

# CENTRAL BANK OF OMAN



## FINANCIAL STABILITY REPORT

*Issue 1: May 2013*



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**His Majesty Sultan Qaboos bin Said**



## FOREWORD

Central Bank of Oman (CBO) is pleased to join the ‘more-than-eighty-countries’-club of ‘Financial Stability Report (FSR)-publishers. The objective of FSRs has been essentially to cover potential risks lurking at the System that comprises the macroeconomy, the markets, the financial institutions, the regulatory regime and infrastructure, all taken in a holistic manner. By nature, it is meant to be forward looking while it churns the past behaviour and dissects the present outlook. In a survey done by IMF in 2012<sup>1</sup>, higher quality FSRs were observed to be “associated with greater financial stability”. This may be because “when done well, FSRs can promote financial stability by providing clearer signals to market participants, policy makers and regulators”. In another useful work done by ECB<sup>2</sup>, it is shown that “there is compelling evidence that FSRs do indeed lead to a significant reduction in market volatility” and thus perform better than speeches and interviews as possible communication tools used by Central Banks to send their typical ‘constructively ambiguous’ signals to market players.

The current global financial crisis demystified the myth that regulating and ensuring soundness of financial institutions individually could lead additively to a robust financial system. The negative effects of a contaminated system on individual institutions were reflected rather so revealingly. The need for a financial stability surveillance mechanism that encompasses micro-prudential tools to look at individual entities and macro-prudential tools to safeguard the system was brought to the fore. That both should work in complete tandem was testified on a global plane. That it should be left to the Central Banks as their fundamental responsibility being the Lender of the Last Resort as also the regulator of the banking sector makes convincingly good sense.

Governor George of the Bank of England had aptly defined Systemic Risk way back in 1998<sup>3</sup> in the following way:

*“What we mean by “systemic risk” specifically is the danger that a failure of one financial business may infect other, otherwise healthy, businesses. This could happen in either of two ways: first through the direct financial exposures which tie firms together like mountaineers, so that if one falls off the rock face others are pulled off too; and second, by contagious panic which sweeps everyone off the mountain side like an avalanche.”*

While no crisis should be allowed to go ‘waste’, absence of a crisis should not lend any sense of complacence as “stability breeds instability”. The lessons of the current crisis should prompt us not to allow things to go the way they had gone then. This was succinctly summarised in an

<sup>1</sup> Financial Stability Reports : What Are They Good For? Martin Cihak, Sonia Munoz, Shakira The Sharifuddin and Kalin Tintchev IMF Working Paper January 2012

<sup>2</sup> Central Bank Communication on Financial Stability Benjamin Born, Michael Ehrmann and Marcel Fratzscher ECB Working Paper No. 1332/April 2011

<sup>3</sup> “The New Lady of Threadneedle Street”, Vital Topic Lecture at the Manchester Business School, E. A. J. George, Governor, Bank of England, 1998

observation made in an IMF Staff Position note<sup>4</sup> in respect of the financial system prior to the crisis:

*“Financial systems and transactions became distorted along several dimensions, that is, financial system grew highly complex, opaque, over-leveraged and heavily interconnected; liquidity risk was higher than recognized; large complex institutions enjoyed the benefits of being “too important to fail” and financial intermediation has increasingly shifted to the shadow banking sector.”*

Thus, there is a general consensus that systemic risk was underestimated all along and putting in place a Systemic Risk Regulation framework has become the pressing need. While ‘macroprudential regulation’ is the buzzword today, it is expedient to see ‘both the forest and trees’<sup>5</sup> effectively; carrying ‘microprudential measures’ as also ‘monetary policy tools’ as hitherto along. There is a need to develop a diagnostic toolkit that simultaneously traces the development of macro-financial conditions which pose risks to financial stability and identifies ‘point in time’ risk conditions, while also assessing the joint impact of all these risk factors on systemic stability. This will require timely and accurate information/data which will pave the way for an effective Macro-financial model for the economy as a whole.

Central Bank of Oman has started its voyage with this as its avowed policy objective. Formation of an independent Financial Stability Unit (FSU) and publication of annual FSR will lead the country to achieve the same.

**Hamood Sangour Al-Zadjali**

*The Executive President*

28 May 2013

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<sup>4</sup> “Shaping the New Financial System”, The International Monetary Fund (IMF) Staff Position Note (SPN) SPN/10/15

<sup>5</sup> “Seeing Both the Forest and the Trees- Supervising Systemic Risk”, José Viñals, IMF Financial Counsellor and Director, Monetary and Capital Markets Department Opening Remarks at the Eleventh Annual International Seminar on Policy Challenges for the Financial Sector Washington D.C., June 2, 2011.

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## LIST OF SELECT ABBREVIATIONS

ACH	Automated Clearing House
AFS	Available For Sale
AIG	American International Group
BCBS	Basel Committee on Banking Supervision
BCPs	Basel Core Principles
BCSB	Banking Credit and Statistical Bureau
CAMEL	Capital, Assets Quality, Management, Earnings, Liquidity
CAR	Capital Adequacy Ratio
CBO	Central Bank of Oman
CCB	Capital Conservation Buffer
CDR	Credit to Deposit Ratio
CDS	Credit Default Swaps
CET1	Common Equity Tier 1
CMA	Capital Market Authority
CMGs	Crisis Management Groups
CoCos	Contingent Convertibles
CPI	Consumer Price Index
CRAs	Credit Rating Agencies
CRWA	Credit Risk Weighted Assets
DIA	Deposit Insurance Agency
DIS	Deposit Insurance System
DR	Disaster Recovery
D-SIB	Domestic Systemically Important Banks
D-SIFIs	Domestic Systemically Important Financial Institution
DTCC	Depository Trust and Clearing Corporation
EAD	Exposure at Default
ECC	Electronic Cheque System
EMV	Europay, MasterCard and Visa
EU	European Union
FLCs	Finance and Leasing Companies
FSAP	Financial Sector Assessment Program

FSB	Financial Stability Board
FSDC	Financial Stability Development Council
FSF	Financial Stability Forum
FSOC	Financial Stability Oversight Council
FSR	Financial Stability Report
FY	Financial Year
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GFSR	Global Financial Stability Report
G-SIB	Global Systemically Important Banks
G-SIFIs	Global Systemically Important Financial Institutions
HCFSD	Higher Committee for Financial Stability & Development
HFT	Held for Trading
HHI	Herfindahl-Hirschman Index
HI	Herfidahl Index
IAIS	International Association of Insurance Supervisors
IBAN	International Bank Account Numbers
ICOR	Incremental Capital Output Ratio
IEA	International Energy Agency
IMF	International Monetary Fund
ISDA	International Swaps and Derivatives Associations
kb/d	kilo barrel per day
LAN	Large Network
LCR	Liquidity Coverage Ratio
LGD	Loss Given Default
LHS	Left Hand Side
LOLR	Lender of Last Resort
LTCM	Long Term Capital Management
M0	Reserve Money
M2	Broad Money
MENA	Middle East and North Africa
MFs	Mutual Funds

MICR	Magnetic Ink Character Recognition
MoCI	Ministry of Commerce and Industry
MoF	Ministry of Finance
MRWA	Market Risk Weighted Assets
MSM	Muscat Securities Market
NBFI	Non-Banking Financial Institution
NIM	Net Interest Margin
NPL	Non-Performing Loan
NPLR	Non-Performing Loan Ratio
NPS	National Payment System
NRI	Node Risk Index
NSFR	Net Stable Funding Ratio
O/N	Overnight
OECD	Organization for Economic Cooperation and Development
ORWA	Operational Risk Weighted Assets
OTC	Over the Counter
PD	Probability of Default
PS	Payment System
PSDG	Payment Systems Development Group
PSEs	Public Sector Enterprises
RBS	Risk Based Supervision
RCG	Regional Consultative Group
Repos	Repurchase Agreements
RHS	Right Hand Side
RO	Rial Omani
ROA	Return on Assets
ROE	Return on Equity
RTGS	Real Time Gross Settlement
RWA	Risk Weighted Assets
SME	Small and Medium Enterprise
SRDB	Systemic Risk Dash Board
SRS	Systemic Risk Survey

STR	Stress Testing Reports
TA	Total Assets
TR	Trade Repository
USD	United States Dollar
VaR	Value at Risk
WEO	World Economic Outlook

# **FINANCIAL STABILITY ASSESSMENT OF OMAN**

## **AN OVERVIEW**

*Oman is an active partner in the global thought process on financial stability*

1. The existing Financial Stability Forum (FSF) was upgraded into Financial Stability Board (FSB) during the London Summit on 2 April 2009 of the G-20 leaders to coordinate at the international level the work of national financial authorities and international standard setting bodies towards concrete steps to implement effective regulatory, supervisory and other financial sector policies in the interest of financial stability. At the Toronto Summit in June 2010 it was decided to go global and expand such activities beyond the membership of the G-20 and accordingly, in 2011, six regional consultative groups (RCGs) of the FSB were established. RCGs thus took active part in the global process of exchange of views on vulnerabilities affecting financial systems and on initiatives to promote financial stability. Oman is represented in the RCG-MENA by the Executive President of the Central Bank of Oman.
2. Oman is set to go by the international practice in favour of a dedicated macroprudential authority. An independent Financial Stability Unit (FSU) has been formed in the Central Bank of Oman (CBO) to carry forward this cause. The Central Bank of Oman of course does this implicitly as it regulates over 94 per cent of the financial system and also discharges the Lender of the Last Resort (LOLR) function for the whole system. But efforts are on to lend further robustness to the existing arrangements.
3. CBO supports the implementation of the Basel III reform measures and proposes to strengthen the existing capital and liquidity standards for licensed banks in Oman, bringing them in line with Basel III. The Bank targets to implement the reform package in Oman in accordance with the globally-agreed levels (or more) and implementation timeline.

