‘food and non-alcoholic beverages’ (weight 23.903 per cent as per base year 2012) contributed around 60.8 per cent to the average inflation at 1.1 per cent in the year 2013. Since food is an import item for Oman (accounting for around 9.6 per cent of recorded imports in 2012), a rise in global food inflation would be a point of concern for inflation in Oman.

Fiscal Sector

Favourable Oil Revenues Improves Fiscal Space - Cautious Expenditure Policy will Help it Further

1.2.10 With positive fiscal balance for 2013 and low debt-GDP ratio, fiscal sector risk continues to remain low in Oman. In 2013, Oman’s fiscal surplus was of the order of RO. 237.6 million, which worked out to be 0.8 per cent of nominal GDP using the preliminary estimate for Oman’s nominal GDP for 2013 at RO. 30,627.7 million. The debt-GDP ratio worked out at 6.9 per cent in 2013 up from 6.0 per cent last year (IMF forecast) (Graph 1.19). These fiscal indicators look very strong in the face of GCC and MENA averages of 14.7 per cent and 27.6 per cent respectively for 2013, as projected by IMF. Such positive space in the face of global uncertainties and the increase in the public sector wage bill and subsidies was the outcome of the robust pace in oil revenues on account of high oil prices (Graph 1.20).

1.2.11 As per Oman’s budget for 2014 with the government expenditure and revenue estimated at RO. 13.5 billion and RO. 11.7 billion, respectively, the estimated public expenditure for the current year is up by 5.0 per cent over last year’s budget proposal, while total revenue is projected to grow by 4.9 per cent over last year’s revenue estimate, vis-à-vis 28.6 per cent and 26.8 per cent respectively as per last year’s budget proposals leaving an anticipated deficit of RO.1.8 billion for 2014 (RO. 0.1 billion more than in 2013). The onset of a shift towards more cautious fiscal policy through expenditure cut as envisaged under Oman’s budget for 2014 is reassuring particularly as Oman boosted expenditure sharply between 2011 and 2013, spending on welfare programmes, public sector wages and job creation. Though this year’s budget projects a deficit, it conservatively assumes an average oil price of US $ 85 a barrel; Omani crude was trading at an average of around US $ 106.0 in April 2014.
Chapter I

Box 1.4

Energy Subsidies in Oman – Issues and Implications

Energy subsidies are widespread across the Middle East and North Africa (MENA) region. For the region as a whole, pre-tax energy subsidies—that is subsidies measured as the difference between the value of consumption at world and domestic prices—cost close to US $ 240 billion in 2011. This amount is equivalent to about 8.5 per cent of regional GDP, or 22 per cent of government revenue, and accounts for about one-half of global energy subsidies (Graph 1.17). About one-half of these are accounted for by petroleum products, while the remainder represents subsidies on electricity and natural gas (IMF-2013).

An analysis of data for Oman suggests that the category ‘participation and support to private sector’ of government expenditure in Oman is assuming critical position as seen from its growing prominence in its share in total expenditure, GDP as well as revenue (Graph 1.18). Driving from these fiscal trends and the underlying government balances projected by IMF, the fiscal benchmark oil price is continuously on the rise in the range of US $ 92.6 and US $ 96.9 per barrel in 2013 and 2014 respectively, and tends to move out of sync from the actual oil prices, thereby raising fiscal challenges in the medium term and having adverse financial stability implications.

Low energy prices by virtue of subsidies carry substantial real economic costs, even while these are not neutral in terms of their social benefits. Higher income households benefit the most, since energy consumption rates increase alongside income levels for most types of energy, including electricity and transport fuels (gasoline, diesel). A study of the impact of energy subsidies on a group of 20 developing economies found that on average US $ 97 out of US $ 100 in gasoline subsidies accrued to the sample’s four highest income groups, while only US $ 3 actually accrued to the lowest income group – which had been intended to benefit from the subsidy. The largest share of subsidies, proportionately, was captured by the highest income group, which alone took more than 40 per cent.

Subsidies are an extremely inefficient means of assisting the poor: only 8 per cent of the US $ 409 billion spent on fossil-fuel subsidies in 2010 went to the poorest 20 per cent of the population.

Energy subsidies also divert public resources away from spending that promotes more inclusive growth. For example, despite several reforms in Yemen, energy subsidies still amounted to about 6 per cent of GDP in 2011 and exceeded public capital investment.

Energy subsidies can distort economic diversification efforts and encourage rent-seeking behaviour. This might explain private entrepreneurs’ reluctance to invest into the more challenging tertiary processing of petrochemicals, or even be attracted to the so-called industrial parks (downstream plastic conversion industries planned in situ the refinery–petrochemical complexes), without securing a share of the rent in the form of low-priced feedstock.

Oil and natural gas producing countries owe their energy resource wealth and the low cost of domestic production to low domestic energy prices to a certain extent. This is often not considered by these countries as subsidized energy, on account of the fact that no explicit government transfer is made. For instance, the national oil company can be mandated to sell petroleum products for the domestic market at below international prices but...
above production costs. In this case, the national oil company does not incur financial losses, and hence the government does not need to make an explicit transfer to compensate the national oil company for losses. Nevertheless, low pricing of fuels involves an implicit subsidy or an implicit transfer.

Empirical Estimation for Oman for the sample period 1998-2012 suggests the following regression specification:

\[
\text{GOVT\_BALANCE} = -36.74 + 26.30 \times \text{OILPRICES} - 81.45 \times \text{REALGDPGROWTH} \]  
\[ \text{(-0.20)} \quad (4.11) \]  
\[ \text{(-3.36)} \]

Adjusted R-squared = 0.56; Durbin-Watson statistic = 1.42. Figure in parentheses are t-statistics.

This regression equation suggests that a change in oil price to an extent of US $ 20 per barrel will lead to a change in the Government balance by RO. 526 million the same year. Accordingly, if subsidy can be rationalized to the extent of around RO. 500 million, the break-even oil price may fall by an extent of US $ 20 per barrel.

International Energy Agency (IEA) has projected that without further reform, spending on fossil-fuel consumption subsidies is set to reach US $ 660 billion in 2020, or 0.7 per cent of global GDP. Efforts/ planned reforms have been initiated in several jurisdictions since early-2010, key driver being fiscal pressure on government budgets. IEA’s findings suggest that cutting fossil-fuel subsidies would bring economic, energy and environmental benefits - phasing-out fossil-fuel consumption subsidies by 2020 would slash growth in energy demand by 4.1 per cent, reduce growth in oil demand by 3.7mb/d and cut growth in CO2 emissions by 1.7 Gt.

In Oman’s context, in the event subsidy is removed albeit in a phased manner, given the diversified population structure in terms of income distribution in Oman, there are certain economic benefits by way of promoting inclusive growth strategies that could accrue in arresting the growth of government expenditure. Secondly, its positive implication for financial stability may be reflected through a declining (fiscal) benchmark oil price and its alignment to the actual oil prices.

References used


Chapter I

Non-Oil Fiscal Deficits Move in Tandem with Oil Prices – Mirrors Better Adjustment Efforts

1.2.12 Safeguarding short-term macroeconomic stability means avoiding boom-bust cycles by aiming to smooth spending and delink it from oil price dynamics. In line with the experience of oil exporters, Oman’s non-oil fiscal deficits have tended to move closely with oil prices, suggesting the difficulty of avoiding procyclical fiscal policy (Graph 1.21). As per IMF’s projections, these indicators for Oman suggest better adjustment effort on part of the government’s fiscal management within the GCC setting (Graph 1.22).

Positive Gap between Global Oil Prices and Breakeven Oil Prices in Oman is Narrowing – Spurt in Current Expenditure Warrants Watch

1.2.13 Buoyant revenues from high oil prices and the high oil price gap have offset the increase in government expenditure and have helped to keep the fiscal balance in surplus. The positive gap between global oil prices and Oman’s fiscal break-even oil price has narrowed in 2013 and projected to move into negative territory in 2014, after continually increasing during 2009 to 2012 reflecting imminent fiscal risk (Graph 1.23). Oman’s fiscal breakeven oil price being among the highest in the region, estimated by IMF to be US $ 96.9 per barrel in 2014, renders fiscal accounts highly vulnerable to a decline in oil prices (Graph 1.24). IMF has projected fiscal deficit-GDP ratio of 3.8 per cent and 7.8 per cent for 2015 and 2016 respectively after a surplus of 5.3 per cent and 0.2 per cent in 2013 and 2014 respectively. The projected trend of increasing fiscal deficits after 2015 underscores the need for measures to contain

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11 Conventional fiscal indicators and tools, such as the overall balances and debt sustainability analysis are not sufficient to make a full assessment of the short-term fiscal stance or longer-term fiscal sustainability particularly in oil producing countries (OPCs). The non-oil fiscal balance (NOFB), defined as non-oil revenue (NOR) minus non-oil expenditure (NOE), by excluding oil revenue that originates from abroad provides a better measure of the impact of fiscal policy by separating the fiscal policy stance from the volatility of oil revenues. Details are given in in Medas Paulo and Daria Zakharova (2009), A Primer on Fiscal Analysis in Oil-Producing Countries, IMF Working Paper, March, WP/09/56.

12 This can remain stable even if the overall fiscal balance shifts abruptly as a result of the volatility in oil prices or production. To be able to maintain a steady non-oil balance or implement countercyclical fiscal policies in the face of a large oil price drop, countries should also aim to build adequate fiscal buffers.

13 Defined as the excess of actual price over the fiscal breakeven oil price.
non-developmental current expenditures, and increase in non-oil revenues from 2013 onwards. The overarching policy challenge is, thus, to achieve strong and sustainable growth and employment over the long term, while ensuring medium-term fiscal sustainability.

**External Sector**

*Adequate Foreign Exchange Reserves Lends Resiliency – Export Earnings Require Policy Thrust*

1.2.14 The resiliency of Oman’s external sector is borne out from the recent trend of key external sector indicators, namely, the current account balance, external debt and foreign exchange reserves. Firstly, as per the latest available data, Oman’s current account continued to be in surplus consecutively in four successive years between 2010 and 2013 (there was a small deficit in 2009), with a surplus of RO 1.97 billion or 6.4 per cent of GDP in 2013. Secondly, with capital and finance account registering a lower net outflow than the previous year, in part aided by the sharp turnaround in the portfolio investment, positive overall balance in the balance of payments position in these years resulted in strong accruals under reserve assets with both government and CBO.14 Thirdly, external debt has been low and falling (Graph 1.25). In addition, in the face of an average growth of 20.0 per cent in exports during the period since 2010, non-oil exports kept pace by growing closely by 18.9 per cent; resultant share of non-oil exports have improved to 33.9 per cent in total exports in 2013 up from 31.1 per cent in 2010 and as a proportion of GDP to 24.0 per cent from 19.4 per cent during the period reflecting the risk mitigating process of economic diversification occurring in the export performance of Omani economy. The deceleration in growth in total exports from 32.4 per cent in 2010 to 8.2 per cent in 2013 (28.7 per cent in 2011 and 10.7 per cent in 2012) is a phenomenon that warrants a renewed policy thrust.

1.2.15 As of 2012, the forex reserves were adequate reflecting reduced risks from imported financial instability as they are sufficient to pay for the cost of imports of goods

14 Excepting the year 2012 when there was a decline of RO. 26 million from Central Bank’s reserves while foreign exchange reserves with government rose by RO. 423 million.
and services for five months down though from six months as at end-2011 (as against the thumb rule of at least three prospective months of imports of goods and services\(^{15}\)) and could meet gross current account payments liabilities up to four months, the same as in end-2011. The reserve coverage of base money (M0) worked out to 221.2 per cent (based on CBO’s foreign assets) at end-2012, down from 302.4 per cent (based on CBO’s foreign assets) at end-December 2011 (as against the legal provision of 60 – 100 per cent commonly used for countries with currency boards) reflecting the backing of the currency in circulation. Similarly, the reserve coverage of broad money (M2) worked out lower to 50.5 per cent at end-December 2012, down from 56.0 per cent at end-December 2011 (as against a minimum threshold of 20 per cent commonly used for countries with pegged exchange rate regime) reflecting inherent robustness to meet unforeseen capital flight (Graph 1.26).

1.2.16 The Omani Rial (RO)’s peg to the U.S. dollar since 1973 has provided a credible nominal anchor for the economy, although this constrains the CBO’s ability to conduct an independent monetary policy. On a year-on-year basis, the overall appreciation in Oman’s nominal effective exchange rate (NEER) in terms of the imports weighted index to an extent of 3.6 per cent in 2013 vis-à-vis 0.60 per cent in 2012 (Graph 1.27) was broadly in line with the performance of US dollar against major currencies due to fixed exchange rate regime. To the extent that non-oil exports of Omani origin would benefit from the external competitive advantage from a depreciation of the NEER, the appreciation in Oman’s NEER could pose as a risk factor for the non-oil exports.

**Corporate Sector**

**Corporate Profitability Up – Indicating Easing Credit Risks**

1.2.17 Corporate profitability has been on an uptrend since 2011, in line with the overall macro-economic scenario (Graph 1.28). As for 2013, the total net profit of 107 listed companies (out of 113 listed companies in all) that announced their results up to February

\(^{15}\) Olivier Basdevant, Emily Forrest and Borislava Mircheva (2013), Restoring Sustainability in a Changing Global Environment Options for Swaziland, African Department, 13/1, International Monetary Fund.
2014, rose 17.2 per cent to RO 777.8 million for the year ended December 31, 2013, against RO 663.5 million in the previous year. This reflected improvement in corporate sector net worth consistently improving, thereby indicating an improved capacity to repay debt and easing credit risks, notwithstanding the dampening impact wage developments had on corporate profitability in 2012. Improving return on assets and attractive dividend pay-outs are likely to drive the market’s momentum going forward and attract investors to Muscat Securities Market (MSM).

Indebtedness of Corporate and Household Sectors is Inching Up – Outcome could be Mixed

1.2.18 While credit forms the bulk of assets of the banking system, credit to the private sector consisting of loans to the corporate and retail sectors constitute the bulk at around 87.4 per cent of total credit in Oman in the period 2010-13. With economic recovery mostly driven by public sector activities, credit extended to public enterprises rose significantly in total credit from 8.5 per cent in 2010 to 11.9 per cent in 2012 and 11.4 per cent in 2013. Contemporaneously, including the credit provided by financial and leasing companies, a proxy of indebtedness of the private sector - the share of credit to the private sector subduced from 89.1 per cent in 2010 to 87.4 per cent in 2013. Between 2010 and 2013, both personal loans and corporate loans as a proportion to GDP increased from 19.8 per cent to 20.8 per cent and 25.0 per cent to 25.3 per cent, respectively leading to an indebtedness ratio of 52.3 per cent in 2013 up from 50.0 per cent in 2010 (Graph 1.29)\(^{16}\).

Liquidity Trends

Banking system is flush with liquidity – Leading to Softened Interest Rates

1.2.19 On Y-o-Y basis, broad money (M2) continued its upward trajectory registering an increase of 8.5 per cent in December 2013 on

\(^{16}\) Rapid increases in household debt/household credit, both in absolute terms and relative to the size of the economy and household income reflect financial sector deepening and are positive for economic activities and welfare. However, the rise in household debt also comes with a downside. Excessive household indebtedness makes households vulnerable to shocks which may lead to financial instability as vividly illustrated by the recent global financial crisis. Details in Don Nakornthab (2010), http://www.seacen.org/GUI/pdf/publications/research_proj/2010/RP80/RP80_complete.pdf.
Chapter I

top of 10.7 per cent in 2012 and 12.2 per cent in 2011. Increase in deposits was of the order of 10.0 per cent in 2013, vis-a-vis 12.7 per cent and 19.6 per cent in 2012 and 2011 respectively. The resultant presence of sufficient liquidity in the financial system led to a reduction in the interest rates. Weighted average lending rate declined to 4.963 per cent in end-December 2013 from 5.202 per cent in end-December 2012 and 5.523 per cent in end-December 2011 (Graph 1.30). Banks in Oman are required to keep cash reserves of at least 5 per cent of all their deposit liabilities. Comfortable liquidity position is also discernible from the banks’ cash reserve maintenance in excess of the minimum requirements (Graph 1.31). While surplus liquidity results in low interest rates, which in a low inflation environment may induce growth but is a risk from monetary transmission standpoint, should the CBO change gear to a tighter monetary policy stance.

Stock Market

Stock Market Set to Grow – Scope for Structural Reforms, however, Remains

1.2.20 Oman’s stock market is primarily equity-based with very low depth for bonds, the latter accounting for 2.1 per cent in the turnover of trading, as per the latest Muscat Security Market (MSM) data for 2013 (Graph 1.32). The stock market index registered a Y-o-Y growth of 18.6 per cent in 2013, up from 1.2 per cent in 2012 and (-)15.7 per cent in 2011 in line with the robust medium-term fundamentals of the economy (Graph 1.33). Investors’ confidence in the stock market was noticeable with foreign participation in the stock market moving up from an average of 25.6 in 2012 to an average of 27.8 per cent in 2013, not withstanding a decline in foreign participation from 28.1 per cent in end-2012 to 27.7 per cent in end-2013. This buoyancy in liquidity and participation was driven by investors’ sentiment getting influenced by positive performance across most of the global equity markets. Combined with the above, growth in Oman’s stock price index being within the GCC band of 12.0 and 70.3 per cent suggests that stock price movement does not constitute a risk factor at this stage. In line with the stock price developments, the market capitalization to GDP ratio, which is indicative of the size of the market, increased to 46.2 per
cent in 2013 up from 39.1 per cent in 2012. Going forward, it is expected that investor’s focus would continue to strengthen, given a strong scope for stock market penetration for GCC economies, as the size of stock market is lower than both emerging markets and the G-7.

1.2.21 There is considerable room to grow in the financial market space, but by international standards, challenges that need to be faced are those in competing with established markets in Europe and America and with its highly dynamic peers in the emerging world. Key reforms include the following: (i) raising the competitiveness of domestic banking markets, (ii) broadening and deepening local equity markets, (iii) promoting efficient corporate debt markets, (iv) developing Shari’ah-compliant financing as a competitive market pillar, (v) providing suitable conditions for a reasonable range of derivative financial instruments, (vi) stimulating private institutional investments.

1.2.22 In the context of Oman’s pegged exchange rate system and less independent monetary policy, there is scope for refining the existing macro-prudential toolkit to counter procyclical fiscal policy. More targeted prudential interventions are also required to be kept in place to constrain excessive credit and leverage as well as exposure to aggregate shocks as and when they occur, notwithstanding the fact that credit growth is not excessive in Oman with an average credit growth of 10.5 per cent in the last five years (2009-13).

Global Financial Market Risks Set to Look up – New Challenges for Emerging Markets

2.1. The global financial system is undergoing a series of transitions along the path toward greater financial stability. After a prolonged period of strong portfolio inflows, emerging markets however are facing a transition to more volatile external conditions and higher risk premiums. This scenario has taken the shine off its recovery path. The need has arisen to address financial and macroeconomic vulnerabilities and bolster resilience, as they shift to a regime in which financial sector growth is more balanced and sustainable. The Global Financial Stability Map indicates that risks are in transition (Graph 2.1) and, as they tend to change, are creating a host of new challenges for financial stability [Box 2.1 on Virtual Currency ‘Bitcoins’]. The resource dependent economies need to be remained buckled up and cautiously watch the developments as the recovery has seen false dawn before.

2.2 Banking Sector in Oman

Banks Dominated the Financial Sector - Banking Business Remained Simple and Resilient.

2.2.1 The total (gross) assets of banking sector of Oman stood at RO 23.2 billion as of December 31, 2013 registering a growth of 11 per cent over FY-12. Notwithstanding growth, the structure of the financial sector in Oman remained conspicuously unchanged over the years with (domestic) banks dominating other segments of the financial sector by a visible margin. This bank-centric financial sector is characteristic of Gulf Cooperation Council (GCC) countries. However, unlike some other GCC countries that aspire to be financial hub of the region, the banking sector of Oman is fairly conservative with focus on traditional banking primarily to oil the domestic real economy (Graph 2.2). The simple nature of business and largely domestic ownership of banking sector as also selective regulation had helped Oman avert the financial crisis.

Double Digit Growth Rate Persists – Slower Pace and Patterns of Risk Emerging

2.2.2 Banking sector continued to grow strongly, albeit at a slower pace. Total assets of the banking sector grew by 11 per cent

A virtual currency may be defined as “unregulated, digital money, which is issued and usually controlled by its developers, and used and accepted among the members of a specific virtual community”\(^5\)

Virtual currency is distinct from the electronic money – electronically stored digital equivalent of cash like stored value cards, e-purse etc. – in that it is not issued by any government and therefore is not a legal tender anywhere in the world.

The increased use of internet and resulting development of virtual communities has given rise to many virtual currencies in the recent years. Of these virtual currencies, ‘bitcoin’ has attracted the most attention. The reaction to ‘bitcoins’ has been diverse, ranging from terming it ‘ridiculous’ to ‘the currency of future’.