## **MACRO - FINANCIAL SCENARIO**

*Stakeholders' perceptions on the Omani economic system look favorable*

4. A systemic risk survey was conducted among various stakeholders to get their perceptions on the state of the Omani economic system. The responses were revealing as they emitted a sense of elevated optimism. Most of the respondents felt that the good performance has been well-sustained and is likely to continue. It was perceived to be less probable for a high-impact event to surface in the short-term (0-12 months) while the same may not be ruled out in the medium term (1-3 years). Potential risks are likely to spring mostly from unfavorable oil price movement, unforeseen contingencies (e.g. Terrorism, fraud, natural disaster, social unrest etc.), deterioration in Omani economic health and funding difficulties at banks and deterioration of both global and Oman's economic outlook. Stakeholders' perceptions on such possible potential risk remained the same both in short and long term.

*Despite fragilities abroad, Omani growth scenario remains stable*

5. Oman's economic growth momentum continued to be robust. Driven primarily by public sector activities backed essentially by domestic demand and characterized by an improved diversification of the economy reflected in decline in the excess of contribution of petroleum sector to GDP growth vis-à-vis the non-petroleum sector, the overall growth process is expected to be sustainable moving forward. Actual real GDP growth has remained in alignment with potential growth indicating possible relative stability. Way forward, such a similar trend is expected to continue and is expected to be a risk mitigant for Oman's evolving inflationary trends.

*Unfavourable indicators might fetch concerns, however*

6. Under severe adverse scenarios/assumptions of lower global growth and oil prices, Oman's real GDP growth may tend to fall in the range of 3.2 to 3.5 per cent in 2014, a risk factor reflective of the continued dependence of the Omani growth process on the oil prices together with the global growth. There is anyway a clear trend of co-movement of Omani business cycles with those displayed in cases of MENA economies, global position and oil prices movements. This suggests that such an evolving 'synchronicity risk' could be a precursor to Oman falling prey to potential vulnerabilities abroad. Further, during the period since 2002, an increase in real GDP growth for Oman seemed to coexist with an increase in incremental capital output ratio (ICOR), pointing to greater capital intensity/inefficiency of its growth process, a risk factor that needs to be contained going forward. This trend, however, is beginning to improve in the most recent years.

*Inflation risks is likely to remain under control*

7. Oman's consumer price inflation (CPI) on an end-year basis remained range-bound between 3 to 4 per cent during the period since 2009 and compares favourably with MENA oil exporters' average. Oman's benign inflation is due in part to favourable demand-side triggers. Way forward, buoyant domestic demand (both consumption - private and government and investment) is likely to offset the benefit which may arise due to benign global price situation in response to slow global recovery. What may help, however, is the growth performance of Oman, which is expected to remain at its trend level.

*Fiscal risks look minimal but a hazy oil sector may spring surprises*

8. Prospects for positive fiscal risk for Oman continue to look bright in the face of favourable oil revenues. The recent announcement of the discovery of three oilfields and a gas field shows brighter rays of hope in this regard. However, a highly skewed oil sector and volatile oil prices will continue to haunt the economy. While actual prices for the last three years have remained above both the break-even prices, resulting in significant improvement in the overall fiscal balance as well as in the external current account for Oman, the significant rise in the break-even oil prices themselves is a risk factor that needs to be kept under check. Further, the continuous rise in the share of oil and gas revenue in the total revenue of the Government from around 76.0 per cent in 2007 to 86.0 per cent in 2012 smacks of underlying concentration risk.

### *External sector looks strong and resilient*

9. Oman's current account has always been in surplus (except for a small deficit in 2009). Balance of payments position has been robust with high and rising foreign exchange reserves. External debt has been low and falling. The forex reserves were sufficient to pay for the cost of imports for eight months (as against the thumb rule of at least three prospective months of imports of goods and services) as at end-2011 and could meet gross current account payments liabilities up to four months.

### *Structural bottlenecks prevent financial markets to grow*

10. Oman's relatively infant capital market shows inadequate buoyancy. Lower credit-to GDP ratio indicates shallow financial deepening. A benchmark interest rate in the domestic financial market may be the panacea as it would be beneficial not only from the point of view of market players, as an essential prerequisite for foreign exchange risk hedging, but also as an integral part of work to foster the development of the money market and pave the way for meaningful monetary transmission through interest rates. In this context, a proposal under consideration of the Government of Oman to issue of US dollar denominated bonds, sometime in 2014, assumes key significance.

## **FINANCIAL INSTITUTIONS**

### **BANKS**

#### *Bank-centric financial system shows robust growth*

11. The financial system of Oman remains predominantly bank-centric with total assets of the banking sector forming about 94 per cent of the total financial sector assets as at the end of Financial Year 2012. Banks continue to maintain double digit growth, most of the growth in the assets having been fueled by the increase in the credit portfolio of the banks. The capital strength of banks remained robust with a Capital Adequacy Ratio (CAR) of above 15 per cent since 2008, which surpasses both the Bank for International Settlements (BIS) requirements of 8 per cent and CBO requirement of 12 per cent. Moreover, most of the regulatory capital requirement in Oman is met by high quality of tier-1 capital which ensures that banks will easily be able to meet Basel-III requirements. The profitability ratios (ROA and ROE), though, marginally declined in current period still remained healthy at 1.7 per cent and 11.5 per cent, respectively. The improved profitability position was contributed essentially by a strong and rising NIM, which stood at around 3 per cent. Staff and administration expenses at about 52 per cent of the total non-interest expenses, however was considered high.

#### *Quality of loan assets remained satisfactory*

12. Both the gross non-performing loans (NPLs) and net NPL ratios remained low compared to international standards. Large accretion of NPLs to Loss category, however, was a concern. Moreover, low recovery rate, especially in the newly delinquent category (special mentioned) suggested that banks need to step up their recovery efforts.

### *Incremental loans flew more in to consumers segments*

13. High quantum of the banks' exposure to the consumer segment (34 per cent of total credit), having volatile performance, could be a source of concern as it might spell a situation of debt overhang in the wake of likely onset of default during downturns. Moreover, excessive exposure to consumer segment might also be crowding out credit flow into the SME sector. Additionally, in the absence of a real estate price index, banks need to step up their mechanisms to monitor the developments in the real estate sector to guard themselves against any fall in real estate prices. Banks need to be extra cautious while taking exposure in the pockets that are getting saddled with over-supply situation.

### *High corporate concentration remains an enduring feature of the Omani banking sector*

14. Government and Public Sector Enterprises (PSEs) jointly contribute to about 35 per cent share in the total deposits and the share is showing a rising trend. Sizeable government and PSE deposits lend robustness to the liquidity positions even as they expose banks to the concentration risk and sudden drying of liquidity should these groups decide to withdraw their deposits from the banks. Similarly, over 10 per cent of the credit portfolio has been extended to the top five borrowers and as such, the top five banks constitute 81per cent of the total assets of the banking sector.

### *Market risk remains overshadowed by credit risk*

15. Due to sufficient levels of liquidity, the interbank market remained calm and banks were easily able to meet the reserve requirements. Despite the weak performance of the stock market index, banks remained largely insulated from adverse stock market performance owing to their modest exposure as stock market investments constitute about 1 per cent of banks' Risks Weighted Assets (RWA). However, the banking sector remains also exposed to indirect hit from the falling equity prices through the loans secured for purchase of stocks. Moreover, due to credible peg to USD and limited exposure in other currencies the foreign exchange risks of banks remained limited.

## **NON BANKS**

### *Shadow banking remained infant and well-regulated*

16. The Non-Bank Financial Institutions (NBFI) sector is dominated by Finance and Leasing Companies (FLCs) and Insurance companies. Assets growth of FLCs continues on the back of strong growth in loans and advances. For their funding needs, FLCs rely excessively on bank borrowing. Heavy reliance on bank borrowing might restrict their future growth should the bank funding dry up or become prohibitively expensive when interest rates go up and might destabilize FLCs during banking sector troubles.
17. Insurance companies continued to grow on the back of ongoing concenteration activity and mushrooming fleet of automobiles. The unstable weather conditions, and increasing level of road accidents and the claims arising out them are a cause of concern for the insurance sector.

## **FINANCIAL SAFETY NETS**

### *Deposit Insurance System exists under the aegis of CBO*

18. A system of “explicit insurance” of deposits is in vogue in Oman since March 1995. This rule based scheme is run under the aegis of the CBO with the 17 commercial banks as its members. The base capital resources of this financial safety net for the depositors aimed at “providing comprehensive insurance cover on deposits” of ‘maximum of RO 20,000’. However, over 90 per cent of the deposit accounts having funds below RO 20,000 are covered under the scheme.

### *Emergency Liquidity Assistance (ELA) programmes are in use*

19. There exists an operational framework for ELA since late 1980s in terms of which CBO extends a Standing Credit Facility (in the form of Treasury Bills Discounting, Commercial papers rediscounting and Repos in Government Securities and CBO CDs) to the local money market. CBO also uses Reserves Requirements for this purpose as was done during the crisis.

### *A Crisis Management Mechanism (CMM) is being put in place*

20. A Crisis Management Group (CMG) within the CBO is proposed to be formed which will have periodical (at least once a year) meetings to assess any potential crisis-like vulnerability and will keep an on-going watch on any eventuality should they tend to occur out of financial shocks, both internal as also external. As a beginning, a Concept Document will be prepared on Crisis and Crisis Management Mechanism for CBO regulated Entities (banks, Finance and Leasing Companies and Specialized Credit Institutions) in Oman based on which a Financial Crisis Simulation Exercise will be endeavoured in due course.

## **FINANCIAL INFRASTRUCTURE**

### *System of Credit Reporting is in vogue*

21. There exists a system of a public credit registry (Banking Credit and Statistical Bureau-BCSB) owned by CBO. Its membership is restricted to licensed banks and finance and leasing companies from/with whom data are collected and the collated data shared. BCSB collects both positive and negative credit information related to both consumers (individuals) and corporate borrowers. This covers any type of credit facility which is RO 1/= and above. A new fully automated BCSB system has been launched in August 2010 in which information is collected and updated on daily basis and as such provides up-to-date credit information to the banks and financial institutions round the clock throughout the year.

### *Satisfactory performance of Payments and Settlements System*

22. The payments and settlements system in Oman is functioning relatively satisfactorily. Total transactions increased both in terms of numbers and volumes during the year 2012 in line with the improvement in the economic growth of the country and the rapid strides made in information technology and security system.

23. RTGS-based transactions dominate the system in terms of value being at more than 80 per cent of the total. Transaction through cheques accounted for 72.2 per cent of the value of all retail transactions. In terms of volume, ATMs with 89.1 per cent share have been the most popular mode, and it comes second in terms of value after cheques, with a share of around 23 per cent during 2012.
24. There was a trend of relatively high and persistent concentration in payment which suggest that payment is not made evenly by all participants and that significant share of the payment is made by only a few number of banks. Similarly, in the case of liquidity concentration, around 60 per cent of the total turnover of financial transactions is dominated by four banks, suggesting that more than half of the payment activity would be at risk should these four banks experience problems.
25. Around 99.8 per cent of cheques are processed within 24 hours while the share of unpaid cheques, constituted only about 6.24 per cent and 3.26 per cent of total number and amount of presented cheques, respectively.

## **STRESS TESTING OF BANKING SECTOR**

*Banking sector will remain resilient even after severe shocks*

26. Various solvency stress tests indicated Omani banking sector to be quite resilient. Even after the application of severe shocks, the banking sector stays complied with not only the BIS mandated CAR of 8 per cent, but also remains conformed to the more conservative CBO prescribed CAR of 12 per cent.

*Even extreme eventualities may not render banks illiquid*

27. The liquidity stress tests showed the banking system's comfortable position to face the liquidity shocks under the assumed scenarios as they would be able to sustain for 17 days with cash and 19 days with cash and securities.

# Chapter I

## MACRO-FINANCIAL SCENARIO

*Improvement in macroeconomic conditions at the global level resulting from improved economic activities both from major advanced economies (US in the lead) and emerging market and developing economies has contributed to improved stability in the global financial system. Although the global financial system is far more stable than it was six months ago, a number of challenges remain with new risks coming to the fore from the emergence of a “three-speed” global economy, as well as new risks linked to easy monetary policies that were put in place to fight the crisis. Differences between the oil exporting and oil-importing economies in a Two-Speed Region within Middle East and North Africa (MENA) region is expected to narrow. The Omani financial system remains stable in the face of such fragilities observed in the global macro-financial environment. Given the uncertain global outlook, continued emphasis on reducing vulnerabilities is, however, necessary.*

### 1.1. INTERNATIONAL CONTEXT

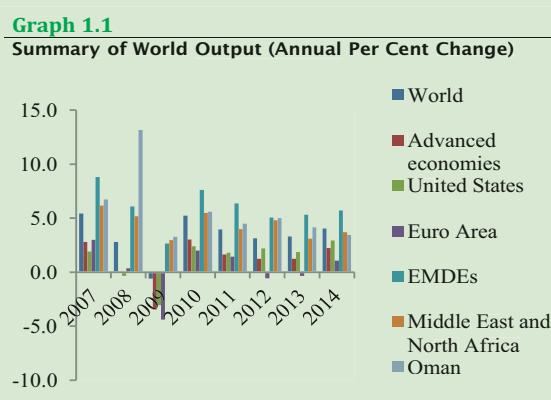
*While global prospects for economic growth and hence financial systems have improved, new challenges have come to the fore*

1.1.1. While global prospects have improved (Graph 1.1), the road to recovery in the advanced economies remains bumpy and new risks have come to the fore<sup>1</sup>. The global economy is characterized by the emergence of a “three-speed” global economy - those countries that are doing well (mainly the emerging markets and developing countries), those that are on the mend (including the United States), and those that still have some

distance to travel (such as the Euro Area and Japan). The emerging markets and developing economies are grappling with the potential fallout from exceptionally loose monetary policy in advanced economies. Similarly, while the global financial system is far more stable than it was six months ago, a number of challenges remain<sup>2</sup>. Recent rallies in financial markets will not be sustained, and new risks linked to easy monetary policies that were put in place over a prolonged period to fight the crisis are likely to emerge, unless key vulnerabilities are addressed. Easy money in advanced economies is spilling over to emerging markets, where borrowing on international markets by emerging market corporates has been growing strong, exposing them to foreign currency risks and rising leverage. This makes emerging markets more sensitive to volatile capital flows.

*MENA: Narrowing Differences in a Two-Speed Region*

1.1.2. In 2012, economic performance across the MENA region was relatively robust at 4.8 per cent, but mixed with oil-exporting countries growing at healthy rates and sluggish growth



Source: World Economic Outlook, April 2013

<sup>1</sup> World Economic Outlook (WEO), International Monetary Fund (IMF), April 2013

<sup>2</sup> Global Financial Stability Report (GFSR), IMF, April 2013

in the oil importers. It is expected to weaken to 3.1 per cent in 2013 largely because of an expected slowdown among oil exporters. In 2013, these differences are expected to narrow because of a scaling back of hydrocarbon production among oil exporters and a mild economic recovery among oil importers. Given the uncertain global outlook, oil-exporting economies need to have continued emphasis on reducing vulnerabilities.

1.1.3. Risks to these countries stemming from exposure to Europe are limited, but the impact via oil demand and prices could be substantial. The oil exporters are enjoying high growth thanks to the combination of historically high oil prices, expanded oil production, expansionary fiscal policies, and low interest rates are supporting buoyant economic activity. At the same time, however, these economies remain dependent on hydrocarbon extraction and rising government spending has raised breakeven oil prices, implying heightened vulnerabilities. Given the uncertain global outlook, continued emphasis on reducing vulnerabilities will be important alongside greater focus on strengthening the foundations for longer-term growth and diversification.

## 1.2 OMAN'S DOMESTIC MACROECONOMY<sup>3</sup>

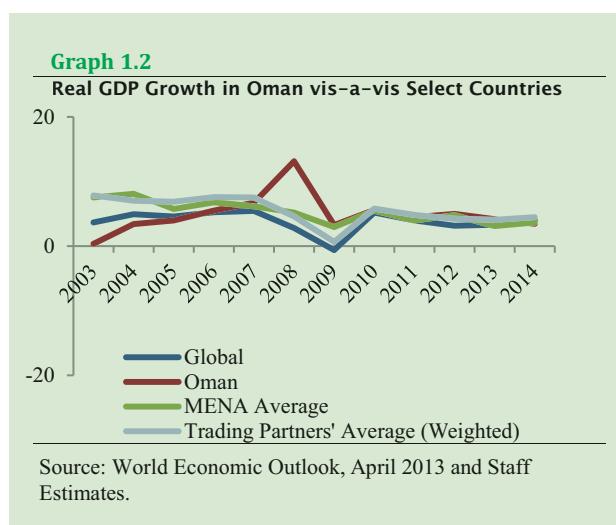
### GDP Growth

*In the post-crisis period, the fragile global growth performance has yet to make a major impact on the economy of Oman*

1.2.1 In Oman's oil dependent economy, the fragile global growth performance has yet to make a major impact so far, thanks to the expansionary fiscal and accommodative monetary policy pursued in the aftermath of the crisis. Given the observed co-movement between domestic economy and oil prices, a rising trend in oil prices has resulted in twin surplus in both external and government fiscal accounts. Strong growth in oil revenue in 2011 and 2012 financed significant government expenditure in public sector activities that sustained domestic demand. Given a global growth forecast of 3.2 per cent in 2012 (the slowest pace since the 2009 recession), 3.3 per cent in 2013 and 4.0 per cent in 2014, forecast world oil prices at US \$ 105.0, 102.6 and 97.6 per barrel, Oman's GDP growth has been projected at 5.0, 4.2 and 3.5 per cent for 2012, 2013 and 2014 respectively ([Graph 1.2](#)).

1.2.2 However, these baseline projections for Oman's growth would undergo downward revisions to some extent under adverse scenario of oil prices (assuming lower oil prices than prevalent now) causing Oman's real GDP growth to decrease in the range of 3.2 to 3.5 per cent in 2014, reflective of the risk factor of the dependence of the Omani growth process on the oil prices together with the global growth ([Box 1.1](#); [Graphs 1.3 to 1.6](#)).