Bitcoin was conceived by Satoshi Nakamoto (pseudonym) based purely on a peer-to-peer network that would “allow online payments to be sent directly from one party to another without going through a financial institution”\(^2\) or any other trusted third party. The transfer of payment involves solving an algorithm by the (other) users in the network, therefore no central third party or a clearing house is involved. Moreover, no centralized party has monopoly on currency issuance. The users who are able to solve the payment algorithm are rewarded with bitcoins and this is the only way more bitcoins can be created or mined. The process is set up in a way that mining each additional bitcoin is exponentially more difficult and total number of coins that can be mined is fixed at 22 million bitcoins. The whole payment and settlement process is fairly anonymous.

The popularity of bitcoins lies in the solutions that it offers over the traditional currency. Firstly, the currency is not issued by a central authority, mining each additional bitcoin is exponentially more difficult (these features resemble that of gold, but unlike gold it is not possible to accidentally stumble into large reserves of bitcoins \(^3\)), and the maximum supply is fixed. These features of bitcoins insulate them from inflation and are attractive to those who are wary of the Government’s control over money supply and her ability to decrease its value by printing more money. Secondly, unlike traditional online payment methods, bitcoins are fairly anonymous. This feature appeals to those who do not want to leave their personal information or trails of transactions over the internet. Thirdly, bitcoins effectively separates payment & settlement function from the risk taking (lending, investments etc. ) functions of the bank and interests those who are aversive of banks’ utilizing their funds in risk taking activity when they want to use them only as an payment vehicle. Moreover, bitcoin payments are relatively frictionless, the irreversible process completes within minutes and the users who facilitate payments by solving algorithm are paid by newly minted or mined bitcoins. When mining will no longer be possible, even then the competition among all users would keep the transfer fees at minimal.

Like any other currency and payment systems, bitcoins also can be used for legitimate or illegitimate purposes. In different jurisdiction, authorities and central banks have reacted differently to bitcoins. Their response vary from treating them as another investment avenue for tax purposes to stopping banks from dealing in them and to considering to outlaw their usage.

Authorities and central banks can improve their existing payment systems (and currencies) by adopting some features of bitcoins. These features include concerted efforts to keep inflation low, reducing frictions in the payment and settlement system by reducing the time and cost involved in the process, reinforcing the safety of online payments and limiting any chances of identity or financial information theft, and possibly providing an option of insulation from risk taking activities for those who wish to use the bank solely for payment and settlement functions.

The bitcoin is still in nascent stage of adoption and usage with very unstable price which fluctuated between USD 13 to USD 115\(^4\) during 2013. Unlike what is sometimes hyped, presently it is not a threat to the conventional currencies and payment systems because it may not be scalable to the level where it may fulfill the worldwide payment and settlement needs. Therefore, the real challenge for authorities is in learning from the mixed success of bitcoins to develop more efficient solutions.

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1 ECB (2010), “Virtual Currency Schemes”, Report by the European Central Bank, October
4 http://blockchain.info
during FY-13 (Graph 2.3). Unlike the past year, when the growth mostly stemmed from credit (and cash), the growth during this year was more broad based with almost a quarter of it originating from investments (Graph 2.4). The changing growth dynamics, and a large and growing credit and investments portfolio calls for banks to remain vigilant regarding the credit and market risks.

Credit to Non-Oil GDP Ratio Remained Close to the Regional Players – Its Deviation Needed a Watch

2.2.3 The Private Sector Credit to Non-oil GDP for Oman continued to be low, though had slightly increased over the last year. This relatively low share was indicative of a smaller banking sector that reflected difficulty for the local banks to seal the deal to finance high ticket projects and accordingly Oman had to rely on external financing for the same. Nevertheless, it remained close to its trend, aligned to some bigger regional players, though much lower than some advanced economies (Graph 2.5). While, a moderate and rising Credit to GDP ratio is desirable to support economic expansion, the troubles may, however, ensue when the credit moves too far from the underlying trends\(^2\) or expand phenomenally independent of the growth in the real economic activity.

Credit Risk

Credit Risk Remained Dominant – Regulations Contained Pace of Credit Growth

2.2.4 Credit risk remained a key component in the risk profile of the banking sector, as banks’ credit portfolio continued to rise vis-à-vis other banking businesses. Credit Risk Weighted Assets (CRWA) formed about 90 per cent of the total risk weighted assets of the banking sector (Graph 2.6). The operational risk weighted assets only remained a distant second with share of about 6 per cent in the total Risk Weighted Assets (RWA) of the banking sector. Market Risk Weighted Assets (MRWA) constituted about 3 per cent of the total risk weighted assets of the banking sector.

\(^2\) Drehmann et al (2011) calculate that when the deviation exceeds 10 per cent of GDP, it serves as a reliable early warning of a crisis within the next three years. It is, therefore, imperative to keep a tab on the growth of private sector credit vis-a-vis non-oil GDP. For a detailed discussion please refer to:

Appoximation of Household Indebtedness

The data on personal disposable information is not available for Oman, which complicates the estimation of household indebtedness. To overcome the data challenge, a proxy has been worked out for household indebtedness by utilizing whatever data is available. We have the information on the number of Omani working in the Private sector as well as their average basic salary. We bump up the basic salary by 70 per cent to account for allowances to calculate gross disposable income of Omanis working in Private sector. For Public sector, we have data on the number of employees only, to calculate the disposable income for this sector, we assume that the average salary in same in both sectors.

Loans taken by Omani households from all types of financial institutions – conventional banks, Islamic banks, Finance & Leasing companies, development banks - are utilized to calculate the indebtedness. Expatriate households are not avid borrowers (they account for less than 2.5 per cent of lending to households) and their data are not used in the calculations.

Given that many assumptions are used and non-salary income is not available, therefore, this measure of indebtedness is an approximation. For Graph 2.7 above, we plot a range of +/− 25 per cent around this measure.

and the market risk remained contained partly due to prudent limits imposed by CBO on banks for taking market related risks.

2.2.5 Lending portfolio of the (conventional) banking sector grew by 6 per cent over the last year, which was the lowest ever increase in the last five years. However, the lending growth inclusive of the Islamic banking operations bumped up to 9 per cent. This was suggestive of Islamic banks increasing their hold more relative to conventional banks. [An overview of Islamic Banking in Oman is presented in Box 2.2]. The lending growth slowed down despite a 100 basis points reduction in interest rate ceiling backed by the growth rate of personal loans almost getting halved to 8 per cent (2012: 15 per cent) due to tightening of prudential norms and limits. Corporate lending however remained robust. The credit growth is expected to improve as banks tend to readjust their portfolios and once some credit limits (two year moratorium on top ups) wade.

High Household Indebtedness a Concern - Tightened Prudential Norms on Personal Loans a Welcome Development

2.2.6 In Oman, lending to individuals surpasses all other sectors. It is not uncommon for an economy where hydrocarbon sector forms half of the GDP and imported goods form a big share of domestic consumption. However, given that lending to households is a sensitive sector, a close watch on this sector is warranted. Household Indebtedness to Income ratio (lending to households / annual income of households) in Oman is estimated to be 1.8 to 3 times of annual salary or conversely 22 to 36 months of salary. This level of indebtedness though not alarming is considered high when compared to that in OECD countries (Graph 2.7). CBO has initiated regulatory measures to rein in this trend.

NPLs Remained Low and Declining – Adequately Provided for Loan Losses

2.2.7 Amid solid loan growth over the last few years, the banking system has so far been able to successfully manage to contain the credit risk within reasonable limits. The Non Performing Loans (NPLs) (net of reserve interest) of the banking sector inched up only by RO 21 million or 0.1 per cent of gross loans during the year, thereby increasing the total stock of NPLs to RO 315.5 million. The gross NPL ratio marginally declined to 2.0
Islamic banking is one of the fastest growing segments of the financial sector and its global potential is estimated at $4,000 billion. The financial crisis may have spurred its growth and potential market share even further, as it is claimed that the “principles based on religious law insulate the industry from the worst of the financial crisis” (Baele, Farooq and Ongena (2014)\(^1\)). Oman is a relatively late entrant in this market with Islamic banking formally kicking off in the country when a Royal Decree amending the banking law to accommodate Islamic banking was issued in December 2012 and detailed instructions were set out by Central Bank of Oman (CBO).

CBO has adopted a two-pronged strategy to facilitate the development of Islamic banking in Oman under which it is allowed to open either full-fledged dedicated Islamic banks or Islamic windows of conventional banks. As of December 31, 2013, 2 full-fledged Islamic banks and 6 Islamic banking windows are operating in Oman. During the one year of operations, despite some teething problems Islamic banks have captured 3.5 per cent of the market share of the banking sector in terms of assets and 2.8 per cent in terms of credit (Graph 2.A). This is considered remarkable progress within a short span of time [as a comparison foreign bank with a long history of operations have a 6.5 per cent market share in term of assets]. Islamic banking is expected to grow organically at a higher rate than conventional banking until it fully exhausts its natural share. It may be noted that so far most the growth in Islamic banking came from Islamic windows of the conventional banks which account for 64 per cent of Islamic banking assets and 91 per cent of financing (credit) of Islamic banking. This is not surprising as compared to Islamic windows; the newly established full-fledged Islamic banks need more time to pass through the establishment phase before they could fully focus on grabbing business.

Save one, all other Islamic banking establishments have incurred losses during the first year of operations. The aggregate loss of Islamic banks was Ro 14 million. This loss is not worrisome, as it is natural for startup businesses to incur some losses during initial phases of operations when they have significant establishment costs and need to incur significant general and administrative expenses despite limited operations.

The long run success of Islamic banks in Oman lies in the way they organize their business to make it fully Shariah compliant in letter & spirit, competitive and otherwise attractive (in terms of service standards, for example) to a point where customers do not only bank with them ‘because’ they are Islamic, but turn to them ‘despite’ they are Islamic. At present, the Islamic banking is not large enough to pose any systemic threat; however, there is a need to keep a tab on future developments of this segment for the unique risks and challenges that it may pose.

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per cent over the course of the year. Owing to sufficient provisions, the net NPLs also inched up by only RO 0.4 million. The net NPL ratio, therefore, stayed put at around 0.6 per cent (Graph 2.8). The low and almost stable level of NPL ratio suggested satisfactory asset quality and well contained credit risk.

2.2.8 Moreover, the existing loan portfolio of banks was well covered against expected losses through adequate provisions with coverage ratio (provisions to NPLs) of 72 per cent (138 per cent including general provisions). Net NPLs continued to form a very small fraction (2013: 2.7 per cent; 2012: 2.9 per cent) of banks’ capital suggesting that the unprovided for NPLs cannot threat solvency of the banks (Graph 2.9).

Special Mention Loans Witnessed an Uptick, Restructured Portfolio Declined – Category of ‘Loss’ Dominated and Rising

2.2.9 The ‘performing but delinquent’ loans in the Special Mention category increased by RO 29 million during the year. This was an offshoot of certain one-off cases in which the special mention loans had shot up to 24.4 per cent of gross loans as compared to the industry average of 3.4 per cent (Graph 2.10).

2.2.10 Restructured loans continued on their downward trajectory. During the year these loans declined by RO 23 million to RO 195 million. Ratio of performing restructured loans to gross loans also declined to 0.83 per cent from 1.13 per cent a year ago. While this was a welcome development, their concentration in the performing loan category implies that asset quality indicators were at the risk of deterioration as even slightly adverse business conditions may push these fragile loans down to the NPL category (Graph 2.11).

2.2.11 More than three-quarters of the NPLs of the banking sector were classified in the Loss category and the accretion to this category continued for the last two years (Graph 2.12) with no signs of much improvement. Given that such a bulk of these infected loans carried slim prospects of recovery, and were also rising in their volume reflected the difficulty for the banks to take corrective actions to revive these loans and prevent their downgradation following the initial classification of a loan to the less severe categories of delinquency. This trend can be source of potential vulnerability during economic downturns, when NPL levels are high.
2.12 The recovery rate, although still low, had improved considerably during the past two years as compared to earlier years. During the year, banks were able to recover 8 per cent (or RO 36 million) of the identified non-performing loans. However, increase in new NPLs outpaced the quantum of recovery by the banks (Graph 2.13).

2.13 At the end of December 2013, the unrated loans were about one-third of the total loans in terms of value and 80 per cent in terms of volume. It might not be practical to individually rate small retail loans, therefore, banks should develop tools to analyze these loans at a portfolio level to identify the development of risks in retail loan portfolios.

**Market Risk**

**Market Risk Remained Trivial under Current Measurement Methods - Interbank Market, Aflushed with Liquidity, Remained Calm.**

2.14 Distinct from other risks, market risk is an important risk for banks. Its distinction, particularly from credit risk, often gets blurred as market and credit risks may interact to reinforce each other and result in substantial losses if not managed jointly. Despite its significance, when measured in terms of current practices of calculating risk weighted assets, the contribution of market risk remained trivial in the overall risk profile of the banks (Graph 2.6).

2.15 During 2013, the policy rates remained constant and low with repo rate at one per cent since first quarter of 2012. Due to abundant liquidity, the activity level in the interbank market remained in line with the previous year with volume of around RO 116 million. Consequently, the interbank lending rates also remained low and stable with an average of about 0.14 per cent (Graph 2.14).

2.16 Maturity transformation is one of the core functions of banks during normal course of their business. Banks fund longer tenor loans with liabilities that mature and are repriced at shorter tenors. Consequently, a certain degree of gap between rate sensitive

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4 Throughout this section, risk weighted assets (RWA) are limited to RWA under Pillar I of Basel II accord, that is, interest rate risk in banking book is explicitly excluded from the analysis.
assets (RSA) and rate sensitive liabilities (RSL) is inevitable leaving banks susceptible to changes in interest rates. However, the stress testing exercise showed that the interest rate risk in banks is within reasonable bounds as banks would lose only RO 83 million or a paltry 2.5 per cent of their regulatory capital if they face a 200 basis point adverse movement in interest rates.

**MSM Indices Continued the Positive Stride – Banks’ Equity Positions Continued to be Modest**

2.2.17 The Muscat Securities Market (MSM) 30 index continued its rally during the year. Barring usual corrections, the rising trend continued during the whole year (Graph 2.15). Strong results and optimistic outlook paved the way for these gains. Overall the index gained 18.6 per cent, the industrial sector with a gain of 40.4 per cent outshone financial and services sector. The domestic markets did not get affected by the anxiety over the health of the developing countries which is evident from the trade volumes which increased by 88 per cent to reach 8.2 billion shares during the year. Financial sector remained the front-runner and accounted for almost 69 per cent of the trade volume. This good performance of MSM Index can be construed as a gesture of market’s confidence in the stability of financial sector of Oman.

2.2.18 Banks had limited exposure of less than 200 million in the stock market which constituted less than one per cent of their total risk weighted assets or 4 per cent of their capital. (Graph 2.16). This small exposure means that even big swings in the equity prices are not going to affect banks’ solvency. Consequently, despite the strong performance of the Index, banks did not gain much from it. On the positive side, the calculated risk taking on stock market exposure also ensured that the banks’ losses remained limited during downswings.

**Foreign Exchange Risk Remained Manageable – Exposures in Non-Pegged Currencies were Quite Low**

2.2.19 Owing to a widening gap between foreign currency assets and liabilities, the foreign exchange exposure of banks increased sharply during the year from 14 per cent to 25 per cent of their tier 1 capital. It however
remained well within the prudent limits of 40 per cent of tier 1 capital set by CBO (Graph 2.17). Moreover, with about 90 per cent of exposure denominated in US Dollars (or other currencies pegged to it) the exchange rate risk appeared to be limited. Since RO (and currencies of some other GCC countries) is pegged to USD, exposures in USD (and other currencies pegged to USD) do not entail any foreign exchange risk\(^5\). The effective foreign exchange exposure, i.e. exposure in non-USD and other non-pegged currencies for banks remained even much lower at than three per cent of their capital.

**Liquidity Risk**

**Surplus Liquidity Position Continued with Positive Liquidity Gaps – Added with Prize Money Deposits System could Distort Monetary Policy Transmission**

2.2.20 The ‘Gap (Assets – Liabilities) to Asset’ ratio remained positive for almost all tenors at the end of the year (Graph 2.18). While the positive liquidity gaps in short term tenors look good from short term liquidity management point of view, they may put pressure on profitability as they indicate missed opportunity of locking funds in longer term higher yield assets.

2.2.21 The stress test results also indicated a fair level of resilience of the Oman’s banking sector to varying degrees of liquidity shocks. Under stressed scenario, different banks can sustain the outflows of deposits from 9 to 30 days, and once the liquidity crisis sets in, the banking sector would need liquidity supply to the tune of RO 2.3 billion to sustain for one month \(^6\).

2.2.22 Thanks to sizeable cash and CBO deposits, the banks in Oman remained comfortably liquid despite a rising lending portfolio. The banks are required to keep cash reserves of at least 5 per cent of their demand and time liabilities. The banks comfortably maintained the cash reserve requirements without signs of strains. The excess cash reserves, over and above the required reserves averaged over RO 562 million\(^7\). It may be noted that presence of excess liquidity is a double edged sword and it may impede the transmission of monetary policy initiatives.

2.2.23 Many major banks continued to mobilize more than a quarter of their private sector deposits through prize money schemes. For some banks, the proportion of prize money deposits exceeded 40 per cent of their private sector deposits (Graph 2.19). Such lottery schemes were not an immediate threat to financial stability, however, less transparent as these were, had the potential to distort the real effective costs on deposits thus clouding out the economics of business. Moreover, such schemes could desensitize the depositors to changes in interest rates and may therefore impede interest rate pass-through.

**Deposit Growth Outpaced Credit Growth - Lending Ratio Declined**

2.2.24 Due to subdued credit offtake, the deposit growth surpassed credit growth by more than 4 per cent. Resultantly, after a year

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\(^5\) This holds true if the peg is assumed to be credible, since RO and many other GCC countries are maintaining this peg since several decades therefore a credible peg is essentially a trivial assumption.

\(^6\) Details of shocks and their impact on banks’ liquidity may be seen in Chapter IV Stress Testing

\(^7\) It may be noted that these cash reserves are excluding banks’ investments in CDs issued by CBO to mop up excess liquidity from the market.
of positive gap, the difference between credit and deposits had again turned negative at the end of this year (Graph 2.20). The widening wedge between credit and deposit growth was indicative of excess structural liquidity in the banking sector. If the credit growth remained weak in future, it would adversely affect earning potentials apart from production in the economy.

2.2.25 The lending ratio (loans excluding Government soft loans to eligible deposits plus capital) of the banking sector declined marginally to about 78.5 per cent as against the ceiling of 87.5 per cent prescribed by CBO (Graph 2.21). This implied that banks still had a cushion of expanding lending by RO 1.7 billion or 12 per cent of current lending against their existing funding base.

2.2.26 Similarly, the credit-to-deposit ratio of the sector also declined marginally over the year. Nevertheless, it remained strong at about 94 per cent, in line with the GCC average. The healthy credit-to-deposit ratio was an indication that banks were gainfully employing the depositors’ funds rather than keeping them idle. If public sector deposits, which formed about one-third of the banks’ deposit base, were excluded from the calculation of this ratio, then it would surge to over 148 per cent which was well above the regional average and hinted at the risks associated with the distorted funding structure of the banks.

**Competition, Concentration and Interconnectedness**

**Level of Concentration in the Banking Sector Remained Moderately High – Funding Sources from Government Sector Considerable**

2.2.27 In Oman, the degree of concentration in the banking sector, as measured by Herfindahl-Hirschman Index (HHI), reflected that concentration in banking sector in Oman was moderately high⁸ and was in line with the peer group of GCC countries. The level of concentration was, however, much higher than that in advanced economies, for example in the European Union (Graph 2.22). [Box 2.3, Measuring Competition and Concentration in Oman’s Banking Sector]. An alternative measure of banking sector concentration, share of assets of the top few largest banks

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⁸ As HHI is computed as sum of squared market shares of all banks, we use total assets of banks to calculate HHI. US Department of Justice and Federal Trade Commission classify HHI values between 0.15 and 0.25 as moderately concentrated markets.
Box 2.3

Measuring Competition and Concentration in Oman’s Banking Sector

**Empirical Results**

1. **Concentration**

**Table 2.A** CR<sub>i</sub> of Top 2, 3 and 5 Banks - Deposit, Credit and Total Assets

<table>
<thead>
<tr>
<th>CR&lt;sub&gt;i&lt;/sub&gt;</th>
<th>2006</th>
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<th>2008</th>
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<tr>
<td>Deposit</td>
<td>55.6</td>
<td>41.7</td>
<td>50.1</td>
<td>45.9</td>
<td>45.0</td>
<td>46.7</td>
<td>47.3</td>
</tr>
<tr>
<td>Credit</td>
<td>56.0</td>
<td>55.4</td>
<td>54.9</td>
<td>53.4</td>
<td>50.8</td>
<td>52.0</td>
<td>52.7</td>
</tr>
<tr>
<td>Total Assets</td>
<td>56.8</td>
<td>54.2</td>
<td>56.4</td>
<td>53.2</td>
<td>49.2</td>
<td>51.0</td>
<td>50.2</td>
</tr>
<tr>
<td>CR 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deposit</td>
<td>67.6</td>
<td>59.2</td>
<td>61.3</td>
<td>57.9</td>
<td>56.9</td>
<td>58.8</td>
<td>60.3</td>
</tr>
<tr>
<td>Credit</td>
<td>68.7</td>
<td>66.9</td>
<td>60.4</td>
<td>66.1</td>
<td>63.3</td>
<td>64.6</td>
<td>64.9</td>
</tr>
<tr>
<td>Total Assets</td>
<td>69.8</td>
<td>65.0</td>
<td>60.4</td>
<td>64.1</td>
<td>60.7</td>
<td>62.1</td>
<td>62.2</td>
</tr>
<tr>
<td>CR 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deposit</td>
<td>86.5</td>
<td>78.3</td>
<td>76.9</td>
<td>75.2</td>
<td>74.0</td>
<td>76.0</td>
<td>81.3</td>
</tr>
<tr>
<td>Credit</td>
<td>88.3</td>
<td>83.0</td>
<td>80.8</td>
<td>81.1</td>
<td>78.5</td>
<td>76.5</td>
<td>84.4</td>
</tr>
<tr>
<td>Total Assets</td>
<td>88.8</td>
<td>81.5</td>
<td>80.3</td>
<td>78.9</td>
<td>76.2</td>
<td>77.2</td>
<td>81.5</td>
</tr>
</tbody>
</table>

**Table 2.B** Herfindahl-Hirschman Index for Banks in Oman

<table>
<thead>
<tr>
<th>Year</th>
<th>HHI</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deposit</td>
<td>2181.7</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
</tr>
<tr>
<td>Credit</td>
<td>2134.1</td>
<td>1806.0</td>
<td>1861.2</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
</tr>
<tr>
<td>Total Assets</td>
<td>2265.1</td>
<td>2134.1</td>
<td>1861.2</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
</tr>
</tbody>
</table>

The degree of concentration in the banking sector, as measured by Herfindahl-Hirschman Index (HHI), reflects that is seen to be ‘moderately high’ and this is in line with the peer group of GCC countries.

2. **Competition**

By using the Panzar and Rosse’s (PR) Measure- H-statistic

**The Equation**

\[
\ln \text{TREV} = \text{Const} + b \ln \text{PL} + c \ln \text{PK} + d \ln \text{PF} + e \ln \text{TASSETS} + f \ln \text{BR} + g \ln \text{RISKASS} + \text{Error}
\]  
--- (1)

Where, \( \ln \) denotes the natural logarithmic operator, TREV is the total revenue, PL is personnel expense to the total number of employees (proxy for unit price of labor), PK is other operating costs to fixed assets (proxy for unit price of capital), PF is average funding rate calculated as the ratio of aggregate interest expenses to total deposits plus borrowings (proxy for unit price of fund), TASSETS is natural logarithm of total assets, BR is the number of branches to the total number of branches, and RISKASS - Ratio of Provisions to total assets and IR is interest revenue scaled by total assets.

For robustness, these have been estimated by applying the pooled as well as fixed effects model, the latter in preference to the random effects model, as indicated by the Hausman test for Panel models

**Table 2.C** P-R Model Results for the Omani Banking Market

<table>
<thead>
<tr>
<th>Variable</th>
<th>inTREV</th>
<th>inIR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pooled</td>
<td>Bank Fixed Effects</td>
</tr>
<tr>
<td>C</td>
<td>-3.39764</td>
<td>1.858456</td>
</tr>
<tr>
<td>LNPL</td>
<td>0.276652</td>
<td>0.167375</td>
</tr>
<tr>
<td>LNPK</td>
<td>0.010355</td>
<td>-0.038057</td>
</tr>
<tr>
<td>LNPF</td>
<td>0.416648</td>
<td>0.340897</td>
</tr>
<tr>
<td>LNTASSETS</td>
<td>0.226487</td>
<td>-0.208243</td>
</tr>
<tr>
<td>LNPKASSEK</td>
<td>0.062098</td>
<td>-0.011162</td>
</tr>
<tr>
<td>LNPB</td>
<td>0.197777</td>
<td>0.301062</td>
</tr>
<tr>
<td>AB(1)</td>
<td>0.975566</td>
<td>0.962547</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.960756</td>
<td>0.963890</td>
</tr>
<tr>
<td>Durbin-Watson stat</td>
<td>1.820356</td>
<td>1.466393</td>
</tr>
<tr>
<td>P-R</td>
<td>0.653255</td>
<td>0.470215</td>
</tr>
</tbody>
</table>

It may be seen that in all the regressions, the sum of the coefficients for PL, PK and PF work out in the range of 0.47 to 0.73 underscoring the trend that Omani banks are operating under monopolistic competition. Also the same position is obtained when the results are obtained for interest revenue (IR) instead of total revenue (TREV) as a further cross-validation.

**Relationship between Bank Concentration and Financial Stability in Oman**

**The Equation**

The systemic banking soundness has been usually studied through monotonic linear models that relate a financial stability dependent variable to a market competition measure (proxy by concentration indexes), as follows:

\[
Z_{it} = c_{it} + \sum_{j} \sigma_{ij} c_{ij} x_{it} + \sum_{k} \sigma_{ik} w_{k} y_{it} + \varepsilon_{it}
\]

where \( Z_{it} \) represents the Z-score ratio as a measure of financial soundness, \( c_{it} \) as a measure of banking market competition, \( c_{it} \) as an error term. These equations could also include two sets of control variables: i) bank-level financial soundness indicators and ii) macro prudential indicators, that are included to reduce the possibility of spurious correlations due to omitted variable bias.
A key variable used to measure financial stability is the z-score, a variable that explicitly compares buffers (capitalization and returns) with the potential for risk (volatility of returns). The z-score has gained traction as a measure of individual financial institutions’ soundness. The z-score is defined as \( z = \frac{k+\mu}{\sigma} \), where \( k \) is equity capital as per cent of assets, \( \mu \) is return as per cent of assets, and \( \sigma \) is standard deviation of return on assets as a proxy for return volatility. The popularity of the z-score stems from the fact that it is inversely related to the probability of a financial institution’s insolvency, i.e. the probability that the value of its assets becomes lower than the value of its debt. A higher z-score therefore implies a lower probability of insolvency.

### Empirical Results

**Table 2.D Fixed Effect Results on Competition and Banking Stability in Oman**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-40.19692</td>
<td>0.0216</td>
</tr>
<tr>
<td>CR2TASSETS</td>
<td>-0.427108</td>
<td>0.0992</td>
</tr>
<tr>
<td>LNLOANTASSETSRATIO</td>
<td>40.75516</td>
<td>0.0000</td>
</tr>
<tr>
<td>LNCRAR</td>
<td>24.19656</td>
<td>0.0000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.944117</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.933821</td>
<td></td>
</tr>
<tr>
<td>Durbin-Watson stat</td>
<td>1.294069</td>
<td></td>
</tr>
</tbody>
</table>


It may be seen that, while the capital adequacy ratio of loan to total assets has a positive influence on the banking stability, the concentration indicator proxied by the CR-2 total assets, i.e., the concentration of top two banks in total bank assets was seen to have potentials to contribute negatively to banking stability.

In the total banking sector assets, revealed similar pattern. The top five (three) banks accounted for about 80 per cent (62 per cent) of total banking sector assets (Graph 2.23).

2.2.28 Government and Public Sector Enterprises (PSEs) continued to contribute about one-third share in the total deposits. Such a trend posed a covert though critical risk should these groups decide to make significant withdrawals from the banking sector or shift deposits to CBO. Liquid assets (excluding interbank placements) of banking sector as a whole were barely sufficient to match the deposits of Government and PSEs, and should this happen the banks would be left with the harder option of reverting to more pricey short-term wholesale funding (Graph 2.24). It is therefore important that the banks’ funding base is diversified in terms of counterparties.

**Bulk of the Loans have been Disbursed to Individuals – Levels of Contamination Satisfactory**

2.2.29 Personal Loans had the lion’s share of the total credit portfolio raising the potentials for systemic risk (Graph 2.25). Given the structure of the economy, this type of credit concentration may be unavoidable, however, over-exposure to the personal loan segment, having potential of volatile performance, could be a source of concern as it might
spell a situation of debt overhang\(^9\). Presently, however, this segment has been performing well with its share in NPLs being less than its share in loans. However household credit may deteriorate quickly in an adverse scenario characterized by an interest rate hike, lower growth, higher unemployment or high inflation. Therefore, it is imperative that this risk is not underestimated.

2.2.30 The construction, services, and manufacturing sectors though have a much smaller share in the loan portfolio, carry proportionally very high incidence of NPLs thus posing as a source of vulnerability for the banking sector.

**Large Single Party Concentrations Warrant Robust Risk Management Methodologies**

2.2.31 Notwithstanding the per party exposure limits, private sector credit remained concentrated among a few customers. The five largest borrower groups, account for about seven per cent of the banks’ total credit portfolio (Graph 2.26).

**Banks had Limited Claims on Each Other – Higher Overseas Exposures Smacked of External Vulnerability**

2.2.32 The network map\(^10\) (based on interbank claims) suggested that, within Oman banks had limited claims on each other and had mostly gone for overseas (RoW or Rest of the World) placements. While lower domestic interbank exposures implied a lower level of interconnectedness and limited contagion risk, higher overseas exposures may result in indirect interconnectedness through the same counterparties/ exposure in same countries abroad and may escalate the risk of contagion from overseas. Moreover, for domestic banks overseas exposures are less chartered territories where traditional domestic metrics may not always apply (Graph 2.27).

**Solvency and Profitability**

**Capital Strength was Adequate – Comfortable Leverage Added to Robust Solvency Position**

2.2.33 The capital of the banking sector remained robust despite growth in risk

9 To avoid debt-overhang like situations, CBO has set prudent limits on consumer financing linking the aggregate loan limits to the repayment capacity (income) of borrowers.

10 Network diagram maps the chains of inter-bank claims. In normal scenario, a high interconnectedness in the network improves access to liquidity, whereas, during a stressed condition the interconnections can amplify shocks and destabilize the financial system.
weighted assets. The benchmark Capital to Risk-weighted Assets Ratio (CRAR) of the banking sector stayed steady at 16.2 per cent. At system level, even the core capital segment was sufficient enough to meet both the stipulations of CBO (at 12 per cent) and BIS (at 8 per cent) (Graph 2.28).

2.2.34 All banks operating in Oman were able to meet the CBO requirements of 12 per cent of CRAR. While 14 of the 16 conventional banks had maintained CRAR of 14 per cent or above, for six of the nine foreign banks such levels exceeded even 20 per cent, indicating their inability to efficiently utilize their funds to improve profitability [An overview of Operations of Foreign Banks in is presented in Box 2.4].

2.2.35 Further, leverage ratio (Core Capital to On and Off-balance sheet exposure) of the banking sector worked out to over ten per cent as against the Basel Committee’s proposal of minimum three per cent. Similarly, ‘Equity Multiplier’ (On-balance sheet exposure to total capital) remained modest at 6.7 times depicting satisfactory solvency position of banks (Graph 2.29).

2.2.36 The stress testing exercise also showed that the banking system stood quite solvent through adequate levels of capital and thus remained resilient to various stressed scenarios. Even when, severe credit and market shocks are applied, the banking sector remains solvent with the comfortable level of system-wide CRAR of above 12 per cent

**NIM of the Banks Looked Strong and Steady-Administrative Costs were not Kept under Control**

2.2.37 During the year, banks netted RO 397 million of profits as compared to RO 346 million during last year. The profitability ratios, Return on Assets (ROA) and Return on Equity (ROE), remained steady at 1.8 per cent and 12.5 per cent, respectively (Graph 2.30). The profitability of the banking sector was supported by a steady NIM of 3.8 per cent.

2.2.38 Loans and advances continued to form the largest component of the earning assets of the banks with a share of 78 per cent. The investment portfolio of banks had witnessed rapid expansion during the year, nonetheless, it had remained at a distant second position

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11 Throughout this section, profitability ratios are calculated using pretax figures.
Chapter II

Box 2.4

Operations of Foreign Banks in Oman

Out of 17 banks, 10 (around 60 per cent) were of foreign origin. This position obtained till 2011 and as HSBC bank got merged with Oman International bank to become a local bank, by name HSBC Oman bank, the number of foreign banks got reduced to nine. As at end-December 2006, at 24 branches out of 317, foreign banks had a share of little over 7 per cent which remained static at the same level (34 out of 479) as at the end of December 2012. During 1995-2002, the share of assets held by foreign banks increased significantly in the case of Oman, “where foreign bank participation rose from 0 to 8 per cent of banking sector assets” (Stijn et al-2000). But this share on an average during 2007-2012 plateaued at around 10 per cent, though displaying a rise, albeit a small one and then stagnating.

But while jurisdictionally the network remained confined to seven countries (UK, India, Pakistan, Qatar, Abu Dhabi, Iran, Lebanon), as a group their share in total deposit mobilization by the banking industry fell from around 15 per cent in 2007 to 13 per cent in 2010 and further to little over 6 per cent in 2012. The share of foreign banks in the total loan portfolio of the banking sector remained in a low range of 8-9 per cent during these seven years.

Studies have shown that “foreign bank entry is mostly positively related to banking system stability” (Barth, Caprio, and Levine-2004; Caprio and Martinez Peria-2002). In contrast, using data on the share of banking sector assets held by foreign banks in over 100 developing countries during 1995-2002, Cull and Martinez Peria-2007 have shown that “countries that experienced a banking crisis tended to have higher levels of foreign bank participation than those that did not”. Encouraging foreign bank entry which bears potentials for increased competition and thereby lowered profits of domestic banks may prompt a fall in charter values of domestic banks, making them more vulnerable.

But interestingly, they also observed that “foreign participation increased as a result of crises rather than prior to them” indicating thus that their entry was welcome to soften the damage inflicted by crisis. This could be so because as the number of foreign banks tends to rise with fewer activity and entry restrictions, the financial intermediation costs get reduced, making the local banking system more efficient and robust (Claessens and Lee-2003). That the entry of foreign banks imparts greater efficiency and competition was also shown by Claessens, Demirguc-Kunt and Huizinga (2001) by using data for 80 countries from 1995 to 1998 as reflected in reduced level of profitability, non-interest income and overhead expenses of domestic banks.

Countries welcome foreign banks to activate the local banks through ushering in ‘healthy competition’ by carving out a market niche of products using modern computing methods and innovative advertising know-how. Local banks protected as ‘infant industries’ are lulled into imitate foreign banks as they are forced to fiercely compete with them to retain their existing share. Further, a positive externality surfaces as the foreign banks impart training to local staff thus improving quality of human resources in the sector. In the process, the local banks lift themselves to international levels of efficiency. Accordingly, it is expected that presence of more foreign banks should be reflected in relatively lower levels of efficiency/profitability numbers of local banks. Over time, domestic banks’ costs will be reduced and efficiency improved “as they assimilate superior banking techniques and practices of foreign entrants” and as such the overall profitability level in the system will be raised to a higher orbit.

An empirical exercise is attempted in line with the Paper by Stijn et al (2000) to investigate how change in the share of foreign banks might have affected the operation of domestic banks in Oman. The regression is estimated using least squares for the period Q4:2007 to Q3:2013. In column (1), the dependent variable is ‘net margin/total assets’ defined as interest income minus interest expense over total assets. In column (2), it is ‘net non-interest income/total assets’. In column (3), it is ‘before tax profits over total assets’. In column (4), ‘overheads/total assets’ is the dependent variable. Foreign bank share is the ratio of total assets of foreign banks to that of all banks. Heteroscedasticity-corrected standard errors are given in parentheses.

The estimation results as above, indicate that foreign bank entry is not significantly associated with a reduction in domestic bank profitability (column 3), and also a reduction in non-interest income and overhead expenses (columns 2 and 4). These results are no less significant. We do see a significant association of net interest margins with increase in foreign banks share.

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1 Statistical Year Book (excluding Specialised banks-22 and Islamic banks-3)
2 How does foreign entry affect domestic banking markets? Stijn Claessens, Asli Demirgüç-Kunt, and Harry Huizinga, January 2000
3 Conversion of a foreign bank (HSBC bank) in to a local bank after merger could have contributed to this drastic fall. But falling trend in the share of deposits in the face of growth in number of branches is the issue.
Table 2.E

<table>
<thead>
<tr>
<th>Net Margin/TA</th>
<th>Non-int. Income/TA</th>
<th>Profit Before Tax/TA</th>
<th>Overheads /TA</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-0.410***</td>
<td>-0.992</td>
<td>-0.098</td>
</tr>
<tr>
<td>(0.556)</td>
<td>(0.115)</td>
<td>(0.748)</td>
<td>(0.158)</td>
</tr>
<tr>
<td>Foreign Bank Share</td>
<td>0.067***</td>
<td>0.003</td>
<td>-0.008</td>
</tr>
<tr>
<td>(0.01)</td>
<td>(0.002)</td>
<td>(0.006)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Equity / TA</td>
<td>-0.021***</td>
<td>-0.051</td>
<td>0.026***</td>
</tr>
<tr>
<td>(0.032)</td>
<td>(0.007)</td>
<td>(0.033)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Non-int. assets/total asset</td>
<td>0.013*</td>
<td>0.007***</td>
<td>0.003</td>
</tr>
<tr>
<td>(0.007)</td>
<td>(0.002)</td>
<td>(0.009)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Customer Dep. / TA</td>
<td>0.021**</td>
<td>0.014***</td>
<td>0.042***</td>
</tr>
<tr>
<td>(0.01)</td>
<td>(0.002)</td>
<td>(0.012)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Overheads / TA</td>
<td>1.382</td>
<td>0.525***</td>
<td>0.904</td>
</tr>
<tr>
<td>(0.982)</td>
<td>(0.179)</td>
<td>(0.856)</td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.85</td>
<td>0.90</td>
<td>0.53</td>
</tr>
</tbody>
</table>

***, **, * indicate significance levels of 1, 5 and 10 percent respectively

(Graph 2.31). With a share of 79 per cent, interest income dominated the total revenues of the banks, whereas, non-interest sources contributed the other 21. Interest earned on advances accounted for more than 90 per cent of the total interest income. This skewed position reflected lack of avenues on part of banks to diversify their sources of income.

2.2.39 While provisions remained low, administrative costs were not kept under control. Provisions for loan losses formed less than 5 per cent the banks’ interest revenues. Bulk of the banks’ non-interest expenses stemmed from staff and administration costs with a share of 67 per cent in the total non-interest expenses, which was large and increasing and needed to be kept under control (Graph 2.32).

2.3 Non-Banking Financial Institutions

FLCs and Insurance Companies were Major Component of NBFIs’ – Both Sectors Grew Steadily

2.3.1 Finance and Leasing Companies (FLCs) and Insurance companies were the most significant part of the Non Bank Financial Institutions (NBFIs). FLCs accounted for more than half of the NBFIs’ assets, whereas Insurance companies formed about 40 per cent of the sector. Both of these segments witnessed strong growth during the year.
The share of Money Exchange Companies in assets was under five per cent (Graph 2.33).

**Finance and Leasing Companies**

**Growth in Loans Continued to Fuel Asset Growth – Asset and Lending Structures Remained almost Static**

2.3.2 The loans and advances of FLCs grew by 16 per cent over the year to reach RO 824 million. This robust lending growth drove up the assets by same proportion. The loans and advances continued to have a dominant share in the asset structure of FLCs. As of December 31, 2013, net loans and advances constituted about 96 per cent FLCs assets suggesting efficient deployment of assets for profitable use (Graph 2.34).

2.3.3 While business loans grew by 19 per cent, the personal loan segment inched up by only 8 per cent during the year. The relative proportion of credit to business and personal loans, however, did not change much, with business loans forming about two-third of the credit portfolio whereas, the personal loans had taken the other one-third of the total credit (Graph 2.34).

**Asset Quality Indicators Improved – Though NPLs Increase Marginally**

2.3.4 The Gross NPLs of FLCs rose by 6 per cent to reach RO 51 million by the end of year 2013. However, as the rate of growth of credit outpaced the rate of growth of NPLs, the NPL ratio improved to 6 per cent from 7.5 per cent last year. Notwithstanding this marginal improvement, the NPL ratio of this sector remained much higher than that of the banking sector. Owing to adequate provisioning, the Net NPL ratio stayed put at 0.3 per cent (Graph 2.35).

**Funding from Banks Remained a Major Source of Financing – Future Profitability may be at Stake**

2.3.5 As FLCs cannot offer checking accounts, they mainly counted on bank borrowing and capital to fund their operations. As of December 31, 2013, FLCs raised over 56 per cent of their funds through bank borrowings and 26 per cent from capital (Graph 2.36). Furthermore, about two-third of their bank borrowing were in short-term. Likewise, about two-third of the incremental loans were financed by increase in borrowings.
2.3.6 FLCs posted pre-tax profits of RO 30.3 million during 2013 up from RO 27.6 million last year. The profitability indicators ROA and ROE, supported by strong NIM and stable infection ratio, remained healthy at 3 per cent and 12.8 per cent respectively (Graph 2.37) 12. The low funding rates, helped by excess liquidity and low overall interest rate environment, had allowed FLCs to maintain high NIM and post strong profits during the past 3 years, however, the FLCs would find it challenging to maintain these levels of NIMs once the interest rate bounce up again.