1.2.3 Although non-oil real GDP growth has been robust and at a level higher than oil GDP and overall GDP growth since 2010 ([Graph 1.7](#)), in a scenario of uncertain global environment, lower oil prices could lead to a reduction in public spending resulting in



<sup>3</sup>Macro-economic data for Oman for 2012 are provisional, and subject to change.

## Box 1.1

### Impact of Oil Prices and Global Growth on Oman's Real GDP Growth

**Graph 1.3** suggests linkages between Omani real GDP growth and oil prices as well as between the Omani real GDP growth and global GDP growth. The only periods in which the global and Omani GDP paths do not co-move are when high/low oil prices impact the Omani economy more.

A simple OLS-type macro model was estimated using annual data from 1998 to 2012 for oil prices and real GDP growth. The final macro model links real GDP growth in Oman with oil prices and global economic growth (**Table 1.1**) to capture the impact of oil prices and global GDP on Oman's real GDP growth.

Using annual data for the period 1998 onwards from WEO April 2013 database, 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 0.5 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 20 USD results in a decline in Omani real GDP growth by some 1.2 percentage point in the same period.

Using the above model, two adverse scenarios were generated for a horizon of next two years (**Graphs 1.4 to 1.6**). First, an oil price shock scenario which assumes a large drop in oil prices from current levels of around 103 USD/barrel to around 83 and 80 USD/barrel in 2013 and 2014 (average oil prices since 2006 and 2005 respectively). Second, a loss of confidence scenario was adopted which assumes a larger drop in oil prices to around 75 USD/barrel (average oil prices since 2004) for both 2013 and 2014. In parallel, to have some consistency in external macroeconomic environment, the global GDP is assumed to grow less than expected.

**Table 1.1: Estimation of a simple macro (GDP) model**

Dependent Variable: OMAN\_GROWTH

Method: Least Squares

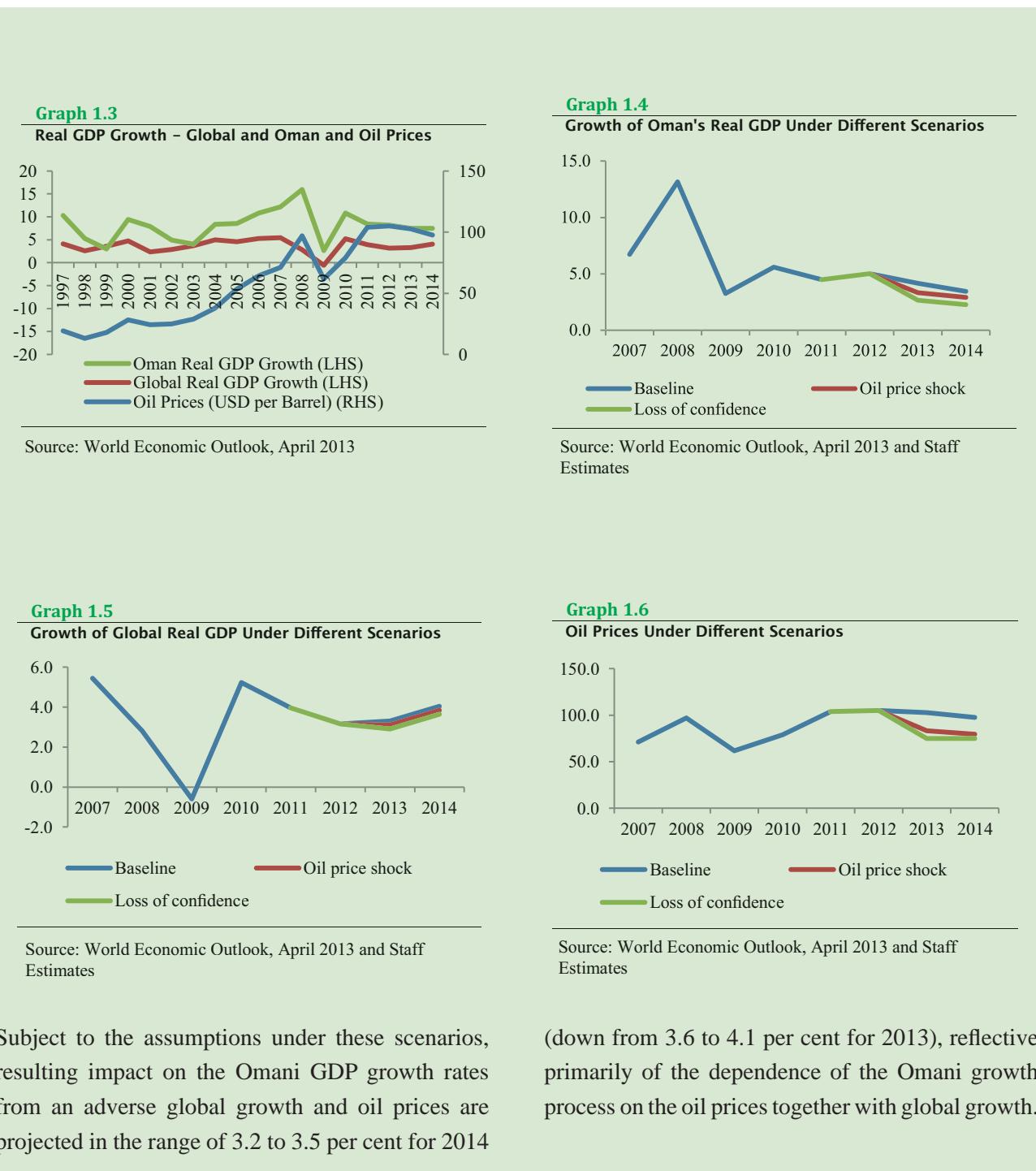
Sample: 1998 2012

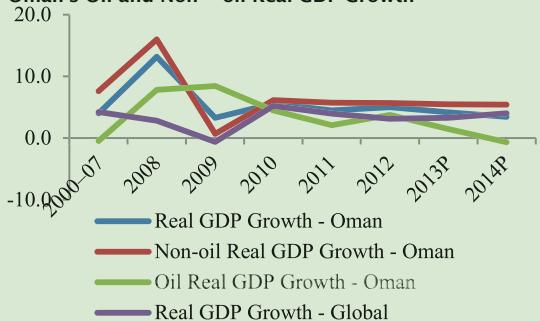
Included observations: 15

HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 3.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.825731	2.014880	-0.409817	0.6892
GLOBAL_GROWTH(-2)	0.502411	0.278866	1.801620	0.0968
OIL_PRICES	0.062239	0.025177	2.472053	0.0294
R-squared	0.452544	Mean dependent var		4.394800
Adjusted R-squared	0.361301	S.D. dependent var		3.150355
S.E. of regression	2.517721	Akaike info criterion		4.861442
Sum squared resid	76.06702	Schwarz criterion		5.003052
Log likelihood	-33.46081	Hannan-Quinn criter.		4.859933
F-statistic	4.959782	Durbin-Watson stat		2.130566
Prob(F-statistic)	0.026921			

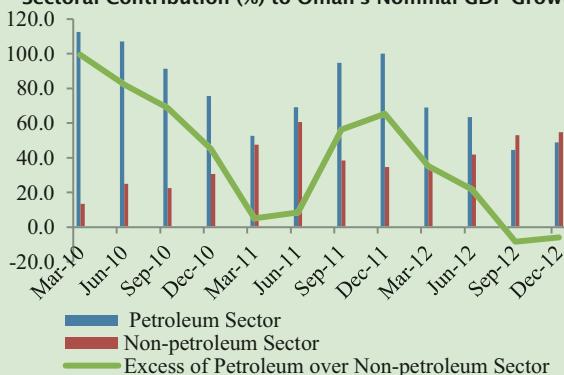
## Chapter I



**Graph 1.7****Oman's Oil and Non – oil Real GDP Growth**

P: Projection

Source: Regional Economic Outlook, IMF, May 2013

**Graph 1.8****Sectoral Contribution (%) to Oman's Nominal GDP Growth**

Note: Sectoral contributions of petroleum and non-petroleum sectors may not add to total GDP in presence of other items, like financial intermediation services indirectly measured (FISIM) and taxes net of subsidies, the latter negative in case of Oman.

Source: National Center for Statistics and Information (NCSI), Oman and Staff Estimates

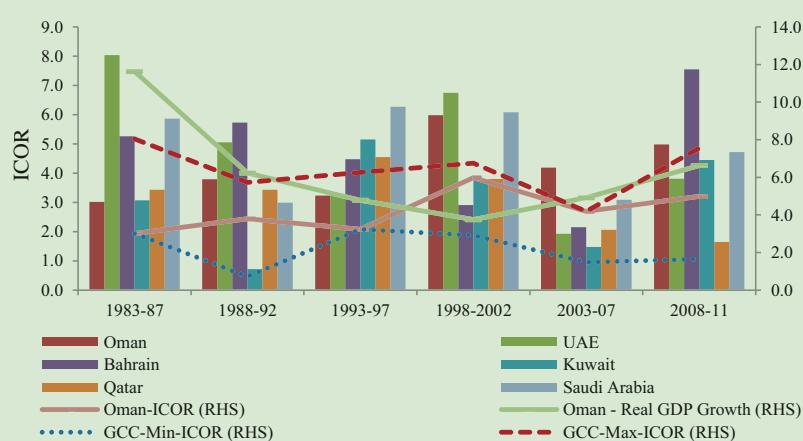
reduced non-oil real GDP growth, and hence lower overall real GDP growth, particularly in 2013.