2.3.7 While FLCs are less prone to bank-run type risks because of a relatively small proportion of deposits, heavy reliance on bank borrowings means that any trouble in the banking sector may adversely affect the operations of FLCs and quickly destabilise them. Moreover, such dependence on bank borrowing, which is relatively cheap at the moment, could create pressures in the event of drying up of liquidity or rise in bank lending rates which may seriously challenge their future growth and profitability.

**Insurance Sector**

**Outlook Remains Positive – Abundant Potential Exists**

2.3.8 Insurance sector in Oman had largely avoided the slowdown caused by the financial crisis, however, in general the health of the insurance sector is closely linked with the overall economic prospects. The outlook for the insurance sector therefore remained positive with buoyant economic conditions and large government infrastructure projects in pipeline.

2.3.9 Despite the presence of 23 insurance companies including 11 foreign players and one reinsurer, the insurance sector in Oman appeared to be underdeveloped in terms of traditional metrics of insurance penetration and density. The insurance penetration, defined as the ratio of insurance premiums to GDP, was about 1.2 per cent which though comparable to that of GCC countries was much lower than the global average of 6.5 per cent. Similarly, Insurance Density, defined as insurance premiums divided by population, was about RO 100 per person in Oman which was much smaller than the GCC average of RO 141 and global average of RO 252 (Graph 2.38). These indicators suggested that despite stiff competition owing to the presence of many companies, there is significant growth potential in Oman. CMA had given two licenses for Takaful companies (Islamic insurance), which may tap part of potential market which is unserved by the conventional insurance companies because of their religious concerns.

**General Insurance Dominated – Life Insurance Sought Attention.**

2.3.10 During the year, the premium collection witnessed an increase of 10 per cent as gross premiums reached RO 364 million. The general (non-life) insurance sector dominated the insurance business. In terms of gross premiums, the non-life business contributed 73 per cent whereas life business lagged behind with 27 per cent share. Within

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12 In this section profitability ratios are calculated using pretax figures
the general insurance segment, with a share of 41 per cent, premiums collected on account of Motor insurance formed a lion’s share of the total collections. While insurers on average transferred about 46 per cent of their risks to the re-insurers, the risk transfer for Motor segment was much smaller as evident from premium retention of 87 per cent for this segment as compared to 54 per cent for the entire insurance sector. Insurance companies needed to make concerted efforts to develop life business in Oman in order to diversify their sources of revenues (Graph 2.39).

Natural Catastrophes and Road Safety Remained a Matter of Concern – Emergency Insurance Fund could be Risk Mitigant.

2.3.11 In general GCC countries have stable weather conditions with relatively fewer incidences of major natural catastrophes. However, recently Oman has been witnessing heavy downpour and in recent past has witnessed two major cyclones – Phet and Gono in 2010 and 2007 respectively. The changing climatic patterns may suddenly drive up the claims and need a careful reexamination by the insurers.

2.3.12 Despite several measures by authorities to increase road safety, the number of road accidents and ensuing road injuries were on the rise (Graph 2.40). Unsafe roads coupled with higher retention ratios for motor segment, increase the vulnerability of insurance companies to this segment.

2.3.13 To mitigate the risks to which insurance companies and the insured are exposed, Capital Market Authority (CMA) has established “Insurance Emergency Fund” to indemnify policyholders in the event of a crisis affecting insurance companies. The Fund, which is created by contributions from insurance companies as a percentage of their gross premiums, would kick in to shield the policyholders in emergency situations such as revocation of an insurer’s license, its liquidation, dissolution or if CMA otherwise deems that an insurer is unable to discharge its obligations.
Money Exchange Companies

Strong Growth Continued – Operational Risk Substantial

2.3.14 Money Exchange Companies operating in Oman have been growing strongly for the last several years. Over the last five years, the value of currency notes exchanged, and value and volume of remittances made had grown at compound annual rates of 10, 14 and 16 per cent respectively (Graph 2.41). Due to the nature and size of operations, these companies do not pose systemic risk to financial sector. Nevertheless, due to increase in the volume of operations and extensive customer interactions operational risk is particularly important for these establishments which may eventually lead to reputational and legal risks (for example resulting from exchange of fake currency notes).
The 2007-2009 financial crises unfolded the gaps and weaknesses in the regime of supervision and regulation in the global financial system. This called for unprecedented government actions including providing capital to many financial institutions and government conservatorship for others. Challenges however, remain for creating stable, yet efficient mechanisms explicitly aimed at addressing market failures; understanding agents’ motivations (perverse?) and firming up/fine tuning regulations towards common goals. A few have been addressed; many are still waiting for suitable solutions. The trigger points being backed essentially by known/unknown unknowns and tipping points being difficult to measure; fault lines being difficult to address; spillovers being difficult to be mapped up; the time has come to acknowledge that risks of crises are here to stay - what is expected is to develop ability to contain the extent of harm they can inflict. System designs to measure and manage risks need a revisit even while looking for ways to resolve ailing institutions and recover the best possible from the remnants those may give away.

Chapter III
FINANCIAL SECTOR REGULATION AND INFRASTRUCTURE

3.1 Financial Sector Regulatory Reforms

3.1.1 One interesting facet of the regulatory reform process post the 2007-09 global financial crises has been that the efforts of the national regulators have converged under the umbrella of the international agencies reflecting country-specific regulatory proposals based on country experiences but with a global appeal. To take on the lead responsibility, the G-7 expanded itself to G-20 and the Financial Stability Forum (FSF) (1999) redefined itself as Financial Stability Board (FSB) (2009) and got further bifurcated into Regional Consultative Groups (RCGs) to reflect much wider involvement of jurisdictions across the globe. Their job of coordinating the work of multinational agencies, international standard setters and national financial authorities (and private institutions such as the International Institute of Finance with over 400 members of major financial institutions) as also monitoring of the country-specific compliance with international standards, and addressing developments in financial stability was made much more defined and clear.

3.1.2 International harmonization and coordination of financial regulatory / supervisory policies is the current focus of all these efforts even while national authorities are provided with the required flexibility to take the final call on the decisions on the rigor of the regulatory requirements upon particular financial institutions falling under their jurisdictions. The objective of the menu of reforms is to see that the today’s banks (with all their modern complexities) do not focus on short term, non-sustainable, risk prone business and profit but align better to realities of the real sector of the economies in which they operate and emphasize on remaining less crisis-prone and far more stable. The reforms-drive is engineered by the international agencies, but the onus of success lies in the hands of national regulators as the implementation-orientation is basically local.

Revised Capital Adequacy Standards - Risk-based Capital Shortfalls Continue to Fall

3.1.3 The core elements of Basel 3 capital adequacy standards comprise holding of substantially more capital, tighter definitions of capital, greater emphasis on higher quality capital (in particular, Common Equity Tier 1 (CET1) capital: equity and retained earnings), standards to ensure that other types of capital instruments are truly loss-absorbing, higher risk weightings on counterparty exposures and removal of the prudential filters, which allowed banks to avoid facing up to losses on their holdings of marketable securities. Then there are measures of capital conservation buffer to protect that capital backing which allows banks to dip into their capital if their capital ratio deteriorates. In such eventualities, to help restore a bank’s capital strength, dividend and bonus payouts are to be watchfully monitored. Capital framework has also been made more countercyclical with countercyclical capital buffer being required to be held in good times to prepare for plausible downturns. Considering the
systemic importance of certain complex banks whose failure would inflict extra damage to the society, extra capital holding has been prescribed for them.

3.1.4 The rules are: minimum capital requirements at 8 per cent of Risk-Weighted Assets (RWA) –as before – but 4.5 per cent of that in CET1, the highest quality capital compared with only 2 per cent under Basel 2. The capital add-ons are: a 2.5 per cent conservation buffer in the nature of CET1; a 0 to 2.5 per cent countercyclical buffer, in the nature of CET1 in the boom phase of the financial cycle, when authorities decide that credit growth is creating unacceptable build-up of systemic risk; and for some banks (designated as systemic i.e. G-SIBs), a capital surcharge, in the nature of CET1, ranging from 1 per cent to 3.5 per cent. Altogether, the highest minimum requirement in the form of common equity (Tier 1) would be 13 per cent. In addition to this would be 1.5 per cent alternative Tier 1 equity and 2 per cent Tier 2 (hybrid) forms of capital. At the highest rate, it would increase the minimum to 13 per cent for most banks, and 16.5 per cent for the banks subject to the highest G-SIB charge. These ratios all apply to risk-weighted assets. In addition, capital instruments must include a clause that allows regulators to write them off or convert them to common shares, if the bank is judged non-viable.

3.1.5 The implementation schedule is phased in between now and 2019. However, it is interesting to observe that as against a negative return on equity in 2009, the position improved to 8.9 per cent at the end of September 2012\(^1\). But it is expected to remain far away from the pre-crisis level of 13.4 per cent as existed at the end of 2006 indicating difficulties to raise the requisite amount of capital in the markets.

3.1.6 As per the Basel III, Monitoring Report, March 2014\(^2\), compared to the previous report, the aggregate CET1 shortfall with respect to the 4.5 per cent minimum for Group 1 banks is €1.1 billion or 48 per cent higher due to increased shortfalls reported at a single bank within the sample. At the CET1 target level of 7.0 per cent (plus the surcharges on G-SIBs as applicable), the aggregate CET1 shortfall for Group 1 banks has actually improved – it is €57.5 billion or 50 per cent lower relative to end-December 2012.

3.1.7 Under the same assumptions, the capital shortfall for Group 2 banks included in the Basel III monitoring sample is estimated at €12.4 billion for the CET1 minimum of 4.5 per cent and €27.7 billion for a CET1 target level of 7.0 per cent. Relative to the prior report, aggregate Group 2 shortfalls at the CET1 target level of 7.0 per cent have risen by €2.1 billion or 8.2 per cent since end-December 2012 due to increases among small number of banks within the sample. For reference, the sum of Group 2 bank profits after tax prior to distributions in H2 2012 and H1 2013 was €26 billion.

3.1.8 In July 2013, the Federal Reserve, together with the Office of the Comptroller of the Currency (OCC) and the Federal Deposit Insurance Corporation (FDIC), approved final rules implementing the Basel III capital framework. The minimum tier 1 capital ratio was raised from 4 to 6 per cent of risk-weighted assets, and a new minimum common equity tier 1 capital ratio of 4.5 per cent of risk-weighted assets was established. The rules also require a capital conservation buffer of 2.5 per cent of risk-weighted assets and a more risk-sensitive standardized approach for calculating risk-weighted assets. In EU, the Capital Requirements Directive ‘CRD 4 package’, and the Capital Requirements Regulation (CRR) have been issued to implement Basel 3 stipulations from 1 January 2014 largely in line with BIS guidelines. The UK is expected to apply a systemic risk buffer of 3 per cent on at least the major UK banks, bringing the minimum CET1 capital ratio up to 10 per cent and proposes to introduce more stringent large exposure limits, sector-specific risk weightings, disclosure requirements on

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1 Federal Financial Institutions Examination Council.
2 A total of 227 banks participated in the study conducted by the BCBS (BIS), including 102 Group 1 banks (Tier 1 capital in excess of €3 billion and are internationally active and 125 Group 2 banks (all other banks). Members’ coverage of their banking sector is very high for Group 1 banks, reaching 100% coverage for some countries, while coverage is comparatively lower for Group 2 banks and varied across countries.
3.1.9 In Oman, CBO Basel III guidelines were sent to banks in November 2013. Of the minimum total capital ratio of 12 per cent of RWA, the component of Common Equity Tier 1 (CET1) should be maintained at a level of a minimum of 7 per cent and Tier 1 capital at a minimum of 9 per cent of RWA, with effect from December 31, 2013. The Capital Conservation Buffer of 2.5 per cent of RWA, comprised of CET1 will be in addition to the minimum total Capital Adequacy ratio and will have to be achieved in four equal installments of 0.625 per cent, beginning from January 1, 2014. The countercyclical buffer, if required, would have a maximum level of 2.5 per cent and will follow the same timeline as the Capital conservation buffer. This buffer would extend the size of the Capital Conservation buffer. Phase out of Basel III non-compliant capital instruments have commenced from December 2013 and will be spread over a 10 year period. The disclosure of the components of capital has commenced from December 2013 and will be required on quarterly basis henceforth.

A Minimum Leverage Ratio - To Supplement to the Effects of Improved Capital Strength

3.1.10 While the new Basel III international capital rules are meant to enhance the loss absorbing capacity of banks as they are required to keep more and better form of capital than before, the devised system of risk weightings may encourage them to leverage their positions up to many times the equity invested (i.e. if a high proportion of assets are of a low risk weighting). If all assets had to be backed by the same level of capital, it is argued, the banks would have an incentive to opt for riskier investments, as this would raise their expected return on equity. Accordingly, the trade-off between capital strength and leverage would get accentuated. To mitigate this issue, as a measure of safeguard, Basel 3 requires banks to hold at least 3 per cent either CET1 or total regulatory capital against their total exposures (the sum of (a) on-balance sheet exposures; (b) derivative exposures; (c) securities financing transaction (SFT) exposures; and (d) off-balance sheet (OBS) items) irrespective of the risk-weighting of those assets.

3.1.11 Adherence to these requirements was to be reported by the banks to their national supervisors as part of the ‘parallel run’ period with effect from 1 January 2013. Those will be required to be disclosed publicly on a consolidated basis from 1 January 2015 in banks’ published financial statements or, at a minimum, by way of a direct link to the completed disclosures on the banks’ websites or in publicly available regulatory reports. Its final migration to a Pillar 1 (minimum capital requirement) treatment will be with effect from 1 January 2018.

3.1.12 While reemphasizing the appropriateness of a 3 per cent minimum leverage ratio based on total tier 1 capital, certain relaxations have been allowed in terms of netting of securities financing transactions with the same counterparty, avoiding the double-counting of derivatives cleared through central counterparties and application of less punitive credit conversion factors to off-balance sheet exposures.

3.1.13 The weighted average Basel 3 Tier 1 leverage ratios for Group 1 banks and G-SIBs are respectively 4.0 per cent and 3.7 per cent. For Group 2 banks, the average Basel 3 Tier 1 leverage ratio is 4.6 per cent. Assuming all banks meet an 8.5 per cent Basel 3 capital ratio plus any G-SIB surcharges (i.e. the respective target levels of Tier 1 ratios), an additional capital increase of €56.8 billion for Group 1 banks and €11.9 billion for Group 2 banks are required to meet the minimum leverage ratio standard.

3.1.14 The new leverage ratio framework is likely to impact derivatives trading (particularly credit derivatives) and securities financing business transactions. There will also be a significant impact on lending commitments on the retail and wholesale side, as well as trade finance. The US has however proposed a consolidated bank holding company (BHC) leverage ratio requirement.
of 5 per cent for BHCs with more than $700 billion in assets or $10 trillion in assets under custody. Bank subsidiaries of such BHCs would face a well-capitalized leverage ratio threshold of 6 per cent to be applied from 2018. The EU in contrast is still discussing if they would implement Leverage Ratio as a binding measure or as a monitoring measure for overall risk profile, the business model and size of the institutions in the UK is in the process of a review to use leverage ratio as a macro-prudential tool. Their stress tests framework use CET1 capital rather than total tier 1 capital as the capital measure for the leverage ratio. In Switzerland, the largest banks will be required to meet a minimum leverage ratio against total capital of around 4.3 per cent by 2019.

More Stringent Liquidity Standards – Implementation Issues Still Remain

3.1.15 To contain the negative effects of bank /liquidity runs, solvent banks would require liquidity buffers and/or access to appropriately collateralized central bank liquidity support. Lest the banks tend to keep the buffer smaller than what is optimal in favour of possible business opportunity gains, Basel III liquidity regulations mandate adherence to a short term Liquidity Coverage Ratio (LCR) to withstand a 30-day crisis; and a longer-term Net Stable Funding Ratio (NSFR) to reduce the inherent maturity mismatch in banks’ balance sheets. LCR requires banks to hold sufficient high-quality, liquid assets (HQLAs) that can be easily and quickly converted to cash to cover expected liquidity outflows in a stress scenario over a 30-day period. Work continues on the stipulation of NSFR with the Basel Committee relaxing its calculation in January 2014.

3.1.16 While HQLAs essentially indicate public sector securities that are “traded in large, deep and active repo or cash markets” there could be difficulty in implementing them in jurisdictions where government securities are relatively limited in supply, and they are often locked away in long-term investment portfolios (Australia, South Africa and Norway). For such cases, where insufficiency in HQLA genuinely exists alternative liquidity arrangements (ALAs) have been suggested subject to obligations relating to supervisory monitoring and reviews. Such Committed Liquidity Facility (CLF) provisions are a positive move in the direction of liquidity provision during a crisis.

3.1.17 The Federal Reserve Board (in USA) together with the Federal Deposit Insurance Corporation (FDIC) and the Office of the Comptroller of the Currency (OCC) have advanced a proposal on October 24, 2013 aiming to create a standardized minimum liquidity requirement for all internationally active banking organizations (with $250 billion or more in total consolidated assets or $10 billion or more in on-balance sheet foreign exposure) and to systemically important, non-bank financial institutions. For others (having more than $50 billion in total assets) a less stringent, modified LCR has been proposed. In the EU, a shorter transition period has been stipulated, with the minimum LCR requirement jumping from 80 per cent in 2017 (as against from 60 per cent in 2015) to reach 100 per cent in 2018 (as against 2019), while also requiring banks to meet the equivalent of an LCR-type requirement from 1 January 2014, by holding sufficient liquid assets to cover potential net cash outflows under stressed conditions. In the UK, the Financial Policy Committee (FPC) has asked the Prudential Regulation Authority (PRA) to consider whether additional liquidity requirements are needed on systemic grounds to supplement the LCR.

3.1.18 A total of 102 Group 1 and 124 Group 2 banks participated in the liquidity monitoring exercise for the end-June 2013 reference period. The weighted average LCR for the Group 1 bank sample was 114 per cent. For Group 2 banks, the average LCR was

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3 The applicable accounting standards in the US allow for more netting of off-balance sheet exposures and hence these figures are not directly comparable with the 3 per cent Basel 3 requirements.

4 The LCR will be phased in from January 2015 when banks will be required to have an LCR greater than 60 per cent. The minimum requirement will increase by 10 percentage points each year until fully implemented by January 2019. Banks are required to report their NSFR positions during an observation period running until 2016, after which the NSFR is due to be finalised and to become a binding requirement from 1 January 2018.
<table>
<thead>
<tr>
<th>Areas of Regulation</th>
<th>To be Implemented from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basel II 2004 - Improved measurement methodology of credit risk and stipulation to capture operational risk.</td>
<td>The year-end 2006.</td>
</tr>
</tbody>
</table>
| November 2011 – Identification methodology for global systemically important banks (G-SIBs) and enhanced Capital requirements for them. | 1st January 2016.  
To become fully effective on 1 January 2019.  
To implement by 1 January 2014 the official regulations/legislations that establishes the reporting and disclosure requirements. |
| January 2013 - Revised Liquidity Coverage Ratio (LCR) requirements. | To be introduced on 1 January 2015 subject to a transitional arrangement before reaching full implementation on 1 January 2019. |
| January 2014 - Leverage Ratio framework and disclosure requirements. | Implementation of the leverage ratio requirements has begun with bank-level reporting to national supervisors of the leverage ratio and its components, and will proceed with public disclosure starting 1 January 2015. |
| January 2014 - Revised Net Stable Funding Ratio (NSFR) requirements. | 1 January 2013, subject to transitional and phase-in arrangements.  
To become a minimum standard by 1 January 2018. |

Source: Biannual Progress report on implementation of the Basel Regulatory Framework by the Basel Committee on Banking Supervision - April 2014

132 per cent. The aggregate LCR shortfall at a minimum requirement of 100 per cent was €536 billion, which represents approximately 0.9 per cent of the €62.0 trillion total assets of the aggregate sample. The aggregate LCR shortfall at a minimum requirement of 60 per cent was €168 billion (less than 0.3 per cent of banks’ assets).

3.1.19 In Oman, the observation period for the LCR and NSFR has already commenced. It is set to introduce the liquidity standards in line with the timeline set by BCBS (Box - 3.1).

### Tougher Regulatory Capital and Liquidity Requirements May Slow Down Economic Growth

3.1.20 Eleven countries have fully implemented rules consistent with the Basel III framework, three countries have issued rules that have not yet been implemented, and a further thirteen countries are at various stages of finalising their rules.

3.1.21 The aim of the Basel III regulatory framework is to improve the quality of capital, increase the level of capital, and encourage the build-up of capital buffers to mitigate pro-cyclicality, supplement the risk-based
capital requirements with a leverage ratio and introduce a set of global liquidity standards. The Basel 3 requirements would increase the amount of capital and liquidity that all banks will need to hold, compared to the previous regulatory requirements. This would tend to act as a constraint on the banks’ ability to grow their balance sheet, which could in turn have a knock-on effect on economic growth, if bank customers cannot get the necessary finance to support the growth of their businesses. As per the analysis of BCBS on the possible costs to the real economy of higher requirements, a one percentage point increase in the capital ratio is estimated to translate into a median 0.09 per cent decline in the level of output at the end of an eight year period relative to the baseline. The impact of meeting the liquidity requirement is estimated to be of a similar order of magnitude, at 0.08 per cent.

3.1.22 But this would result in a stronger banking system which is expected to reduce the occurrence and severity of crises. The opportunity gains out of a crises-free system are hard to quantify, though, net positive gains are quite likely. This trade-off between financial stability and growth will be pronounced in countries where there is absence of a more active capital/bond/equity market from which borrowers could draw funds directly. The underlying motivation however is drawn from the past 50 years of international financial history which teaches the fact that modern banking has been displaying greater level of short-term efficiency while remaining poor at avoiding/managing crises whose costs are very high. Lower funding costs and optimum utilization of available funds due to financial innovations and efficient markets may be welcome, but downplaying costs of crises would prove to be dangerous.

**Ending ‘Too-Big/Complex/Inter-connected-To-Fail’- the Priority Area of Focus**

3.1.23 Mitigation of the problem of “Too-Big/Complex/Inter connected-To Fail” has emerged as an important lesson from the global financial crisis of 2007-2009. Orderly functioning of the financial system and hence ultimately the real economy were in jeopardy considering their size and functional linkages with other players in the system leading to huge loss of public money. Such banks have a funding advantage over smaller banks and the implicit sovereign insurance provides incentives to engage in risky business that promises high returns. If things turn out well, the bank and its executives gain hugely. If it is otherwise, the taxpayers tend to lose. As a possible policy response, many jurisdictions are in the process of putting in place adequate measures in advance so that in the extreme event of any problems arising with them, the damage to the system is kept at the minimum. Such banks must be allowed to fail without dragging other players in the financial system down with them. With such measures at place, public perception and hence confidence on the robustness of their health would improve and with that the financial stability of the system would get a boost.

3.1.24 The work on identification of Global Systemically Important Financial Institutions (G-SIFIs) is done by FSB while the same on Domestic Systemically Important Banks (D-SIBs) has been underway in many jurisdictions including Oman (Box – 3.2). The FSB has published a list of 29 banks deemed to be of global systemic importance, of which eight are from the U.S., 17 from Europe, three from Japan and one from China.

3.1.25 The implicit safety net subsidy as a part of the recapitalization and guarantees support in the financial crisis to the G-SIFIs was up to $10 billion per banking group reflecting the distortion in the provision of financial services putting the taxpayers at risk. Accordingly, preventative tools, such as higher capital and liquidity buffers and more intrusive supervision, have been promulgated for G-SIBs/D-SIBs. But that may not prove to be enough. Strengthening the risk culture/management system, enhanced resolution frameworks, minimum amount of bail-in debt to encourage better risk-taking, and a loss-sharing arrangement so that unsecured creditors bear the risks that they legally agreed to assume etc. would be the prerequisites.
Indicator-based measurement approach in line with BCBS for G-SIBs was followed. The categories that constitute the measurement exercise of Oman’s D-SIBs as well as the respective indicators necessary to calculate the individual category scores are given as in Table 3.A.

The Model

The total score \( \text{SCORE}_{ij} \) which summarizes the degree of domestic systemic importance of a bank \( i \), at time \( j \) is calculated as follows:

\[
\text{SCORE}_{ij} = 0.25 \left( \frac{\text{ASSETS}_{ij}}{\text{INTBNKAST}_{ij}} + \frac{\text{CREDIT}_{ij}}{\text{INTBNKLIAB}_{ij}} + \frac{\text{PAYMENTS}_{ij}}{\text{CROSSAST}_{ij}} + \frac{\text{DEPOSITS}_{ij}}{\text{INTBNKLIAB}_{ij}} \right) + 0.25 \left( \frac{\text{PAYMENTS}_{ij}}{\text{CROSSAST}_{ij}} + \frac{\text{AFSHFT}_{ij}}{\text{CROSSLIAB}_{ij}} + \frac{\text{OTCDERIVATIVES}_{ij}}{\text{HHDEPOSITS}_{ij}} \right) x 100
\]

where,

\( n = \) total number of banks operating in Oman at the end of year \( j \) (\( j = 2012, 2011, 2010 \))

\( \text{ASSETS}_{ij} = \) Total Assets of bank \( i \) at the end of year \( j \)

\( \text{CREDIT}_{ij} = \) Total Credit of Bank \( i \) at the end of year \( j \)

\( \text{PAYMENTS}_{ij} = \) Total Payments made and received by bank \( i \) during year \( j \)

\( \text{DEPOSITS}_{ij} = \) Total Deposits of bank \( i \) at the end of year \( j \)

\( \text{OBS}_{ij} = \) Total Off-Balance-Sheet exposure of bank \( i \) for year \( j \)

\( \text{INTBNKAST}_{ij} = \) Interbank Assets of bank \( i \) at the end of year \( j \)

\( \text{INTBNKLIAB}_{ij} = \) interbank liabilities of bank \( i \) at the end of year \( j \)

\( \text{NBFIAST}_{ij} = \) Credit to / Investment in non-bank financial companies given by bank \( i \) outstanding at the end of year \( j \)

\( \text{NBFILIAB}_{ij} = \) deposits from / debt securities issued to non-bank financial companies liabilities obtained by bank \( i \) outstanding at the end of year \( j \)

Threshold levels

The BCBS does not prescribe definite threshold levels to differentiate between systemically important banks and non-systemic ones. A priori,
we define systemic importance by a total score \( \text{SCORE}_{ij} \) of 40 or above\(^1\).

### Table 3.B

<table>
<thead>
<tr>
<th>Systemic Risk Bucket</th>
<th>Score Range</th>
<th>Higher Loss Absorbency*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Bucket (EMPTY)</td>
<td>200.00 and above</td>
<td>5.5%</td>
</tr>
<tr>
<td>D</td>
<td>150.00 to 199.99</td>
<td>2.5%</td>
</tr>
<tr>
<td>C</td>
<td>120.00 to 159.99</td>
<td>2.0%</td>
</tr>
<tr>
<td>B</td>
<td>80.00 to 119.99</td>
<td>1.5%</td>
</tr>
<tr>
<td>A</td>
<td>40.00 to 79.99</td>
<td>1.0%</td>
</tr>
<tr>
<td>Non-systemic</td>
<td>39.99</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

*Additional Common Equity Tier 1 capital as per cent of Risk Weighted Assets as compared to non-SIBs

We believe that, the high importance of a bank in one category alone can pose a threat to the system as a whole, therefore, we also propose that an institution be classified as systemic if it scores 10 or above in any single category regardless of the total score, and be required to meet the (stringent) regulations for D-SIBs including requirement of holding any higher capital requirement.

### The Results

#### Table 3.C

<table>
<thead>
<tr>
<th>Total Score</th>
<th>Size Interconnectedness</th>
<th>Complexity</th>
<th>Domestic Sentiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank 1</td>
<td>188.90</td>
<td>40.31</td>
<td>36.66</td>
</tr>
<tr>
<td>Bank 2</td>
<td>79.77</td>
<td>10.63</td>
<td>7.09</td>
</tr>
<tr>
<td>Bank 3</td>
<td>81.08</td>
<td>11.87</td>
<td>10.10</td>
</tr>
<tr>
<td>Bank 4</td>
<td>87.03</td>
<td>7.70</td>
<td>16.27</td>
</tr>
<tr>
<td>Bank 5</td>
<td>41.71</td>
<td>9.79</td>
<td>11.48</td>
</tr>
</tbody>
</table>

**Enhanced Capital Requirements for D-SIBs**

A key aim of identification of D-SIBs is to increase their loss absorbency capacity, in view of their systemic importance. One way of achieving this is through setting higher capital requirements for D-SIBs\(^2\) to ensure higher loss absorbency (HLA). For this, we tend to favour a bucketing approach and propose equally sized buckets with additional Common Equity Tier-1 capital requirements of 1 per cent to 2.5 per cent of risk weighted assets for D-SIBs in increments of 0.5 per cent based on the relative systemic importance of banks\(^3\). Moreover, we also considered the idea of adding a ‘un-populated’ top bucket with additional capital requirements of 3.5 per cent. We are of the view that, there is merit in having a ‘top bucket’ as it would serve as a deterrent for banks in the highest populated bucket from becoming more systemic. Without this ‘top bucket’, the bank(s) in the highest populated systemic bucket do not have any incentive for not becoming more systemic. We also recommend that once the ‘top bucket’ is populated, another higher un-populated bucket be created to keep the incentives there for the bank(s) in the highest populated bucket. The proposed scheme of higher loss absorbency is presented below.

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as signals for an assurance system that an individual institution’s failure can occur without damaging the rest of the financial system.

3.1.26 The European Commission (Likinen proposals) has sought separation and prohibition rules. A ban on proprietary trading and restrictions on ownership of hedge funds along with a separation of trading activity into a legal entity separate from deposit taking entities have been proposed. In the US, in line with the Volcker rule, U.S.-headquartered or U.S.-resident banking entities have been prohibited from proprietary trading at all their U.S. affiliates. In addition, banks must not own more than 3 per cent in a hedge fund or private equity fund. In the UK, the Independent Commission on Banking (Viker proposals) have stipulated ‘ring-fencing’ of core activities (taking deposits, providing payments and overdrafts facilities to ordinary individuals and small and medium enterprises) of the Universal banks.

*Operationalisation of Well-conceived Resolution Plans - A Crying Need to Address this.*

3.1.27 Resolution regimes are meant to avoid destabilization and risks to taxpayers, to ensure that sufficient resources available with the ailing bank to absorb losses in resolution, and to develop resolution rules for financial sector players e.g. banks, insurers.

3.1.28 In the current debate, orderly liquidation by a designated authority, use of prudent bankruptcy laws, bail-ins and coerced sales have taken a prominent place as viable designs of resolution of banks whose failure could cause systemic problems. In the US, the Title II of the Dodd-Frank Act has proposed formation of an Orderly Liquidation Authority (OLA) to remain in charge of their take-over and resolution through ways of determination of how much creditors are paid and how the financial distress is resolved. Mandated bankruptcy laws, another popular strategy, however, leaves much of the decision making on when to commence the process, and either propose a sale of the firm’s assets or negotiate the terms of a reorganization with its creditors etc. to the parties themselves, subject to statutory rules and judicial oversight. Bail-in is another strategy for resolving the financial distress of a large financial institution conceived by the European lawmakers. Unlike OLA which is a full-blown, administrative resolution, is designed to serve as a mid-course correction to preserve a troubled financial institution. But the regulators will determine when to intervene, and would dictate which claims could be altered and which could not. During the height of the financial crisis in 2008, a different strategy was used to resolve the financial distress of several of the large financial institutions that threatened to collapse. Federal regulators brokered the sales of Bear Stearns to JP Morgan Chase, Washington Mutual to JP Morgan Chase, and Wachovia to Wells Fargo.

3.1.29 The Dodd-Frank Act mandates all Bank Holding Companies (BHCs) with total consolidated assets of $50 billion or more and all the designated nonbank financial companies to develop, maintain, and periodically submit resolution plans, also known as living wills, that would facilitate these entities’ resolution under the Bankruptcy Code. Additionally, the FDIC requires FDIC-insured depository institutions with assets of $50 billion or more to file plans for their orderly resolution under the Federal Deposit Insurance Act. FDIC’s single point of entry (SPE) resolution framework requires banks to have a sufficient amount of long-term debt that the FDIC can convert into equity to guarantee that the new bridge company is adequately capitalized. If the Federal Reserve and the FDIC jointly determine that a resolution plan is not credible or would not facilitate orderly resolution under the Bankruptcy Code, then the company must resubmit the plan with revisions, including, if necessary, proposed changes in business operations or corporate structure. If the company fails to resubmit a credible plan that would result in orderly resolution under the Bankruptcy Code, the Federal Reserve and the FDIC may jointly impose more stringent

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5 Passes the cost of meeting losses and of recapitalising a failing bank on to creditors by writing down the value of their claims or converting them into equity.
capital, leverage, or liquidity requirements; growth, activities, or operations restrictions; or, after two years and in consultation with the Financial Stability Oversight Council (FSOC), divestiture requirements.

3.1.30 The Bank Recovery and Resolution Directive in Europe, sets forth resolution instruments and the sequence of liability for failing banks. In future, shareholders and creditors will be first in line to bear the costs of bank failures – rightfully so, since they assumed the risks and benefited from the respective returns in the first place.

3.1.31 Bail-ins has been chosen as one important element in the resolution and restructuring of banks in Cyprus, Denmark and the Netherlands. Switzerland has already introduced bail-in powers through legislation, and in the UK the bail-in tool is being added to the Special Resolution Regime, which was originally introduced in 2009. In Europe, under the revised EU Temporary State Aid rules for banks, which took effect from 1st August 2013, shareholders and junior (subordinated) debt holders will be expected to meet losses and recapitalisation requirements before any public funds are injected to support a failing bank. The Bank Recovery and Resolution Directive (BRRD) is expected to enter into force on 1st January 2016, two years earlier than first proposed which would cover inter alia the preparation by banks of recovery plans, and the review of these plans by national supervisors; the provision of information by banks to national resolution authorities, to enable these authorities to construct resolution plans; establishing national resolution funds, to raise at least 1 per cent (around €75 billion across the EU) of covered deposits by 2025. Within the European banking union, it is proposed that the BRRD should be supplemented by a Single Resolution Mechanism (SRM).

3.1.32 The G-20 has urged for change in legislation as needed to meet the FSB’s Key Attributes guidelines by end-2015. In US, all G-SIFIs were required to draft an adequate and credible Recovery and Resolution Plan (“RRP”) by June 2012. All D-SIBs were to follow suit. In addition, effective from July 2012, all banking organizations with assets greater than $10 billion have been subjected to stress testing. More than 100 large financial institutions (carrying the perception of TBTF) were required to submit “living wills” to the Fed and the FDIC by the end of 2013. In case of such a bank going bankrupt causing widespread financial instability, the FDIC is responsible for implementing Title II of the Act, which calls for the orderly liquidation of the institution. The issue of how cross-border assets and liabilities would be handled in different jurisdictions – considering the knock-on effects on different countries of the failure of an international bank (which would be likely to increase the pressure on governments to bail it out) still remains unclear.

3.1.33 In Oman, a genuine need is felt for such frameworks being in place for the local banks. They should be able to fend for themselves in the event of failure, since the Government would not be in a fiscal space to afford the same. Considering the inter-connectedness of Government business and the banks’ fortunes, it is likely that fiscal problems at the government may create pressures for the banks and hence crisis management framework could be of paramount importance. CBO has initiated action on this and the possible mechanism is at an advanced stage of discussion.

Over-the-counter (‘OTC’) Derivatives Reforms – Encouraging Recourse to TRs/CCPs

3.1.34 OTC derivatives look simple on a standalone basis but tend to lend systemic risk by virtue of their sheer scale of global business activity which far exceeds global banking and economic activity and the interconnectedness of financial institutions arising as they get traded, volatile and hence become extremely opaque as regards their ultimate counterparty credit exposures. The opacity of the derivatives market is said to have exacerbated the financial crisis due to uncertainty over the size of banks’ exposure. Trading in derivatives as also back-office clearance and settlement of transactions add to their inherent potential to
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cause massive losses, to disrupt markets and to threaten financial stability.

3.1.35 To overcome this, current regulatory focus is on promoting greater use by market participants of organized exchanges, Trade Repositories (TRs) and/or Central Counterparties (CCPs) and a robust reporting system for transactions data sharing with particular attention to removing barriers to reporting counterparty data and facilitating regulators access to them for surveillance/third party guidance. For their members, CCPs act as a buyer to every seller and a seller to every buyer in the markets they serve. They tend to cancel bilateral exposures by netting all offsetting transactions on a multilateral basis and thus end up absorbing the counterparty-credit risk on to itself. Even though, CCPs apply collateral (margin) requirements, and hold a mutualised default fund in case their collateral fall short in the event of a member’s default, it is increasingly felt that they are likely to unwittingly turn themselves as TBTFs unless post-netting risks are redistributed back to their clearing members and hence become unresolvable without a taxpayer bailout. Further, considering the facts that part of vertically integrated exchange groups and clearing houses are getting increasingly exposed to profit-making incentives thus shedding their public utility characteristics, CCPs can and should act as system-risk monitors and managers in the markets they clear, with suitable risk management policies that address both feedback effects and procyclical dynamics.

3.1.36 However, CCPs themselves are becoming more systemically important requiring effective recovery and resolution regimes with the provision of potential loss-sharing among clearing participants. Further, their global nature having being exposed, being contributor to the crises, distress in one institution or location being prone to get easily transmitted to others, the need for cross-border coordination has arisen especially to avoid unnecessary duplicative, inconsistent or conflicting regulations as also to do away with regulatory arbitrage by certain jurisdictions.

At a global level, market participants’ use of TRs and CCPs is increasing, promoted by Committee on Payment and Settlements Systems (CPSS) and The International Organization of Securities Commissions (IOSCO) and with this the resilience of the financial system is likely to improve and the probability of a financial crisis reduced as indicated by the BIS sponsored macroeconomic impact assessment of OTC derivatives regulatory reforms, with participation from 29 FSB member institutions, published in August 2013.

3.1.37 Most FSB member jurisdictions have legislation in place to require reporting of OTC derivatives contracts to TRs and more than half of the jurisdictions have legislation in place that allows for adoption of clearing and trading obligations. The new rules in the U.S. require the banks (or branches) that are registered with the FDIC, or with access to the Fed discount window to segregate their derivatives business (worth about $700 trillion) into a separately capitalized legal entity. All the derivatives trades are required to be reported and routed through central counterparty clearing houses (known in the U.S. as Derivatives Clearing Organizations, or DCOs). Under the Dodd-Frank Act, any transaction sourced, executed, booked or settled in the U.S. (or through a U.S.-based financial institution) will be subject to these new requirements. Significant buyers and sellers in the U.S. derivatives markets, classified as a Major Swaps Participant (“MSP”) or a Swaps Dealer (“SD”), are required to be registered with regulators. Swaps deemed eligible by regulators will have to be cleared through a DCO and executed through a Designated Contract Market or a Swaps Execution Facility. Reporting of trades will be done to a Swaps Data Repository, with positions in certain securities subject to quantitative limits set by the Commodities Future Trading Commission (CFTC) and Securities and Exchange Commission (SEC), which will share jurisdiction over the market.

3.1.38 In Asia, mandatory trade reporting requirements have been introduced in a limited
way in Hong Kong and Singapore only under certain circumstances where instruments have been executed in their market but booked elsewhere. Mandatory clearing obligations are being legislated to be introduced in 2014 in Australia, Hong Kong, Korea and Singapore. Mandatory trading on electronic platforms is still being discussed except in Japan where a firm date has been set to introduce them.

**Strengthening and Converging Accounting Standards – Progress is Steady albeit Slow**

3.1.39 It is not an entirely new insight that differences lie in accounting standards across countries. A prominent example is the treatment of derivatives and how this affects balance sheet ratios which are subject to regulation.

3.1.40 Difference in information disclosure methods, in particular and accounting standards in general across hamper the international comparability of balance sheet data. This in turn can potentially impede financial regulation, distort regulatory level playing field and encourage regulatory arbitrage across jurisdictions. For example, derivatives netting rules are far more lenient in USA (US GAAP) than in Europe’s IFRS accounting rules allowing for vast divergence in derivatives between these two jurisdictions. Similarly, regulatory balance sheet ratios which relate to total assets differ between US and European banks. The leverage ratios of US banks, for instance, generally appear much lower than those of European banks thus making it easier for banks in the US to comply with the regulatory stipulations on leverage ratio than for their European peers.

3.1.41 The BCBS is encouraging the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) in favour of global convergence of accounting standards, especially the areas relating to calculation of capital, as it depends on reported asset values which are subject to interpretation. A few issues, as follows are under intense debate.

3.1.42 The role of mark-to-market accounting and the measurement of fair value, whether “fair value” can be determined from market (or model) prices when markets are disrupted in exacerbating negative effect of global financial crisis is well-known as the use of market values for assets for which holders may have superior private information about fundamental value if held to maturity, may have prompted fire sales inducing solvency problems. Another issue arose from the case study of Lehman Brothers which was treating a repurchase agreement as a sale and forward contract to purchase instead of treating it as a financing transaction (as under International Financial Reporting Standards (IFRS)) as a way of reducing the firm’s apparent leverage and creating a misleading balance sheet. Availability of such scope for tinkering with accounting methods to deal with complex financial transactions, which could lead to “derecognition” in the accounts such as repurchase agreements and securitizations (in which residual risks remain was a huge issue then. A third issue relates inability of accounting methods to deal with complex financial transactions, especially with regard to netting or offsetting of financial instruments such as derivative contracts in financial accounts and other financial assets and liabilities, with different approaches giving rise to different measures when measuring the balance sheets of large financial institutions. The fourth issue relates to impairment of financial assets – whether provisioning for potential losses on loans as under IAS 39, was required to be done on an “incurred loss” basis (as against forward-looking “expected loss” basis) which meant that following a period of relatively benign economic conditions, provisions were relatively low.