**Non-oil contribution to GDP improving**

1.2.4 Government non-oil revenues as percentage of total revenues have declined from 19.2 percent in 2010 to 15.6 per cent in 2011 and further to 14.6 per cent in 2012. The overall growth process, however, continues to be sustainable in Oman characterized by an improved diversification of the economy. Since December 2011, such a trend is reflected in terms of decline in the excess of contribution of petroleum sector to GDP growth vis-à-vis the non-petroleum sector (Graph 1.8). Moving forward, if such reduction in concentration in GDP sustains, it would augur well from the point of view of moderation in systemic risk facing Oman's macro-economy.

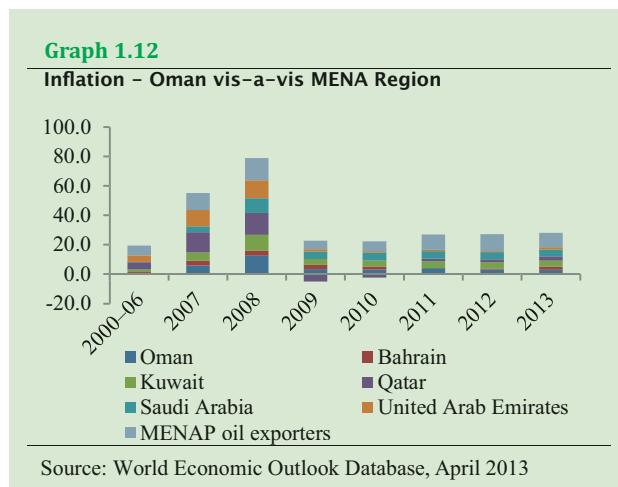
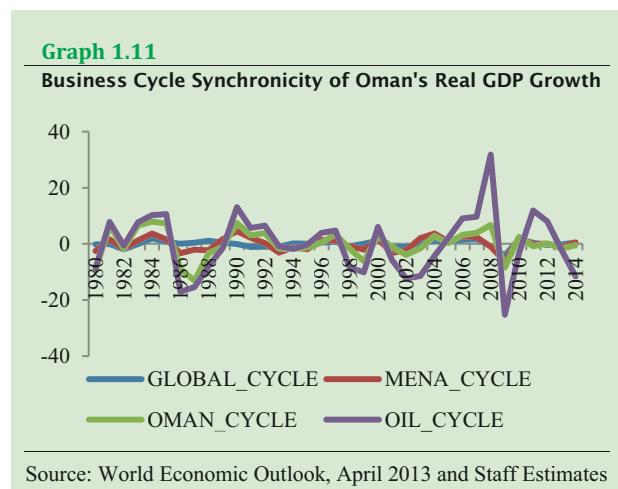
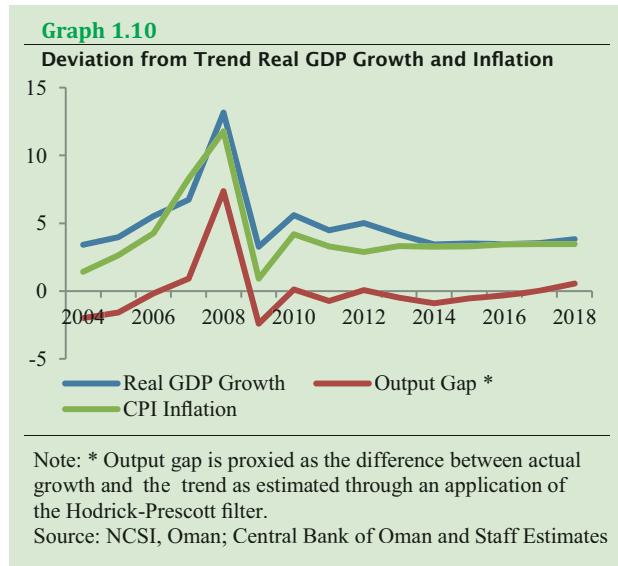
**Efficiency in use of capital showing better trends in recent times**

1.2.5 While Oman's incremental capital output ratio (ICOR) is broadly within the upper and lower bands of GCC countries, in the period since 2002, an increase in real GDP growth for Oman coexists with an increase in

**Graph 1.9****ICOR \*–Oman vis-a-vis GCC Countries and Oman's Real GDP Growth**

\* Note: Impact of extreme outliers adjusted.

Source: World Economic Outlook, April 2013 and Staff Estimates



ICOR, pointing to greater capital intensity/inefficiency of its growth process, a risk factor that needs to be contained going forward ([Graph 1.9](#)). It is worthwhile, however, to note that in the past five years Oman has been more efficient in its average capital usage in comparison to the previous years (1998-2007).

1.2.6 Omani growth process is characterised by relative stability in the sense that actual real GDP growth has remained in alignment with its potential growth, the latter as proxied by the trend through an application of the Hodrick-Prescott filter ([Graph 1.10](#)). An analysis of data for the period since 2004 suggests that Oman's output gap, as measured by the difference between the actual growth and its trend, remained on average at 0.72 per cent and Consumer Price Index (CPI) inflation at 4.0 per cent on average, excepting for the year 2008 when it shot up to 7.4 per cent when CPI inflation also turned high at 11.8 per cent. Way forward, the similar trend is expected to continue and is expected to be a risk mitigant for Oman's evolving inflationary trends.

*Synchronicity seen of business and financial cycles of Oman over time and across countries*

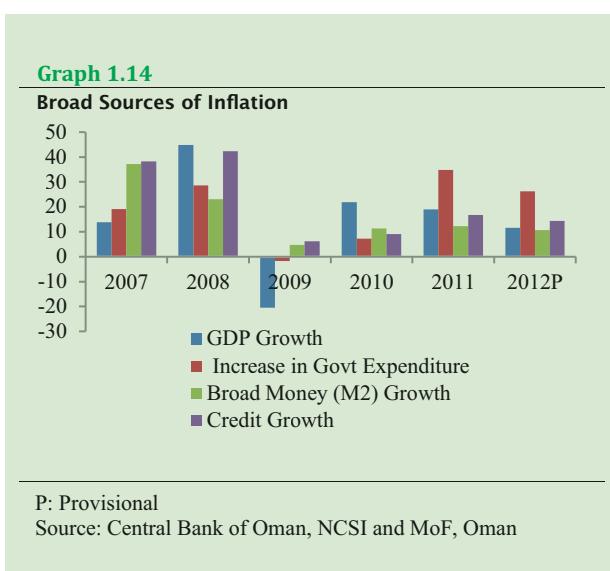
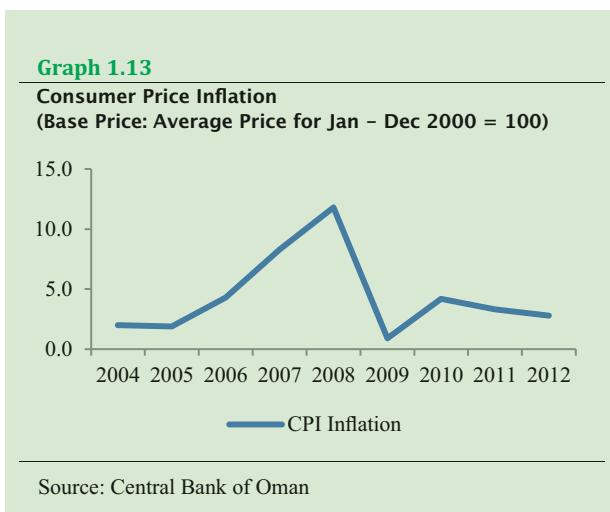
1.2.7 A distinct trend of co-movement of Omani business cycles with those displayed in cases of MENA economies, global position and oil prices movements was discerned ([Graph 1.11](#)). This sort of 'synchronicity risk' could be a precursor to falling prey to potential vulnerabilities to external sector<sup>4</sup>.

<sup>4</sup> The degree of synchronicity between two countries over a time period is often interpreted as the fraction of time that both countries are in the same state of the business cycle; that is, the fraction of time the countries are both in recession or are both in expansion. Details in Berge Travis J. (2012), Has Globalization Increased the Synchronicity of International Business Cycles?, Federal Reserve Bank of Kansas City Economic Review • Third Quarter. For our purpose, these cycles are constructed from the relevant indicators for the period 1980 to 2014 as the difference between actual growth and their trends as estimated through an application of the Hodrick-Prescott filter.

## Money Supply, Credit and Inflation Risks

### Oman's benign inflation due in part to favourable demand-side triggers

1.2.8 Oman's CPI inflation on yearly average basis being range-bound between 3 to 4 per cent during the period since 2009 compares favourably with MENA oil exporters' average ([Graph 1.12](#)). However, compared with the average rate during 2000-2006, inflation has tended to show a much higher pace of increase since 2007. In 2011, out of overall inflation at 4.0 per cent, the group 'food, beverages and tobacco' (weight 30.4 per cent) and 'personal care items and other services' (weight 6.1



per cent) – both being imported - contributed around 73 per cent of overall inflation, and thus displaying a trend of Oman's inflation getting mainly influenced by global commodity prices and Oman's import-intensity towards them.