3.1.43 Under the new proposal (2013), cash flow characteristics of the assets and business model of the entity for managing the asset will determine whether the asset is a loan or a security. On this basis, financial assets will be categorized either as Amortized Cost (for those financial assets which comprised solely payments of principal and interest that are held for the collection of contractual cash flows) or as Fair Value through Other Comprehensive
Income (for those comprised solely payments of principal and interest that are both held for the collection of contractual cash flows and for sale) or as Fair Value through Net Income (for financial assets that do not qualify for measurement at either amortized cost or fair value through other comprehensive income). The current proposal also would require financial liabilities to generally be carried at cost. For most financial assets and financial liabilities measured at amortized cost, (only) public companies would be required to disclose their fair values.

To date, most FSB member jurisdictions have either adopted the IFRS developed by the IASB’ or are in the process of converging with or adopting IFRS. Progress has been made towards converging the standards of the IASB and the US FASB, including a joint expected loss impairment approach.

Building a Common Legal Entity Identifier (‘LEI’) - To Simplify and Hasten Global Financial Transactions Process

3.1.44 There is a move to establish a global Legal Entity Identifier (LEI), a code that uniquely identifies parties to financial transactions and links to their basic “business card” information. This will enable risk managers and regulators to identify parties to financial transactions and their legal entity hierarchies instantly and precisely and hence help better management of counterparty risk. On a global plane, regulators can gauge the position of interconnectedness better. While this will save costs on collection, cleaning, and data aggregation on the side of market players, such a system should reduce the regulatory reporting burden; facilitate cross-border exchange of standardized, aggregate supervisory data among supervisors, regulators, and financial stability authorities thus improving the rigors comprehensive oversight of financial institutions and markets with a global reach. All these can be done within the realms of a robust safeguards and confidentiality regime.

3.1.45 The OFR⁶ is playing a central role in the FSB-propelled international initiative to establish a global Legal Entity Identifier (LEI) system with three tiers: a Regulatory Oversight Committee (‘ROC’), a Central Operating Unit (‘COU’) and federated Local Operating Units (‘LOUs’). The ROC composed of financial regulators and authorities from around the world, has since been established and has assumed responsibility for governing, is overseeing establishment of a global LEI foundation that will govern the Central Operating Unit (COU) for the system. With authority over a global federation of Local Operating Units (LOUs) that will issue and maintain the LEIs, the COU will ensure adherence with LEI governing principles, protocols, and standards, including reliability, quality, and uniqueness, to produce “one golden standard” for the LEI. To date, several organizations have been issued prefixes to the 20-digit LEI code to enable them to begin preparations to issue LEIs. Indeed, tens of thousands of standard-compliant “pre-LEIs” are already in use, and will converge to be global LEIs.

Oman is an Observer in this global process.

Reducing Reliance on Credit Ratings and Improving Oversight of Credit Rating Agencies (CRAs) – Mechanisms under Active Consideration

3.1.46 It was revealed in the financial crisis of 2007-2009 that the CRAs assigned unrealistically high ratings to mortgage-backed securities, in particular to the upper tranches of collateralized debt obligations and the major firms and investors on the other hand blindly relied on them as their arbiters of risk thus contributing to the intensity of the crises in a big way. Their very business model was carrying an inherent weak link in terms of the powerful conflict of interest they run with their clients. Financial entities pay the CRAs to rate them, issuers of securities pay them for

⁶ The Dodd-Frank Wall Street Reform and Consumer Protection Act established the Office of Financial Research (OFR) within the Treasury Department to improve the quality of financial data available to policymakers and to facilitate more robust and sophisticated analysis of the financial system. Building on its progress to date, the OFR is ramping up its services to the Financial Stability Oversight Council, its members, and staff.
their securities to be awarded rating. Given the financial consideration, CRAs remain under a moral obligation to desist themselves from giving poor ratings to their clients or even do so in the fear of losing the business for the possibility that the entity or issuer is highly unlikely to use them next time. On the other hand, a sincere rating exercise is prone to sudden changes in ratings either upgradations or downgradations. Sudden downgradation in rating following upgradation, could increase procyclicality and contribute to cliff effects.

3.1.47 The proposal to introduce a system of regulation over Raters drew lot of attention as it was tricky in the sense that they are supposed to give an independent third party opinion on the quality of functioning of financial entities and ideas to regulate their activities was found beset with challenges. However, Europe has gone ahead having bestowed European Securities and Markets Authority (‘ESMA’) the exclusive supervisory jurisdiction over CRAs registered in the EU. ESMA has already evolved regulatory technical standards for CRAs especially defining conditions for registration of CRAs, ‘conduct of business’ requirements, and of course, supervision. In line with G20 commitments, reduction of overreliance on ratings has been identified as the overriding philosophy in the recent amendments in their CRA regulation. Unsolicited ratings of EU sovereign debt have been restricted to three per year to avoid market disruptions. A central European Rating Platform has been identified on which all ratings are required to be published. Most importantly, accountability clauses have been introduced with the new rules seeking to enforce liability clauses on CRAs for their actions leading to either breaching regulations or causing damage to investors. Certain disclosure-enhancing rules have been defined. CRAs are required to disclose the identity of shareholders who hold 5 per cent or more of the capital or voting rights in the shareholding of both the CRA and the rated entity. CRAs are prevented from issuing a rating if this limit touches 10 per cent or more. Issuers of structured finance products with underlying re-securitised assets who pay a CRA for their ratings must switch to a different rating agency every four years. Issuers are also required to engage two different CRAs to rate structured finance instruments.

3.1.48 The Dodd-Frank Financial Reform Act in the US has gone to the extent of singling them out as requiring further regulation and oversight. Additional oversight over them has been mandated by creating an Office of Credit Ratings within SEC, which is to provide oversight and enhanced regulation of the credit rating agencies registered with SEC as Nationally Recognized Statistical Rating Organizations. Alternative means for compensating credit rating agencies have been evolved by way of establishing an independent panel which would identify the CRA best equipped to provide the rating to the structured products (not of companies or sovereigns).

Financial Transaction Tax (FTT) / Bank Levies – An Idea in Evolving Stage

3.1.49 Creating buffers out of levies imposed on financial sector during boom times to pay for possible losses during difficult times so as to relieve the tax paying citizens of this unavoidable burden is not a new proposal in the wake of the crises. Its discussion dates back to 1936 when John Maynard Keynes first made in his book ‘The General Theory of Employment, Interest and Money’. The idea was furthered by James Tobin in 1978 in the context of foreign exchange transactions in his Paper ‘A Proposal for International Monetary Reform’. That was the proposal of the famous Tobin’s Tax. Post-crises, in response to the recommendations of the IMF; France, Germany, and the U.K. have imposed levies in early 2011 on the assets of their financial institutions. This way, they plan (i) to recoup some of the costs of bailing out their crises-ridden financial sectors; (ii) to accumulate funds so that future bailouts are funded by banks rather than taxpayers; (iii) to shrink the size of financial sectors that have grown too

7 ‘Expecting taxpayers to support the [financial] sector during bad times while allowing owners, managers and/or creditors of financial institutions to enjoy the gains of good times misallocates resources and undermines long-term growth.’ - IMF
large in part due to being under-taxed; and (iv) to discourage risky behaviour in banks. Such a FTT, as they are called there, is a small levy of perhaps between 0.01 per cent and 0.1 per cent on all wholesale capital market secondary transactions and is expected to dissuade purely speculative, short-term transactions which flow in to the economy in search of quick gains out of inter-country ‘price differentials’.

3.1.50 A regime of FTT of 0.1 per cent on shares and bonds, and 0.01 per cent on the derivatives of shares and bonds will be implemented in EU by early 2018. The tax base applying to derivatives is the nominal value of the underlying assets. The proposed tax will be levied according to the fiscal residence of the seller of an asset. South Korea is planning to impose a ‘Spahn Tax’ on foreign currency transactions to limit speculative inflows of foreign capital at very low rates in normal times but rises to high rates at times of extreme fluctuations in the value of the currency.

System to Deal with Sovereign Bankruptcy – An Emerging Thought Catching Global Attention

3.1.51 The financial crises reflected interconnectedness among various sectors inside the financial sector. But the aftermath bared open the link between banks’ balance sheets and public finances. Financial stability being a public good, in cases of insolvency of banks, given the absence and/or deficiencies in self-driven resolution regimes at their end, governments are left with no option but to step in and bail out banks to prevent the financial system from collapsing. This manifested in sovereign bankruptcy in many European economies, namely, Iceland, Ireland, Greece, and Cyprus. The linkage could be seen in the opposite manner as in the case of Greece where difficulties in government finances tended to cause substantial problems for banks, in particular because many banks were holding large portfolios of government bonds. ‘Debt trap’ forces these mechanics to develop. The policy responses are typically long, protracted rescheduling negotiations.

3.1.52 A 10 percentage point increase in the initial debt-to-GDP ratio is associated with a slowdown in annual real per capita GDP growth of 0.15 percentage points per year (Kumar and Woo (2010)). Cecchetti et al (2011) find similar results and identified a threshold of 96 per cent of GDP, beyond which public debt becomes a drag on growth. The threshold of debt-GDP ratio of above 90 per cent was shown by Reinhart and Rogoff-2010. Focusing on the Euro Area alone, Baum, Checherita and Rother (2013) also find that debt has a non-linear effect on growth, leading to lower growth when it exceeds 95 per cent.

3.1.53 Though the call for a sovereign bankruptcy regime was made by Adam Smith over 200 years ago, calls for them were raised in the aftermath of past crises; Latin American debt crisis of the 1980s, Mexican crisis of 1995, Russia’s 1998 default. The International Monetary Fund had formulated a proposal for a Sovereign Debt Restructuring Mechanism (SDRM) in 2001, which was rejected by its shareholders in April 2003. In the wake of the current crises, calls for some form of international sovereign bankruptcy regime have returned with Greece executing the largest debt restructuring in history in February 2012. A number of other countries have recently launched restructurings, including Belize, Jamaica, St. Kitts and Nevis, and Grenada. There is also ongoing litigation between Argentina and its creditors, which

8 In January 2013, the EU voted to allow 11 countries (Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Slovakia, Slovenia and Spain) to implement this much sooner in early 2014.
9 According to Standard & Poor’s sovereign ratings list 2012, 55 countries had their bonds considered as “junk bonds,” i.e., bonds that have a high default risk.
14 “When it becomes necessary for a state to declare itself bankrupt, in the same manner as when it becomes necessary for an individual to do so, a fair, open, and avowed bankruptcy is always the measure which is both least dishonourable to the debtor, and least hurtful to the creditor”.

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could have major implications for how future sovereign debt restructurings are done.

3.1.54 The sovereign-banking nexus which is no less than a vicious cycle could be managed by way of robust regulatory capital requirement regime for banks (that no more treats sovereign exposures as risk free) and having a credible resolution framework in place with clear bail-in rules of shareholders and creditors which would help to shield the government from having to rescue banks with taxpayers’ money. Large and undiversified sovereign exposure is what makes sovereign default a potentially systemic event for banks. Hence, the large exposure regime which caps the investment in one single debtor has to be applied to sovereigns as well.

**Mechanism of Assessing Risk Architecture and Culture in the Banks – Cannot be Delayed any Longer**

3.1.55 Systems of risk architecture; measuring and managing of risks embedded in the business were popular for quite some time but assessment of risk culture has been added to the menu of regulatory agenda post the financial crises. While the management of the banks are responsible for putting in place a strong risk culture, the supervisors should take on the job of helping them doing so. The whole process should be a product of joint involvement of the board, the leadership team and the business units and of course the supervisor, who needs to incorporate assessments of risk culture into ongoing supervisory work.

3.1.56 FSB’s emphasis on this area is yielding results. Culture is becoming a part of supervisory review conversation with the board and with senior management on their process for defining risk culture, communicating it throughout the organization and testing behaviors so as to get a reaffirmation that the prevailing risk-taking behavior is acceptable at all levels. The FSB points to four indicators of a sound risk culture — tone from the top, accountability, effective challenge and incentives.

3.1.57 Specialized supervisory teams focusing on governance and culture are being built up. Clinical specialists are also hired to assist in cultural assessments. (Box – 3.3)

**Towards a Robust Macro-Financial Surveillance Mechanism – Oman Joins the Group of Countries having Dedicated Financial Stability Authority**

3.1.58 In order to maintain financial stability, the CBO derives legal strength from the Banking Law 2000 which sets its objective “to ensure maintenance of financial stability”. Considerable systemic advantage is derived from its roles as the monetary authority, lender of the last resort, regulator of the banking and non-banking system and of key financial markets – money market, foreign exchange market, Government securities market and credit market. The Capital Market Authority (CMA) regulates the capital market, the insurance and mutual funds sectors.

3.1.59 An elaborate micro-prudential regulatory and supervisory framework is in operation. In the backdrop of global developments, CBO has taken a policy decision to progressively migrate to an improved supervisory regime. Based on newly-framed manuals, switch-over to Risk Based Supervision (RBS) in the on-site examination framework stands completed. The frequency of on-site examinations is based on the risk-profile of each bank and non-bank financial institution compiled by the Banking Off-site Surveillance (BOSS) function Central Point of Contact (CPOC) system. Risk-profiling is dynamically updated based on changing scenario of risk-intensity and is used as a basis for determining required scale of supervisory response, namely, full scale/limited-scale on-site examination, enhanced monitoring, placing certain restrictions on the activities of supervised entities under Prompt Corrective Action framework etc. Rating methodology has been improved with inclusion of two additional components viz. Money Laundering/Terrorist Financing Risk Management and Shari’a Compliance and Related Arrangements.
Chapter III

Box – 3.3

Principles for an Effective Risk Appetite Framework¹

Consultative Document, FSB, 17 July 2013

An effective risk appetite framework (RAF) should be firm-specific. It should reflect the firm’s business model and organisation that are actionable and measurable by both the firm and its supervisors. It should encourage a strong risk culture the assessment of which should capture emerging risks that will have material impact on a firm, and any risk-taking activities beyond the firm’s risk appetite. Such risks are required to be recognised, escalated, and addressed in a timely manner.

Principles

1. Risk appetite framework

An effective RAF should:

a) Be simple to understand and well communicated within the firm and to some extent, to external stakeholders.
b) Be driven by both top down board leadership and bottom up involvement of management at all levels.
c) Reflect the firm’s embedded risk in business and culture and act as a brake against excessive risk-taking.
e) Be subject to critical comment/debate by the board, risk management and internal audit functions.
f) Be dynamic, adaptable to changing business and market conditions.

2. Risk appetite statement

A risk appetite statement should:

a) Reflect short- and long-term strategic, capital and financial plans, as well as compensation programs.
b) Quantify maximum level of acceptable risk in line with strategic objectives, business plan, stakeholders’ interests and capital/ regulatory requirements.
c) Evaluate non-quantifiable risks on qualitative measures and set up suitable indicators to monitor.
d) Ensure that the strategy and risk limits of each business line and legal entity align with the firm-wide risk appetite statement as appropriate.
g) Be forward looking and subject to scenario and stress testing to smell and monitor dynamically risk appetite and/or risk capacity.

3. Risk limits

Risk limits should:

a) Reflect realization of material risk in a manner that breaching of such limits are considered risky themselves.
b) Be established for business lines and legal entities, generally expressed relative to earnings, capital, liquidity or other relevant measures (e.g. growth, volatility).
c) Consider material risk concentrations at the firm-wide, business line and legal entity levels (e.g. counterparty, industry, country/region, collateral type, product etc.).
d) Not be strictly based on comparison to peers, default to regulatory limits, be overly complicated, ambiguous, or subjective.
e) Be monitored regularly.

4. Roles and responsibilities

4.1 The board of directors should:

a) Approve the firm’s RAF, developed in collaboration with the CEO, CRO and CFO after due consideration and consultation with defined system of ‘authorisations’ of limits-breaching and accountability for lapses.
b) Appraise risk appetite in the strategic discussions including decisions regarding mergers, acquisitions, and growth in business lines or products.
c) Regularly review and monitor actual versus approved risk limits and determine actions to be taken, if any, regarding “breaches” in risk limits;
d) Allocate adequate and dedicated resources and expertise to risk management, internal audit and robust IT and MIS.

¹ Selectively abridged/edited version
4.2 The chief executive officer should

a) Establish a prudent risk appetite for the firm (in collaboration with the CRO and CFO) and be accountable for the same.

b) Ensure that risk appetite is appropriately translated into risk limits for business lines and legal entities and are implemented/monitored by senior management.

c) Act in a timely manner to ensure effective management, and where necessary mitigation, of material risk exposures, in particular those that are close to or exceed the approved risk appetite statement and/or risk limits.

d) Establish a policy for notifying the supervisor of serious breaches of risk limits and unexpected material risk exposures.

4.3 The chief risk officer should:

a) Develop a prudent risk appetite for the firm, actively monitor the firm’s risk profile relative to its risk appetite and establish a suitable process for reporting.

b) Ensure the integrity of risk measurement techniques and MIS that are used to monitor the firm’s risk profile relative to its risk appetite.

c) Establish and approve, in collaboration with the CEO and CFO, appropriate risk limits for business lines and legal entities that are prudent and consistent with the firm’s risk appetite statement.

d) Independently monitor business line and legal entity risk limits and the firm’s aggregate risk profile to ensure they remain consistent with the firm’s risk appetite.

4.4 Internal audit (or other independent assessor) should:

a) Identify whether breaches in risk limits are being appropriately identified, escalated and reported, and report on the implementation of the RAF to the board and senior management as appropriate.

b) Independently assess at least annually the design and effectiveness of the RAF and its alignment with supervisory expectations.

c) Assess the effectiveness of the implementation of the RAF, including linkage to strategic and business planning, compensation, and decision-making processes.

d) Validate the design and effectiveness of risk measurement techniques and MIS used to monitor the firm’s risk profile in relation to its risk appetite.

e) Report any deficiencies in the RAF and on alignment (or otherwise) of risk appetite and risk profile with risk culture to the board and senior management in a timely manner.

3.1.60 CBO has been using several macroprudential instruments over many years. General provisions of 1 per cent for non-personal non-contaminated loans and 2 per cent of personal non-contaminated loans of the total loans portfolio are kept by the banks to increase banks’ resilience against the possibility of losses that have not yet been identified. Banks also keep 5 per cent of their deposits with the central banks and are required to keep their liquidity mismatches within 15 per cent of cumulative liabilities in both RO and US $ for one year.

3.1.61 Personal lending carries the highest share of total lending and accordingly is kept under regulatory watch. In Oman, there is a maximum debt burden ratio of 50 per cent of net income for personal loans (60 per cent including housing loan). At borrower level, the debt ratio dictates the ceiling on personal loans; while at bank level, a ceiling of 35 per cent of total credit on personal loans caps the total amount that can be lent by banks. The use of loan-to-value (LTV) ratios is not uncommon. There is margin requirement of 20 per cent for vehicle and housing loans which translates into an explicit LTV ratio of 80 per cent or less.

3.1.62 Loan-to-deposit ratios (net credit to deposits base), ceilings on credits for banks have been fixed at 87.5 per cent. In order to avoid concentration risks, there are several limits: single obligor exposure limit (15 per cent of the bank’s global net worth (for both local and foreign banks), Aggregate of credit exposure to all related parties (35 per cent of total capital of the bank), Aggregate substantial exposure to all connected and all related parties (600 per cent of the total capital of the bank) etc. Also, limits on Housing Loans (15
per cent of total credit), Credit card (2 times salary for Classic Card-3 times salary for Gold Card-5 times salary for multiple cards) as also minimum target for credit allocation to SME sector (5 per cent) are in place.

3.1.63 In order to limit the contagion risks while allowing banks to tap gainful cross-border business opportunities, CBO has strengthened its regulations on overseas lending and placements. According to the new regulations, the aggregate lending to non-residents (including banks) may not exceed 30 per cent of the lending banks’ local net worth with per party limits of 5 per cent and 2.5 per cent for bank and non-bank borrowers and their related parties. Moreover, banks placements non-related counterparties abroad have been capped at 60 per cent of their local net worth (there was already similar cap on placements with related parties), with per party limit of 20 per cent. In addition to these sub-limits, banks’ aggregate overseas funded exposures have been capped at 120 per cent of their local networth. Foreign Exchange open position limit is stipulated at 40 per cent of tier 1 capital for local banks and local tier 1 capital for foreign banks. These proactive measures were aimed also at constraining leverage which has acquired importance in post-crisis regulation.

3.1.64 Financial Stability Unit (FSU) looks after the objective to promote financial stability and macro-financial surveillance in Oman by monitoring and analyzing systemic risks and issuing relevant reports on financial stability. It is supposedly responsible for a macro-view on the financial-economic system and is meant to supplement to the extent micro-assessment undertaken by the regulation/supervision/monetary policy making functions. FSU is accordingly working on a suitable Crisis Management Mechanism (CMM) which would include an Early Warning System and a Crisis Resolution Framework. Similarly, policy formulation is at an advanced stage towards getting banks (especially local D-SIBs) to adopt similar strategies as also Bottoms-Up Stress Testing at their end.

3.1.65 FSU uses various vulnerabilities assessment tools to operationalize implementation of this objective. These are: Quarterly Stress Test Reports and Quarterly Systemic Risk Dash Boards (for internal use) and Annual Financial Stability Report (for publication). These reports make use of feedback received from meetings of the Internal Tier I Committee on Financial Stability (membership drawn from relevant departments of CBO) and meetings with external stakeholders on Vulnerabilities Assessment. Systemic Risk Survey (SRS) (Box – 3.4) are also conducted bi-annually to take into account what external stakeholders perceive about the macro-financial position. The views so organized are assessed and informed to the Top Management and are included in the Financial Stability Report (FSR).

3.1.66 Oman has joined the group of countries having a dedicated Higher Committee on Financial Stability (HCFC) to act as the apex body to monitor and manage systemic risk in the economy. The formation of HCFC has been notified in the Official Gazette of the country thus lending it the required legal backing to operate. This is chaired by the Executive President of CBO with Executive President of CMA and senior representatives from the Ministries of Finance and Commerce & Industries as its members. FSU is the coordinator/member-secretary of HCFC.

3.1.67 Credit reporting system, explicit deposit guarantee scheme and emergency liquidity adjustment framework – the sine qua non of an efficient systemic risk management edifice are in operation.

Select References

Box 3.4
Systemic Risk Survey - Results

‘Oil price movements’ the Most Perceived Potential Distress point – Cyber-Crime led to a hike in Operational Risk in H1-2013.

Oil prices continued to be the major potential distress point in the second half of 2013 with 20 per cent of respondents perceiving “unfavorable oil prices movement” as a risk with the greatest impact on the Omani macro financial system, if it materializes (Graph 3.C). This is in accordance with the reality that like any other hydrocarbon nation, Oman’s macrofinancial position depends heavily on oil prices fluctuations. The “deterioration in the global economic outlook” (12 per cent) in H2-2013 survey overtook the crystallization of operation risks, which was second place in H1-2013. The response during H1-2013 in favor of the hike in operational risks was reflective of the cyber-crime committed at a major bank.

More felt ‘Very Confident’ on Stability of the System - Overall Confidence Level, However Fell.

The opinion in favor of ‘Completely Confident’ and ‘Fairly Confident’ had decreased and the same for ‘Very Confident’ had increased. This had contributed to a fall in the overall level of confidence. This may be due to the general perception created out of the opinion of IMF/IEA/Media on possible pressures on oil prices, potentials for deficits in Government’s fiscal position, geo-political uncertainties’, proposals to reduce subsidies to manage possible problems for funds to meet developmental expenditures etc. Respondents in favour of ‘Very Confident’ however increased with no one going in for ‘Not Confident’ (Graph 3.D).

Perception of Market Players Remained Unchanged – Level of Confidence Falling a Bit

When asked if this confidence in the stability of Oman’s macro financial system has changed over the past six months, 79 per cent responded with “Unchanged,” in comparison to only 67 per cent in the first half of the year. “Decrease” in confidence remained the same at 3 per cent and with “Increased” confidence in the past six month decreasing from 30 per cent to 17 per cent (Graph 3.E).

Likelihood of a High Impact Event Occurring is “Very low” or “Low”- Possibility in the Medium Term Not Ruled Out.

The probability of a high impact event occurring in Oman’s macro-financial system in the period ahead remained fairly the same in the short-term (1-12 months) in comparison to H1-2013. The majority of the respondents (97 per cent) believed the likelihood of a high impact event occurring was “very low” or “low” (Graph 3.F). From a systemic view point this is a good indicator of the stakeholders’ perception in the future stability of the system especially that not even...
one participant believed that the chance of it occurring was “High” or “Very High”. However, compared to the previous half of the year, a little less than a half of the respondent (43 per cent) believed that there is a “Medium” probability of a high impact event occurring in the medium term.

More concerning is the fact that 4 per cent of the respondents even believed that there is a “High” probability of a high impact event occurring in the medium term (Graph 3.G). Though Oman has managed to withstand the recent financial crises and also looks forward to continuing its expansionary fiscal policy indicating continuous growth and robustness in 2014, the perception of a high impact event occurring in the medium term maybe attributed to the geopolitical uncertainties in the Middle East.

Operational Risks Viewed as the Most Unmanageable – Infrastructure Distruption followed.

Of the respondents working in financial entities, 21 per cent continued to view “operational risks” as the most difficult risk to handle by their organizations. This was followed by infrastructure disruption (18 per cent), which replaced “funding difficulties at banks” from the first half of the year. The deterioration in the global economic outlook (13 per cent) took the third rank in the list of unmanageable risks by organizations in Oman.

The survey further pointed out that the stakeholders’ perception of difficult risks to handle continued to be “Unchanged” both in the short-term (83 per cent) and medium-term (69 per cent) (Graph 3.H & I).


11. Various publications of Financial Stability Board, KPMG-Financial Services

3.2 FINANCIAL INFRASTRUCTURE

CREDIT REPORTING FRAMEWORK

3.2.1 Laws permit operation of both public credit registry and private credit bureau to operate in Oman. Under public category, Bank Credit and Statistical Bureau (BCBS) have been formed in 2012 in the CBO. BCBS collects information and share credit information only with licensed institutions who observe strict secrecy of information supplied by BCBS. Licensed institutions are authorized to issue copies of credit reports to borrowers and guarantors. Consumer protection is covered by the new regulation. BCBS system ensures reliability and quality of credit reports through validation rules and counter-verification of data exchange in the repository. The system has a direct live link with Ministry of Commerce and Industry (MoCI) database for company registration details verification. Member institutions have the facility to submit the credit facilities of all corporate entities. There is the provision of multiple modes of access to the information on the credit exposures to an individual or an entity. This way, credit history of corporates and individuals, funded and non-funded, updated on daily basis, are made part of the repository. A quarterly bulletin on corporate exposures is shared among member institutions (lenders) and the same on individuals is proposed to be in place.

3.2.2 In regard to the latter, CMA licenses and regulates them. They are authorized to collect the information from credit facility providers including banks and financial institutions licensed by CBO. A private credit bureau, NBCI was in existence for some time and has since stopped operations.

THE PAYMENT AND SETTLEMENT SYSTEMS

3.2.3 As Oman rapidly moves towards a cashless society, the Payment and Settlement Systems take a pivotal role in the financial infrastructure. It is a necessary platform to smoothen transactions and limit credit, liquidity, and operation risks between the intermediaries; nevertheless, it has its own risks. As a result constant observation is necessitated from a macro-prudential view point to examine continuously the trends, concentration level, and volatility of the payment and settlement system.

3.2.4 In 2013, the Payment and Settlement Systems Infrastructure has made significant progress towards important reforms and changes.
Chapter III

3.2.5 The national Payment Systems Law (NPSL), which has been drafted to address all the identified gaps in the existing legal environment, has been finalized and now is in the process of being legalized. The Law will provide a comprehensive legal framework to address all the aspects related to the sector in a holistic manner, removing any scope for conflicting interpretations and vesting clear powers to the CBO to oversee, regulate and supervise all matters relating to the NPS in Oman.

3.2.6 The Real Time Gross Settlement (RTGS) System, which is a back-bone of all the other Payment & Settlement Systems in Oman has a very robust infrastructure with a fully equipped Disaster Recovery site capable of handling full operational load in case of any eventuality.

3.2.7 Furthermore, the recommendation to constitute a Standing Committee to oversee the overall operations and policies of the RTGS System is under consideration and an appropriate policy decision will be taken to take care of this along with other required governance procedures. An initiative has been taken at GCC level to establish RTGS linkage across all GCC countries.

3.2.8 To enhance security on the Payment Cards usage, which will in-turn give boost to increased usage of these cards for making payments, the project of Europay, Master Card and Visa (EMV) Compliance of the Payment Cards Infrastructure in Oman, including the OmanNet Switch, has been initiated and the first stage has been successfully completed. The EMV programme will require all banks to issue chip-based payment cards (as against the existing mag-stripe), and to deploy & support EMV compliant ATM and POS terminals. This will bring the Payment Cards infrastructure in Oman at par with the international standards.

3.2.9 On the other hand, the usage of electronic payments within the country has been steadily increasing over the last couple of quarters. After having extensive discussions with the concerned stakeholders, several initiatives have been identified which will be taken up as Projects during the year 2014. These include implementation of the domestic e-payment Gateway, which is expected to give impetus to e-commerce, m-commerce; starting the Direct Debit clearing service on the existing ACH platform with dedicated Mandate Management System. This service is expected to shift a large number of cheques based transactions to electronic transactions. An additional service of inter-bank Account to Account transfer service will also be added on to the existing OmanNet Payment System.

3.2.10 Aggregate funds transfers continued to witness a significant increase both in terms of volumes and values during 2013. In terms of volumes, total number of transfers increased by 19.85 per cent to reach 78.70 million from 65.66 million, while values witnessed a 13.13 per cent increase to RO 173.59 billion from RO 153.44 billion in 2012 (Graph 3.1). This increasing yearly trend reflected Oman’s ongoing economic growth and the increasing reliability and efficiency of the payment system.

3.2.11 During 2013, transaction values showed an initial sharp increase in the second quarter reaching RO 45.41 billion, a 12.97 per cent increase from RO 40.20 billion in the first quarter. This was followed by a 4.28 per cent decrease in the third quarter and then an increase of 2.51 per cent in the fourth quarter (Graph 3.2). Volumes, on the other hand, peaked at 20.18 million in the fourth quarter and reached the lowest point at 19.31 million in the third quarter.

3.2.12 RTGS-based transactions in 2013 dominated the system in terms of value with a daily average of RO 459.70 million. Year-on-Year basis, RTGS volumes witnessed an 18 per cent increase, while RTGS values increased by 11 per cent from 2012. This could be due to the fact that the RTGS system formed the backbone of the payment and
settlement infrastructures with ECC, ACH, and OmanNet Switch all settled through it. The system has been upgraded to bring it up to date with the current technical infrastructure components’ standard.

3.2.13 Retail volumes and values showed an even more remarkable change in 2013 increasing by 19.86 per cent and 21.75 per cent respectively. Retail transactions in 2013 reached 78.272 million involving RO 31.08 billion, with a daily average value\(^{15}\) of RO 49.64 million and an average daily volume of 68,229.14 in 2013 (Graph 3.3).

3.2.14 Within the different modes of operations by CBO, Electronic Cheques Clearing transactions led the group in terms of values reaching RO 15.12 billion, followed by Automated Clearing House (1.77 billion), and then OmanNet\(^{16}\) transactions (1.27 billion). OmanNet as expected, led the group in terms of volume of transactions at 18.71 million, followed by ECC (3.58 million) and ACH (2.62 million) (Graph 3.4).

3.2.15 Transactions in OmanNet volume increased from 14.46 million to 18.71 million (29.438 per cent increase), while values increased from RO 931.45 million to RO 1.27 billion. This is a 36.19 per cent increase indicating the usage of ATM and accessibility of OmanNet all over the county. This indicates that cash is most preferred payment method in Omani society. Latest available data indicated that the total number of ATM terminals connected to OmanNet reached 1,117 as of 2013. ATM transactions including both OmanNet Switch transactions and intra-bank ATM transactions showed an increase from 58.14 million to 69.98 million (20.36 per cent increase). ATM values also increased from 5.75 billion to 8.22 billion (43.07 per cent) in 2013 (Graph 3.5).

3.2.16 The total number of transactions through the Point Of Sale terminals, routed through OmanNet Switch, also increased from 7,840 in 2012 to 37,468 in 2013. This is a

\(^{15}\) This number excludes the in-house transactions of the banking system.

\(^{16}\) OmanNet is a switch operated by CBO which includes ATM and POS transactions routed via the bank.
377.91 per cent increase in one year indicating the increasing connectivity of POS terminals to OmanNet Switch. Total number of POS terminals as of date is 11,398 of which 320 are connected to OmanNet.

3.2.17 The increasing volumes and values of both RTGS and Retail transactions in the system in addition to the growing network of OmanNet’s and POS, indicated the continuing transformation of Oman into a more cashless society where electronic transactions are becoming the preferred choice for individuals.

Cheques-based Transactions Continued to Mount – Clearing Time Reduced Further

3.2.18 Number of cheques cleared by the system continued with its growth trend from 3.21 million in 2012 to 3.58 million in 2013. This was an 11.46 per cent growth rate showing an increasing dependence on this mode of transaction. In value terms, the rise was from RO 13.287 billion to RO 15.115 billion in 2013 registering a drastic 13.8 per cent increase from 2012.

3.2.19 Regular cheques accounted for 99.93 per cent of all the cheques used in the system reaching a total of 3.58 million, while special clearing cheques, which take only 2 hours of processing time, decreased to 2, 625 in 2013 from 4,472 in 2012 (Graph 3.6). This might be due to the fact that regular cheques are cleared on the same day of presentment which had rendered special clearing an avoidable luxury.

Increased Number of Cheques Bounced – “Insufficient Funds” Cases Surging

3.2.20 Insufficient funds and Accounts Closed / Frozen / Transferred continued to be the major contributors of bounced cheques in the system in 2013 (Graph 3.7). Total number of bounced cheques in 2013 increased to 269,228 (7.52 per cent of the total cheques cleared) from 211,590 in 2012 representing a 27 per cent increase despite prevalence of stringent laws in Oman against bounced checks. Insufficient funds led the group with 198,878 bounced cheques.
Stability of the System

Ample Liquidity Remained the Norm – Range in Transactions Fluctuating Widely

3.2.21 Ample liquidity was the norm during 2013 with daily aggregate clearing balances for the financial system averaging around RO 1.26 billion. This was a 17.34 per cent increase from 2012 when the daily aggregate clearing balance averaged at RO 1.07 billion (Graph 3.8). The maximum daily aggregate closing balance reached RO 1.62 billion (2012: RO 1.48 billion), while the minimum being at 880.66 million (2012: RO 731.10 million). Adequate clearing balance in the clearing account throughout the day would have smoothened managing intra-day liquidity requirements thus taking care of potential risks on account of payment delays by any one of the participants. Better management, apart, significant amount of government deposits (around 35 per cent of total deposits) was one of the major contributors to this positive position.

Levels of Concentration in Liquidity Rising – Peaking up during the summer

3.2.22 Liquidity concentration continued to remain on average ‘moderate’ in 2013 with the Herfindahl – Hirschman Index (HHI) during the year averaging at 0.1817. The maximum level of concentration reached in the system increased from 0.26 for 2012 to 0.29 in 2013. Nevertheless, this was only seen during the period from May 15 – June 13, 2013, which may be due to seasonal impacts and holidays in the country (Graph 3.9)18.

Daily Payments Concentration in the System looked Moderate – Fluctuations Remained Quite High.

3.2.23 Daily payment in the system remained

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17 Herfindahl-Hirschman Index (HHI) is used to assess the degree of concentration of the system in liquidity and payment. For the liquidity concentration, the index is calculated for the daily closing balance in the clearing for the participating banks as following:

The index ranges between zero and one, with larger values of index pointing to higher concentration in the system.

18 The index was estimated after excluding outliers reflecting the days of banking holidays (Friday) and the Forex purchase transactions made by the local banks through the CBO.
‘moderate’ with an average HHI at 0.21 in 2013. The range of fluctuation was however large with the minimum HHI at 0.21 and the maximum HHI reaching 0.83. This large fluctuating trend was similar in 2012 when the Index ranged from 0.00 to 1.00. Moreover, about 47 days during 2013 witnessed high concentration levels with HHI levels crossing 0.25 (Graph 3.10). This suggested that not all the participants in the system were making payments evenly. A few banks had a significant share in the daily payments volume, which could pose a systemic risk in a scenario that these banks are unable to make their payments in time thus disturbing the system.

**Level of Concentration Remained Generally Skewed – Dominantly in Favor of Four Banks**

3.2.24 The top four banks in the country accounted for about 66.51 per cent of all the transactions in 2013. This was an increase of 6.81 per cent in the concentration levels witnessed in 2012 where the top four banks contributed 59.70 per cent of the total turnover (Graph 3.11).

3.2.25 Furthermore, the Node Risk Index (NRI) of the banking system during 2013 ranged between 0.00-0.24. This Index indicated the underlying vulnerabilities considering the fact that up to 24 per cent of the system carried the potential to be adversely affected if the largest bank in the system faced any unforeseen operational disruptions.
Chapter IV

STRESS TESTING OF THE BANKING SECTOR

Stress testing is a forward-looking technique that attempts to measure the sensitivity of a portfolio, an institution, or even an entire financial system to events that have a very small probability of occurrence but which have significant impact if they tend to occur. It has emerged as a key component of the toolkit for quantitative assessment of financial stability with its importance highlighted by the global financial crisis. The solvency stress attempts to determine the relative impact of the hypothetical shocks on banks’ Capital Adequacy Ratio. These also include capturing the potential impacts of risks in the credit, exchange rate, equity prices and interest rate structures of banks’ portfolios and assess the extent to which these are matched by buffers like capital adequacy of the banking sector. The stress tests look horizontally across each bank and then aggregate them to gauge the systemic implications. The liquidity stress tests assess the resilience of the banking system to sudden withdrawals of deposits. Under the assumed liquidity shocks, the tests estimate how many days the banks would be able to withstand a run on their deposits, assuming that capital market and interbank market are not available for funding. Macro stress tests should focus on systemic risk and take account of relevant macro-economic risk factors and interbank contagion channels – the key sources of systemic risk to gauge their potential severity.

4.1 SOLVENCY STRESS TESTING

‘Bottoms-Up’ Framework of Stress Testing Introduced in Oman – Will Boost Robustness of the Exercise

4.1.1 A step initiated by CBO in 2013 included introducing the ‘Bottoms-up’ framework of stress testing in which individual banks will undertake stress tests on mutually agreed scenarios to ensure that the directions of the results of both the systems (i.e., the ‘Top Down’ exercise done by CBO and the ‘Bottoms-Up’ exercise done by the banks) should converge to counter-verify the robustness of the overall stress testing framework. By using the balance sheet approach, the financials of the banks for end-December 2013 have been stress tested and the impact on the capital adequacy of the banking system has been examined. The balance sheet approach has an advantage of assessing the elements of the banks’ balance sheets and identifying the risk drivers. The detailed methodology used in conducting stress tests providing the scheme of shocks used for stress testing suggest that these shocks are quite stringent (Box 4.1).

Credit Shock Continued to be the Biggest Contributor to the Total Stress – Having Potential to Deplete over 14 per cent of Regulatory Capital

4.1.2 Under the stress test scenarios, as at end-December 2013, the impact (provisioning and lost income on NPLs) stemming from the credit shock constituted 69.2 per cent of the total stress impact followed by equity risk impact, interest rate risk impact and forex risk impact of 16.1 per cent, 12.9 per cent and 1.8 per cent respectively in comparison to 72.2 per cent, 14.8 per cent, 10.8 per cent and 2.2 per cent as at end-December 2012 (Graph 4.1). In absolute terms, the credit shock could deplete the capital by an amount of RO. 447.3 million, which is about 14.2 per cent of the pre-shock regulatory capital.

4.1.3 The impact of equity shock looked small considering the limited extent of investments in equities as banks’ trading and

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Chapter IV

The objective of solvency stress testing is to assess the assumed shocks’ impact on the Capital to Risk-weighted Assets Ratio (CRAR) of the banking sector. The scenarios underlying the stress testing are designed taking into account four main risk types (namely, credit, interest rate, foreign exchange and equity risks) which are assumed to occur simultaneously in the stress-testing procedure. The impact of each of these risks on the bank’s target indicators (profit/loss and CRAR) is simulated to assess their impact – both individual and joint - on the operating banks’ CRAR. The aggregate impact of all risk types, excluding the concentration risk, under the adverse scenarios is directly charged to the regulatory capital and the Risk Weighted Asset are also adjusted accordingly for losses.

The shock levels used in the stress testing are tabulated below. It may be noted that the shock levels assumed are hypothetical, have been deliberately kept plausible yet severe and may or may not reflect the actual position; however, they are meant to reflect the potential/expected loss in case such extreme scenarios materialize.

**Box 4.1**

**Shock Levels for Solvency Stress Tests**

<table>
<thead>
<tr>
<th>Type of Risk</th>
<th>Level of Shocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Risk (loan Portfolio)</td>
<td>Migration of loans to lower categories based on the following hypothetical transition matrix.</td>
</tr>
<tr>
<td></td>
<td><strong>Proposed Transition Matrix for Loans</strong> (in per cent)</td>
</tr>
<tr>
<td></td>
<td><strong>Migration</strong> from Performing &amp; Special Mentioned Substandard Doubtful Loss</td>
</tr>
<tr>
<td></td>
<td>Migration to Performing &amp; Special Mentioned Substandard Doubtful Loss</td>
</tr>
<tr>
<td></td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Substandard 10 75 50</td>
</tr>
<tr>
<td></td>
<td>Doubtful - 25 50 100</td>
</tr>
<tr>
<td></td>
<td>Loss - - 50 100</td>
</tr>
</tbody>
</table>

That is, assuming that under stressed conditions, 10 per cent of the Performing loans will be downgraded to Sub-standard, 25 per cent of Sub-standard loans will be downgraded to Doubtful, and 50 per cent of Doubtful loans will be downgraded to Loss category.