1.2.9 Inflationary pressure is seen to be easing as reflected in the year-on-year variation in point-to-point CPI as it fell from 4.2 per cent in December 2010 to 3.3 per cent in December 2011 and further to 2.8 per cent in December 2012 ([Graph 1.13](#)). This moderation manifests a state of contained imported inflation (through a stronger dollar and easing global commodity prices on account of slow global recovery) and lower growth in bank credit (16.7 per cent to 14.4 per cent), broad money (12.2 per cent to 10.7 per cent), GDP growth (19.0 per cent to 11.6 per cent) and Government expenditure (34.8 per cent to 26.2 per cent) between 2011 and 2012 ([Graph 1.14](#)).

1.2.10 Achieving low and stable inflation is sine qua non of macro-economic stability. Two risks associated with inflation in Oman are: (i) Oman being an importer of most of the essential commodities, increase in prices of essential commodities in the international markets is a risk; and (ii) There may be pressure on the real effective exchange rate if the inflation rate differential between Oman and US widens much. Above all, since growth-inflation trade-off<sup>5</sup> is critical for financial stability, going forward, achieving low and stable inflation holds the key to containing systemic risk.

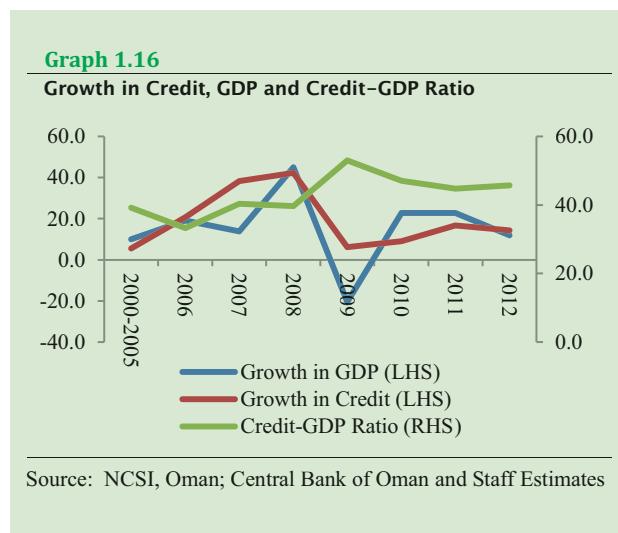
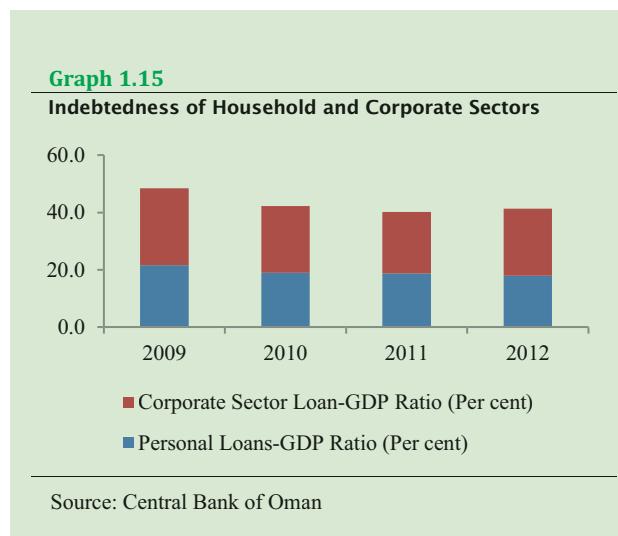
1.2.11 Way forward, buoyant domestic demand (both consumption - private and government and investment) is likely to offset the benefit which may arise due to benign global price situation in response to slow global recovery. As stated earlier, what may help, however, is

<sup>5</sup> Recent empirical work on 'Backward bending Phillips Curve' which argues that Phillips Curve is negatively sloped at low levels of inflation, becomes positively sloped at high levels of inflation and turns vertical if inflation expectations converge to actual inflation. This lends support to the hypothesis of the existence of a threshold level of inflation. The empirical results strongly suggest the existence of a threshold beyond which inflation exerts a negative effect on growth. The threshold is lower for industrial than for developing countries (estimates are 1-3 per cent for and 7 to 11 per cent for industrial and developing countries respectively depending on the estimation method). Details in IMF (2000), Threshold Effects in the Relationship between Inflation and Growth, Mohsin S. Khan and Abdelhak S. Senhadji, IMF/00/110.

the growth performance of Oman, which is expected to remain at its trend level ([Graph 1.10](#)).

### *Extent of financial deepening is low and improving slowly*

1.2.12 Domestic credit is the major component of banking system assets. Growth in bank credit rose significantly from an average of 11.6 per cent per year during 2001-07 to 17.7 per cent per year during the post-crisis period of 2008-12. As growth in credit outpaced growth in nominal GDP (with an average nominal GDP growth of 11.7 per cent and 15.4 per cent respectively during the two periods), credit to GDP ratio increased from 38.5 per cent to 46.8 per cent between the two periods.



1.2.13 In 2012, credit-GDP ratio for Oman stood at 47.7 per cent. Despite significant credit growth in the last few years, the credit penetration in Oman remains in a lower orbit, particularly in the face of the country's favourable demographics (30.8 per cent of the population under the age of 15 years<sup>6</sup>) and when compared with other GCC nations, but is slowly improving.

1.2.14 Credit to the private sector consisting of loans to the corporate and household sectors constitute the bulk of total credit in Oman. With economic recovery mostly driven by public sector activities, credit extended to public enterprises rose significantly almost doubling its share in total credit from 5.9 per cent in 2009 to 11.9 per cent in 2012. In consonance with this trend, the share of credit to the private sector subdued from 91.5 per cent in 2009 to 86.7 per cent in 2012. Between 2009 and 2012, both personal loans and corporate loans as a proportion to GDP declined from 21.6 per cent to 18.0 per cent and 26.9 per cent to 23.3 per cent, respectively ([Graph 1.15](#)).

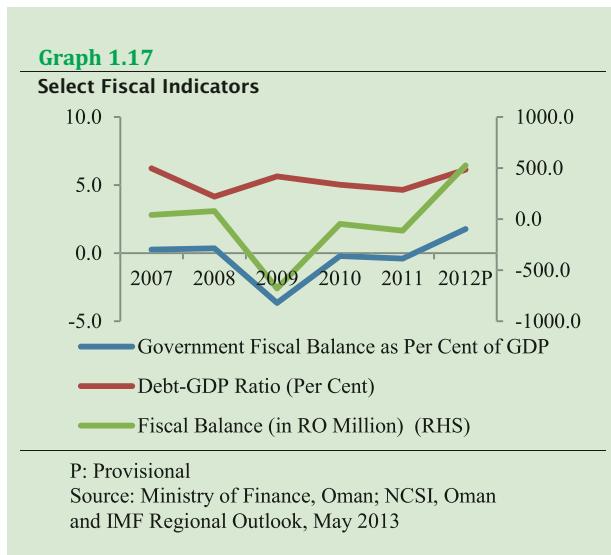
1.2.15 Excessive credit growth has often been associated with growth in systemic risk, since it can threaten macroeconomic stability in many ways and considered one of the most reliable indicators of future problems in the banking sector<sup>7</sup>. The evolution of credit as a percentage of GDP in Oman shows that the ratio is currently slightly above the trend level (average for 2007-2011) ([Graph 1.16](#)). Given the expected stabilisation of the credit-to-GDP ratio near its current level in the period ahead, there may not emerge any significant risks from the buildup of excess credit to financial stability in Oman.

<sup>6</sup> United Nations Economic and Social Commission for Western Asia (ESCWA)'s estimate for 2010.

## Fiscal Sector

### *Fiscal risk for Oman is minimal in the face of favourable oil revenues*

1.2.16 Fiscal sector risk in Oman looks minimal with a fiscal surplus of RO 525.3 million for 2012, which works out to be 1.7 per cent of GDP (using Oman's nominal GDP for 2012 estimated at RO 30,033.6 million). Debt-GDP ratio ranged a very low level of around 4 to 6 per cent of GDP since 2007, as well ([Graph 1.17](#)). Such a benign fiscal scenario was achieved despite the global uncertainties, the increase in the public sector wage bill and the full year effect of the increase in social and unemployment benefits instituted in response to societal concerns in 2011, thanks to a robust pace in oil revenues registering a growth of 32.5 per cent in 2012 on top of an increase of



42.6 per cent in 2011. IMF has projected the Government gross debt to GDP ratio to remain low, averaging 7.6 per cent of GDP in 2012–2015 (WEO, April 2013).

1.2.17 The above notwithstanding, the continuous rise in the share of oil and gas revenue in the total revenue of the Government from around 76.0 per cent in 2007 to 85.4 per cent in 2012 smacks of underlying concentration risk.

1.2.18 The 2013 budget, however, adopts an expansionary fiscal stance reflected in the government policy of generating more jobs by way of investing more on modernizing existing infrastructure and exploring/producing hydrocarbon reserves. The trade-off between improving the lot of the populace and cost-effectiveness of expenditures would continue to remain a challenge for the policy makers.

1.2.19 In Oman, the State General Reserve Fund (SGRF)<sup>8</sup> established in 1980 as part of the Ministry of Finance, has been set up as a vehicle through which the Government of Oman can help secure the future prosperity of its people by building up a diversified asset base to complement its wealth of natural resources through investing the same in a diversified portfolio of non-oil overseas assets. Its main objectives are: (i) to achieve long-

<sup>7</sup> Given that lending supports consumption, growth in private sector loans can overstimulate aggregate demand beyond the framework of potential output and cause the economy to overheat, with knock-on effects on inflation, current account deficit, interest rates and the real exchange rate. Second, the bulk of “potentially” bad loans arise during upward phases of the credit cycle, when lending institutions can have over-optimistic expectations about borrowers’ future ability to repay their debts and, therefore, very often lend to high-risk borrowers. Details in Seidler, Jakub and Adam Gersl (2012), Excessive Credit Growth and Countercyclical Capital Buffers in Basel III: An Empirical Evidence from Central and East European Countries, MPRA Paper No. 42541, posted 13. November 2012, Online at <http://mpra.ub.uni-muenchen.de/42541/>). Accordingly, under Basel III, the evolution of loans to the real sector as a percentage of GDP compared to the “trend” will be the first tentative indicator of a lending boom and in future should also be used to determine the rate of the countercyclical capital buffer.

<sup>8</sup> It is in the nature of Sovereign wealth funds (SWFs) which are normally of medium term horizons and are primarily established for the purpose of smoothing short term volatility stemming from oil revenues in government expenditure so as to avoid boom and bust cycles (Sturm et al., 2008). Accordingly, they are part of the general fiscal policy framework and are also meant to improve the conduct of fiscal policy. Furthermore, the SWFs are assumed to have played a large role in sterilizing the effect of oil revenues resulting from high demand for and price of hydrocarbon products. While SWFs are regarded as long-term saving funds for future generations (Scherer, 2009), existing research suggests that they can also be a stabilizing force in global financial markets (IMF, 2009). Details in:

Sturm, M., Strasky, J., Adolf, P., and Perschel, D. (2008), The Gulf Cooperation Council Countries; Economic Structures, Recent Developments, and Role in the Global Economy, European Central Bank, Occasional Paper Series, No 92;

Scherer, B. (2009), Macroeconomic Risk Management for Oil Stabilization Funds in GCC Countries, EDHEC Business School; and

IMF (2009), Sovereign Wealth Funds and Financial Stability—An Event Study Analysis, Tao Sun and Heiko Hesse, WP/ 09/239.

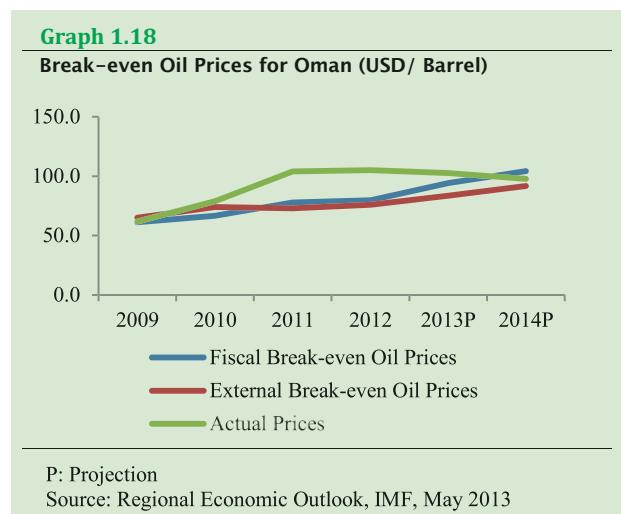
term returns for the Government, (ii) to act as a stabilisation fund for the Government and (iii) to provide liquidity to the Government when called upon; and thus, fulfill the objective of preservation and enhancement of Oman's foreign reserves. The reserves provide a stream of income which can act as a fiscal safety net for emergent/future use.

### Dynamics of Oil Prices Movement

*A highly skewed oil sector and volatile oil prices will continue to haunt the economy*

1.2.20 In 2012, oil sector contributed more than 85.0 per cent of the government revenue and around 70.0 per cent of total merchandise exports. The average price for the Omani crude oil increased from 77 USD/barrel in 2010 to 103 USD/barrel in 2011 and further to 110 USD/barrel in 2012. Break-even oil prices for fiscal accounts have increased from 66.6 USD/barrel in 2010 to 79.8 USD/barrel in 2012, while that for external accounts have risen from 74.0 USD/barrel in 2010 to 75.9 USD/barrel in 2012 (**Graph 1.18**). As of 2013, IMF has projected the break-even oil prices of 94.1 USD/barrel for fiscal and 83.6 USD/barrel for external accounts of Oman. For 2014, these are projected higher at 104.4 and 91.7 USD/barrel respectively.

1.2.21 Oil prices may be a risk factor if crude oil prices fall persistently in the international



markets in the event of worsening global macroeconomic situations, particularly if the oil prices fall below the break-even prices for fiscal and external accounts. While actual prices for the last three years have remained above both the break-even prices, resulting in significant improvement in the overall fiscal balance as well as in the external current account for Oman, the significant rise in the break-even oil prices themselves is a risk factor that needs to be kept under check.

### Issues in Demand for/Production of Oil

*Somewhat sluggish outlook on world oil demand is discerned in 2013 projected by IEA with coal set to rival oil as the world's biggest source of energy by 2017 and shale gas discovery in US*

1.2.22 As of the year 2013, the outlook for the crude oil market is somewhat sluggish both on the demand as well as production sides. First on the demand side, as per the assessment of International Energy Agency (IEA), April 2013, world oil demand is projected at 90.6 million barrels per day in 2013, up from 89.7 million barrels a day in 2012. The IEA expects 2013 to be the third consecutive year of weak growth in demand, adding only 795 kilo barrels per day (kb/d), since relatively strong demand growth among non-OECD countries of 1.28 million barrels a day will be tampered by a contraction of 480 kb/d in OECD consumption, particularly in Europe, where it will shrink by 340 kb/d. European demand has not been this weak since 1985.

1.2.23 Secondly, with coal's share of the global energy mix continuing to rise, coal will come close to surpassing oil as the world's top energy source by 2017. As per the IEA's Medium Term Coal Market Report (December 2012), global coal consumption is forecast to reach 4.3 billion tons of oil equivalent by 2017, while oil consumption is forecast to reach 4.4 billion tons by the same date.

## Shale oil and gas emerging as an alternate source

1.2.24 Further, on the production side, coal demand is seen to be increasing in nearly every region of the world except US, where shale gas is displacing coal. Although the shale revolution underscores the reality that price incentives and technological change can trigger significant supply responses in the oil and gas sector, especially in US, the full potential of the new resources at the global level is still unknown (Box 1.2). It may not be a big threat in immediate future, as its exploration and development outside the United States is only beginning. In such

a milieu, the recent announcement of the discovery of three oilfields and a gas field show rays of hope for Oman<sup>9</sup>.

## External Sector

### *A strong and resilient external sector backed by adequate foreign exchange reserves*

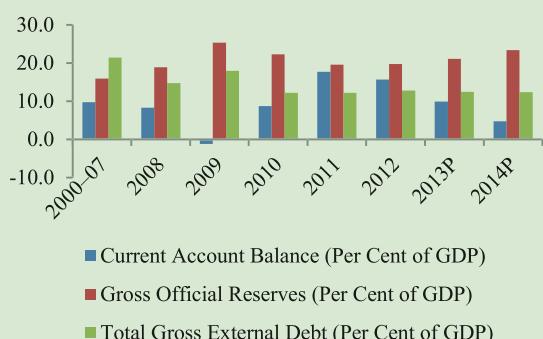
1.2.25 Oman's current account has always been in surplus (except for a small deficit in 2009). Balance of payments position has been robust with high and rising foreign exchange reserves. External debt has been low and falling (Graph 1.19).

### *Forex reserves are considered to be adequate reflecting reduced risks from imported financial stability*

1.2.26 The forex reserves<sup>10</sup> were sufficient to pay for the cost of imports for eight months (as against the thumb rule of at least three prospective months of imports of goods and services<sup>11</sup>) as at end-2011 and could meet gross current account payments liabilities up to four months. The reserve coverage of base money (M0) worked out to 287.3 per cent at end-December 2011 (as against the legal provision of 60 – 100 per cent commonly used for countries with currency boards<sup>12</sup>) reflecting the backing of the currency in circulation. Similarly, the reserve coverage of broad money (M2) worked out to 53.2 per cent at end-December 2011 (as against a minimum threshold of 20 per cent commonly used for countries with pegged exchange rate regime<sup>13</sup>) reflecting inherent robustness to meet unforeseen capital flight (Graph 1.20).

**Graph 1.19**

External Account Balance



P: Projection

Source: Regional Economic Outlook, IMF, May 2013

**Graph 1.20**

Foreign Exchange Reserve Adequacy Indicators



Source: Central Bank of Oman

<sup>9</sup> The recent announcement of the discovery of three oilfields and a gas field in Oman expected to contain about 1 billion barrel of crude, and a potentially large gas field augurs well for Oman's oil reserves and the cost of extraction. The biggest of the new oil deposits, located in central Oman, contains shallow deposits of heavy crude and may be one of the largest oil discoveries ever made in Oman. Details in <http://www.thenational.ae/business/energy/oman-makes-new-oil-and-gas-find>

**Box 1.2****Shale Oil and Gas – Implications**

The impact of shale or tight oil on global oil market seems unlikely to be as far reaching for the following reasons:

(i) The new sources on their own are unlikely to change the global oil supply picture as fundamentally as supply developments in countries outside OPEC did in the 1970s. Many non-OPEC producing countries recorded strong cumulative production growth at the time.