<table>
<thead>
<tr>
<th>Type of Risk</th>
<th>Level of Shocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Risk (Investments)</td>
<td>Hypothetical shock of 1 per cent of total non-marketable investments and placements (excluding investment in shares and government or central bank instruments) to be applied, assuming that 1 per cent of the investment portfolio will be directly classified in the Loss category in stressed conditions</td>
</tr>
<tr>
<td>Equity Price Risk</td>
<td>50 per cent adverse movement in the equity prices in respect of a bank’s own investments only.</td>
</tr>
<tr>
<td>Foreign Exchange Risk</td>
<td>15 per cent adverse movement applied to the net forex exposure excluding USD and GCC currencies (notably Arab Emirates Dirham).</td>
</tr>
<tr>
<td>Interest Rate Risk</td>
<td>Adverse movement in the interest rates by 200 basis points. The earning impact for one year time horizon is considered.</td>
</tr>
</tbody>
</table>
investment activities is capped by CBO’s prudential limit of 20.0 per cent of banks’ net worth. For the foreign exchange risk, the shock impact was very minimal too, as most of the banks’ foreign exposures, almost 90.0 per cent, were in currencies pegged to the U.S. dollar or the U.S. dollar itself.

**All Hypothetical Shocks Impacted CRAR by 3 percentage points - Problems would Arise if NPLs Rise Four-folds**

4.1.4 The credit shock had a sizeable impact on the CRAR of the banking sector – it shrunked the CRAR by two percentage points, whereas, the interest rate, equity and foreign exchange shocks hit the CRAR by less than one percentage point each (Graph 4.2). When concurrently applied, all shocks together prompted a fall of the CRAR by almost 3 percentage points from the pre-shock actual levels of 16.15 per cent to 13.3 per cent (Table 4.1). Thanks to the comfortable capital levels in the banking sector in Oman, even after the application of severe shocks, the system as a whole appeared quite resilient and stayed complied with not only the BIS mandated CRAR of 8 per cent, but also remained conformed to the more conservative CBO prescribed CRAR of 12 per cent (Graph 4.2).

4.1.5 Under hypothetical shock scenarios, number of banks below the stipulated regulatory CRAR of 12 per cent remained less (ranging 3 to 5) over all the quarters during 2013. This reflected resilience in the solvency position (Graph 4.3).
4.1.6 At bank level as well, as revealed from the ‘Bottoms-Up’ stress testing exercise of banks, the solvency of banks under stressed conditions appeared to be quite comfortable. Of the 16 banks operating in Oman, 11 banks would have remained complied with both the CBO and BIS prescribed CRAR under stressed conditions. Four local banks and one foreign bank would have missed the CBO mandated requirements of 12 per cent, though comfortably meeting BIS requirements of 8 per cent CRAR (Table 4.1).

4.1.7 In case the stressed scenarios materialize, the banking system would need an amount of RO 77.5 million to recapitalize all five deficient banks to the 12.0 per cent level. This amount worked out to about 0.37 per cent of the risk-weighted assets and 19.39 per cent of the net profits of the banking system. This further confirms that there is no immediate threat to the solvency of the banking sector in Oman.

**NPLs at Low Levels - Only a Substantial Rise in NPLs Could Turn the System Insolvent**

4.1.8 The level of NPLs in the Omani banks were quite low at about 2 per cent of the total credit portfolio; moreover, these NPLs were adequately provided for (please refer to Chapter II for details). Resultantly, even though credit risk appeared to be the most significant one, only a substantial increase in NPLs would have made the banks to fall short of the CRAR requirement of 12 per cent. 15 banks would have fallen short of the mandated CRAR requirements had their NPLs risen by more than twice the current levels, whereas, one bank would have failed to meet the CRAR requirements if their NPLs were increased by between 100 to 200 per cent (Graph 4.4). Banks would tend to become insolvent only if the NPLs were increased by more than four folds of the current levels (Graph 4.5).

### 4.2 LIQUIDITY STRESS TESTING

4.2.1 The liquidity stress tests aim to assess the number of days banks would be able to withstand a run on their deposits. A reference period of thirty days was adopted for the liquidity stress testing horizon for all the
banks2. The assumptions used to carry out liquidity stress testing for the banks operating in Oman are tabulated below (Table 4.2).

The Liquidity Stress Tests Continued to Show a Good Level of Comfort – Local Banks can Survive Liquidity Crisis for 17 Days

4.2.2 When assessed with respect to the international benchmarks, most of the banks were found to be in a comfortable position to face the liquidity shocks under the assumed scenarios. As at end-December 2013, banks would be able to sustain for an average of 19 days with cash and 21 days with cash and securities (Table 4.3) (14 days with cash and 17 days with cash and securities for local banks and 25 days each for both the categories in respect of foreign banks).

4.2.3 The trend of the banks’ resilience against liquidity shock of sudden deposit withdrawals is shown in Graph 4.6, which tracks the average number of days that local and foreign banks can sustain the liquidity crisis under the assumed scenarios for the last four quarters. It may be seen that the banking system’s resilience against the assumed liquidity crisis had improved for both the categories of banks during the period from September 2012 to September 2013. For the quarter ended December 2013, while the number of days the liquidity shock can be sustained by the local banks moved up to the 2012 level of 17 days, that for foreign banks increased to 25 days – the maximum among all the quarters. For 2013 taken as a whole, the average number of days that banks can survive the liquidity crisis with cash and securities is 17 days for local and 25 days for foreign banks compared to 17.0 and 21.3 days respectively for local and foreign banks in 2012 (between quarters ended June and December).

4.2.4 Notwithstanding the fact that under severe stress conditions too, all the banks would have enough wherewithal to obviate deposit runs for a reasonable period of time, management of liquidity risk fundamentally has been proved to be tricky, as they are quite sensitive to extraneous developments.

2 This reference period is more conservative than the international benchmark of one business week or five days.
## 4.3 Macroeconomic Stress Testing and Contagion Analysis³

### Macro-Financial Stress Testing and Contagion Analysis also Introduced in Oman – Will Strengthen the Robustness of the Stress Testing Analysis

4.3.1 With an objective to improve the quality of macro-financial surveillance of Omani system, the need to dynamically upgrade the stress testing framework to adequately capture the changing realities of the financial sector dynamics and to be on the board in line with best international practices, macro-financial stress testing has been made an integral part of systemic surveillance in Oman.⁴ Macro stress tests are designed to focus on systemic risk and require estimating macro-financial models as well as considerable judgment. The resilience of the Omani banking system to macro-economic shocks is tested through a macro-stress test framework. The macro-financial model estimates credit losses (i.e. new provisions) for banks and looks for the empirical relationship between key risk parameters [non-performing loan (NPL) ratio, probability of default (PD) etc.] and relevant macroeconomic variables, such as GDP, stock market, inflation and interest rate.

4.3.2 This sets the tone for an exercise that takes a holistic view on the movements in real sector, other markets and their possible impact on the health of financial institutions. Box 4.2 provides the methodology of the macro stress test framework for Oman. For the year 2014, three scenarios have been constructed – baseline, moderate and severe - reflecting the extent of shocks to GDP growth of 2.5 and 1.9 per cent for 2014 (vis-à-vis the baseline growth rate of 3.4 per cent). Three scenarios have been constructed – baseline, moderate and severe - reflecting the extent of shocks to GDP growth of 2.5 and 1.9 per cent for 2014. (Box 4.2) provides the methodology of the macro stress test framework for Oman. For the year 2014, three scenarios have been constructed – baseline, moderate and severe. Stock markets return of 12.0, (-)15.0 and (-)50.0 per cent, consumer inflation of 1.1, 3.0 and 7.0 per cent, and nominal lending rate of 5.2, 7.2 and 10.2 per cent have been hypothesized for baseline, moderate and severe stress scenarios respectively.

4.3.3 Using the macro-financial model’s elasticity estimates for all these variables in a multi-variable regression framework (Box 4.2), it may be seen that a decrease of GDP growth by 1 percentage points increases the default rate by less than 0.04 percentage points. An increase of interest rates by 1 percentage points increases the default rate by 0.003 percentage points. Whereas an increase

### Table 4.4: Assumptions/Scenarios/Projections for Macro Stress Test for 2014

(In Per Cent)

<table>
<thead>
<tr>
<th>Year / Scenarios</th>
<th>Real GDP Growth</th>
<th>Change in Real GDP Growth</th>
<th>Nominal Interest Rate</th>
<th>CPI Inflation</th>
<th>Stock Market Return</th>
<th>Projected Default Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>5.1</td>
<td>5.2</td>
<td>1.1</td>
<td>18.6</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline Scenario</td>
<td>3.4</td>
<td>-1.7</td>
<td>5.2</td>
<td>1.1</td>
<td>12.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Moderate Scenario</td>
<td>2.5</td>
<td>-2.6</td>
<td>7.2</td>
<td>3.0</td>
<td>-15.0</td>
<td>2.8</td>
</tr>
<tr>
<td>Severe Scenario</td>
<td>1.9</td>
<td>-3.2</td>
<td>10.2</td>
<td>7.0</td>
<td>-50.0</td>
<td>4.2</td>
</tr>
</tbody>
</table>

Source: Staff Estimates

³ Based on contributions of the IMF TA Mission on Stress Testing Led by Dr. Adam Gersl, Joint Vienna Institute, Mariahilfer Strasse 97, A-1060 Vienna, Austria.
Using quarterly macroeconomic and banking sector data, namely, real GDP growth, stock market prices, consumer inflation and nominal rates of lending rate for 1999Q2 – 2012Q4, a macro-credit risk model is estimated for projecting the default rate for Oman by a simple Ordinary Least Squares (OLS) regression model. It uses the 12-month default rate, which expresses new NPLs over a horizon of one year as a percentage of the initial stock of performing loans, as the dependent variable, and main macro-financial variables (GDP growth, lending rate, inflation and stock market index) as explanatory variables. The forecasted default rate - either itself or its long-run average - can be also understood as a probability of default (PD).

Among the dependent variables, the aggregate default rate (DFRATE), calculated as new NPLs over a period of four consecutive quarters as a percentage of the initial stock of performing loans, is a flow indicator that shows what proportion of performing loans defaulted over a period of one year, and in principle it is the same indicator that is used by banks to calculate probability of default (PD).\(^1\) Secondly, the use of flow indicator (default rate capturing new NPLs) is superior to the use of stock indicators (such as the NPL ratio), as the flow indicator is much more linked to provisioning (credit losses), which impacts the overall profitability of banks and ultimately their solvency (Hardy and Schmieder, 2013)\(^2\). The numerator is the 4-quarter sum of new NPLs, while the denominator is the stock of performing loans (calculated as a stock of all loans minus stock of NPLs) at the end of the previous quarter. The default rate for e.g. Q1:2010 is thus a ratio of new NPLs over Q1:2010-Q4:2010 and stock of performing loans at the end of Q4:2009.

Among the explanatory variables, real GDP growth (GDPGROWTH), lending rates (NOMINALRATE), inflation (INFLATION), and stock market returns (STOCKMARKET) were used.\(^3\) Real GDP growth is one of the most used explanatory variables for credit risk given its usually high (negative) correlation with credit risk indicators due to its direct effect on borrowers’ income and thus their capacity to service the debt. Some papers only consider this variable for satellite models, and this variable is also often used for various rules of thumb elasticities (Hardy and Schmieder 2013; Schmieder et. al. 2011). Second, as of consumer price inflation, literature on stress testing models usually works with ex post rather than ex ante real rates (i.e. using inflation of the given quarter as a proxy for inflation expectations), as these seem to be more correlated with actual defaults (Buncic and Melecky, 2012)\(^4\). It is the inflation outcome after a loan has been granted which influences borrower’s capacity to service the loan in real terms rather inflation expectations at the moment of taking up the loan. Third, as of stock market returns, given that the existing stress testing framework in Oman assumes a stock price shock, an inclusion of this variable in the model linking the macro-financial environment with banks’ credit risk would provide additional channel through which the stock price shock impacts banks (in addition to market risk).

The model includes a lagged dependent variable to prevent auto-correlated residuals, and uses robust standard errors to take care of possible residual autocorrelation and heteroscedasticity. The signs of the estimated coefficients are in line with expectations. The coefficient for the change in GDP growth is not very significant by standard measures (p-value of 30%), but it was decided to keep it there (in other specifications, the GDP growth is significant, but other variables not or have wrong signs).

\(^{1}\) The difference being that the aggregate default rate is calculated for the whole loan portfolio of the banking sector, while individual banks calculate default rates for sub-portfolios of relatively homogenous borrowers with certain risk characteristics for risk management purposes.


\(^{3}\) In addition, instead of GDP growth, output gap (estimated via HP filer) and GDP growth gap (the difference between observed GDP growth and trend GDP growth calculated from the trend GDP estimated via HP filer) were considered. However, these two variables did not prove significant in various specifications.

The estimated equation is as below:

\[
\text{DFRATE} = -0.009 + 0.88 \times \text{DFRATE(-1)} \\
\quad (-4.22) \quad (15.67) \\
- 0.04 \times D(GDPGROWTH) \\
\quad (-1.04) \\
+ 0.17 \times \text{NOMINALRATE} \\
\quad (4.41) \\
+ 0.009 \times \text{INFLATION} \\
\quad (1.65) \\
- 0.003 \times \text{STOCKMARKET} \\
\quad (-2.00)
\]

Parenthetic figures are t-values.

Adj R sq = 0.96

DW statistic = 1.35

The sign for inflation is not clear ex ante. While higher inflation lowers the real debt burden, suggesting a negative sign, higher inflation – especially if not reflected in wage inflation – may also decrease the real disposable income of households and make repayment debt more difficult, suggesting a positive sign. The Omani experience confirms the latter argument amid the food price inflation in 2008-2009.

Using the above macro-financial model’s elasticity estimates for all these variables, it may be seen that a decrease of GDP growth by 1 percentage points increases the default rate by less than 0.04 percentage points. An increase of interest rates by 1 percentage points increases the default rate by 0.17 percentage points, whereas an increase of inflation by 1 percentage points increases the default rate by 0.009 percentage points and a decrease of stock market prices by 1 percentage points increases the default rate by 0.003 percentage points. Using these coefficients, the default rate for December 2014 is estimated at of 1.0, 2.8 and 4.2 per cent in the three scenarios.

### Table 4.5: CRAR under Moderate and Severe Scenarios

<table>
<thead>
<tr>
<th>Bank</th>
<th>CRAR under Baseline Scenario</th>
<th>CRAR under Moderate Scenario</th>
<th>CRAR under Severe Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16.24</td>
<td>14.91</td>
<td>13.72</td>
</tr>
<tr>
<td>2</td>
<td>14.34</td>
<td>12.79</td>
<td>11.32</td>
</tr>
<tr>
<td>3</td>
<td>20.03</td>
<td>17.79</td>
<td>15.37</td>
</tr>
<tr>
<td>4</td>
<td>13.76</td>
<td>12.21</td>
<td>10.58</td>
</tr>
<tr>
<td>5</td>
<td>15.81</td>
<td>14.42</td>
<td>13.33</td>
</tr>
<tr>
<td>6</td>
<td>13.43</td>
<td>11.67</td>
<td>10.03</td>
</tr>
<tr>
<td>7</td>
<td>14.29</td>
<td>12.96</td>
<td>11.73</td>
</tr>
<tr>
<td>8</td>
<td>15.55</td>
<td>14.56</td>
<td>13.49</td>
</tr>
<tr>
<td>9</td>
<td>19.68</td>
<td>18.89</td>
<td>18.13</td>
</tr>
<tr>
<td>10</td>
<td>33.62</td>
<td>32.48</td>
<td>31.19</td>
</tr>
<tr>
<td>11</td>
<td>25.23</td>
<td>24.43</td>
<td>23.71</td>
</tr>
<tr>
<td>12</td>
<td>22.41</td>
<td>21.42</td>
<td>20.22</td>
</tr>
<tr>
<td>13</td>
<td>105.86</td>
<td>104.25</td>
<td>101.90</td>
</tr>
<tr>
<td>14</td>
<td>103.06</td>
<td>102.08</td>
<td>100.80</td>
</tr>
<tr>
<td>15</td>
<td>16.15</td>
<td>14.60</td>
<td>12.66</td>
</tr>
<tr>
<td>16</td>
<td>12.68</td>
<td>11.97</td>
<td>11.26</td>
</tr>
<tr>
<td>All Banks</td>
<td>15.89</td>
<td>14.43</td>
<td>13.03</td>
</tr>
</tbody>
</table>

CRAR< 10%  CRAR= 12%  CRAR> 15%

4.3.4 When these shocks are applied, the results show that five banks fall below the CBO mandated minimum CRAR ratio in severe and two banks under moderate scenarios, the former tallying with the identification of affected banks under bottom-up results and hence the results from both the frameworks tend to converge greatly (Table 4.5).

**Domestic Inter-bank Exposure Remained Limited – Banks Maintained CRAR after Interbank Contagion**

4.3.5 Domestic and cross-border interbank markets are necessary for proper functioning of banking and financial sector. However, failure of one bank in the interbank network
may lead to domino effect of failures.

4.3.6 To stress test domestic and cross-border interbank exposures and to capture connectivity-related risks to the overall banking sector’s solvency, an independent domino like multi-round contagion module was introduced within the existing stress testing framework. For the contagion stress test, it is assumed that banks need to make provisions against their domestic interbank exposures to counterparty banks’ maintaining CRAR of 13 per cent or less. The level of required provisions depends on the CRAR of the counterparty and increases progressively as the CRAR of counterparty decreases (Table 4.3). The banks are stressed by assuming a loss of 10 per cent of their cross-border interbank exposure. Once banks are hit by this shock, the affected banks need to create new provisions for losses from this shock, which may also move additional banks to CRAR territories of higher riskiness and thus higher provisioning against their exposures.

4.3.7 After this first round, a second round is run, again with banks creating additional provisions for their interbank exposures as per the new (lower) CRAR of counterparty banks. Like before, these new provisions are deducted from capital and risk weighted assets, decreasing CRAR of some banks even further. This iterative “domino effect” is repeated till the new iterations do not result in additional provisioning requirements for any bank. An overview of the methodology used to conduct contagion stress test on interbank exposure is given in Box 4.3.

4.3.8 The results showed that while for some banks cross-border and domestic interbank contagion did not affect their capital adequacy, for others it could impact their CRAR adversely by up to 157 basis points, resulting in a few banks being barely able to maintain sufficient CRAR under the assumed shock. Overall, the interbank contagion did not have a significant impact on the sector as a whole, as banks maintained CRAR of 15.47 after fully absorbing the complete cycle of additional provisions. These results were not surprising given the fact that the domestic interbank market in Oman was not quite active (Table 4.6).

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Chapter IV

Box 4.3

Interbank Contagion Effects

To stress test domestic and cross-border interbank exposures and to capture connectivity-related risks to the overall banking sector’s solvency, an independent domino-like multi-round contagion module was introduced within the existing stress testing framework. The contagion module was implemented using a matrix of interbank exposures as of December 31, 2013.

Despite the relatively sparse matrix of domestic interbank exposures, with conservative assumptions on provisioning of interbank loans vis-à-vis banks at risk (i.e. banks that had low capital to risk-weighted assets ratio (CRAR), the contagion risk produced an additional stress to the banking system.

Data and Methodology:

A matrix of gross domestic interbank claims and cross-border gross exposures of individual banks as of December 31, 2013 were used. The matrix was relatively sparse, with connectivity indicators (number of existing linkages out of all possible linkages) of about 5 per cent only.

It was assumed that the interbank exposures comprise unsecured lending and banks make provisions against interbank claims based on the CRAR of the counterparty banks. The CRAR of the counterparty banks is thus used as a proxy for riskiness of interbank exposures. The matrix of the provisions required against different levels of counterparty CRAR is given in Table 4.B.

The initial shock to the system comes from an assumed loss of 10 per cent of cross-border interbank exposure. Once this shock hits, the affected banks need to create new provisions for losses from the cross-border interbank exposures. This shock may also move additional banks to CRAR territories of higher riskiness and thus higher provisioning against their exposures.

In the first round, all banks make provisions against their gross exposures to banks having CRAR of 13 per cent or less as per the schedule given in Table 4.B. These new provisions are directly deducted from regulatory capital and risk-weighted assets (assuming a 100% risk weight on these loans), leading to a new (lower) CRAR, which may move some more banks to higher riskiness category, necessitating higher provisioning against exposure to such banks. Thus, a second round is run, again with banks creating additional provisions for their interbank exposures as per the new (lower) CRAR of counterparty banks. Like before, these new provisions are deducted from capital and risk weighted assets, decreasing CRAR of some banks even further, this exercise is repeated until no more additional provisioning is required on account of interbank exposures to bank that move to the higher risk (lower CRAR) categories.

<table>
<thead>
<tr>
<th>CRAR of Banks after Shocks</th>
<th>Assumed Provisioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRAR &gt; 13%</td>
<td>0</td>
</tr>
<tr>
<td>13% ≥ CRAR &gt; 12%</td>
<td>10%</td>
</tr>
<tr>
<td>12% ≥ CRAR &gt; 8%</td>
<td>50%</td>
</tr>
<tr>
<td>8% ≥ CRAR &gt; 0%</td>
<td>80%</td>
</tr>
<tr>
<td>CRAR ≤ 0%</td>
<td>100%</td>
</tr>
</tbody>
</table>