(ii) The economic feasibility of oil shale is highly dependent on the price of conventional oil, and the assumption that the price will remain at a certain level for some time to come. The production cost of a barrel of shale oil ranges from as high as US\$95 per barrel to as low US\$25 per barrel. The industry is proceeding cautiously, due to the losses incurred during the last major investment into oil shale in the early 1980s, when a subsequent collapse in the oil price left the projects uneconomical.

(iii) The various attempts to develop oil shale deposits have succeeded only when the cost of shale-oil production in a given region comes in below the price of crude oil or its other substitutes (break-even price). The International Energy Agency estimates, based on the various pilot projects, that investment and operating costs would be similar to those of Canadian oil sands, which means, it would be economical at prices above \$60 per barrel at current costs.

(iv) Over the past five years, the increase in U.S. crude oil production has been the most important source of new production outside the Organization of the Petroleum Exporting Countries. Recent medium- and long-term scenarios for U.S. oil production generally forecast that production from these new sources will increase by another 1

to 2 million barrels a day over the next two to three years before stabilizing at 2 to 3 million barrels a day - all else equal, total U.S. crude oil production could reach about 8 million barrels a day. In terms of current production, oil extracted from unconventional sources in the United States on average amounted to slightly more than 1 per cent of the global total of about 90 million barrels a day in 2012. Had there been no change in oil demand, prices would likely have declined by more. The increased U.S. oil output roughly matched the global growth in oil consumption. Because there was little production growth elsewhere, increased U.S. oil production in the end contributed to the relative stability of oil prices in 2012.

(v) The extent to which the new sources of oil will affect prices depends on the shift in the global supply. Oil markets are sufficiently integrated that prices adjust based on global demand and supply. But the increase is still small.

(vi) Due to the volatile prices and high capital costs few deposits can be exploited economically without subsidies. However, some countries, such as Estonia, Brazil, and China, operate oil-shale industries, while some others, including Australia, USA, Canada, Jordan, Israel, and Egypt, are contemplating establishing or re-establishing this industry.

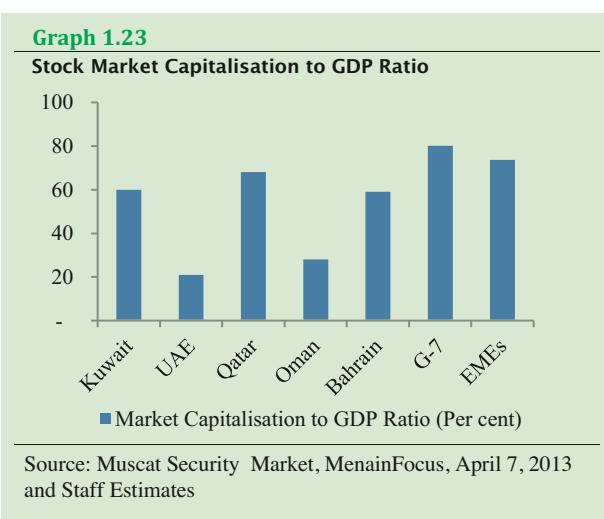
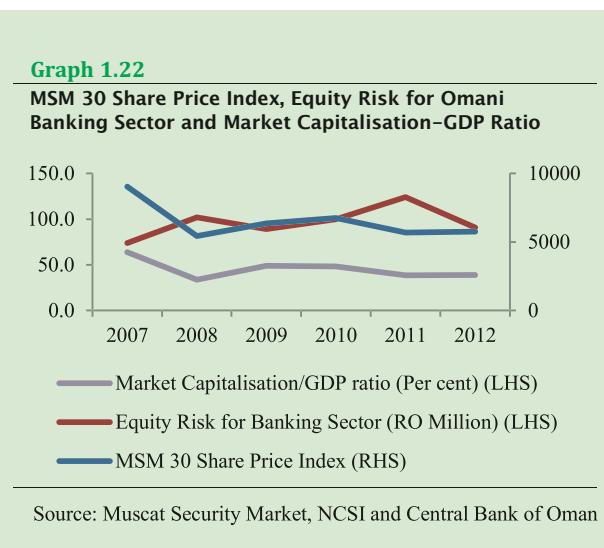
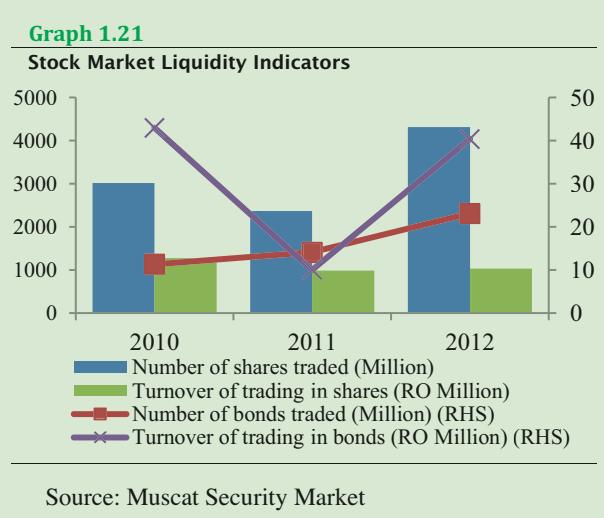
Regardless of their impact on global supply and prices, the new resources are significant for the United States as an oil producer. Moreover, the United States is unlikely to become the large net gas importer predicted a few years ago.

#### Select Reference

IMF (2013), On the Rise, by Thomas Helbling, Finance and Development, March.

## Stock Market

*Relatively infant capital market shows inadequate buoyancy even as it remains in sync with domestic GDP growth and external developments*



1.2.27 Oman's stock market is primarily equity-based with very low depth for bonds, the latter accounting for between 2 to 3 per cent in the turnover of trading, as per the latest Muscat Security Market (MSM) data (Graph 1.21). On a long term basis, the MSM-30 index displays co-movement with market capitalization-GDP ratio underscoring the strong link between economic activity and security prices, given that the stock price is the discounted present value of the firm's payout (Graph 1.22). In line with stock price developments, the market capitalization to GDP ratio, which is indicative of the size of the market declined drastically compared with immediate pre-crisis levels. The market capitalization to GDP ratio increased to 38.8 percent in 2012 from around 38.4 per cent in the previous year. In line with the above stock price trends, the equity price risk for Oman's banking sector has tended to register a co-movement, the two moving in opposite direction (Graph 1.22). Apart from this discernible direct impact, there are several indirect channels, through which the stock market may impact the systemic risk for Oman (Box 1.3).

1.2.28 There is 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 (Graph 1.23).

<sup>10</sup> Global international reserves grew rapidly over the last decade, mainly in emerging market economies primarily for precautionary reasons to insure against shocks, including those from volatile international capital flows, and to preserve financial stability as a by-product of the pursuit of policy objectives related to the exchange rate and competitiveness. Since the global financial crisis, reserve accumulation has continued, and is now evident in some economies that have traditionally not emphasized the need for international reserves. Details in Independent Evaluation Office of the International Monetary Fund (2012), International Reserves Concerns and Country Perspectives, Evaluation Report.

<sup>11, 12 & 13</sup> IMF (2013), Restoring Sustainability in a Changing Global Environment Options for Swaziland, Olivier Basdevant, Emily Forrest, and Boris-lava Mircheva, African Department, 13/1.

**Box 1.3****Impact of Stock Market on Systemic Risk**

Stock market reversals are known to constitute one of the primary sources of financial crises. Primarily equity based, the stock market lacks depth in Oman. Nevertheless, from the point of view of systemic risk, level or volatility of equity prices is important for the macro-economy for the following reasons:

- (i) While banks may have limited direct exposure to changes in equity prices because of limited direct investment in equities, their indirect exposure through exposure limits to sensitive sectors, such as, advances against equities and their dealings with counterparties, such as securities firms, whose collateral and credit standing may be affected by falling equity prices;
- (ii) Above-trend growth in index or very high levels of market to book value can be indicative of an equity price bubble. A large fall in equity prices can cause short-term disruption to markets and is likely to affect the balance sheets of a large number of households, corporations and financial intermediaries;
- (iii) Level of equity prices may influence consumption and savings decisions (through the wealth effect on the part of economic agents)

*Certain structural issues need redressal*

1.2.29 Absence of benchmark interest rates in the domestic financial market may not be desirable for a smooth operation of banks and financial institutions in Oman. Going forward, measures to set up benchmark interest rates, would be beneficial not only from the point of view of market players, as an essential prerequisite for foreign exchange risk hedging, but also as an integral part of work to foster the development of the money market and pave the way for meaningful monetary transmission through interest rates.

1.2.30 In this context, a proposal under

and investment though Tobin's Q ( $Q = \text{ratio between the market value and replacement value of the same physical asset}$ ), and thereby affect the inflation outlook;

- (iv) Falling equity prices may simply be the messenger that heralds lower economic activity and therefore the reduced ability of companies and individuals to service their debt; and
- (v) Rising equity prices may encourage banks to expand the availability of credit, and enable firms and households to increase their purchases of capital goods. Yet, when asset prices fall substantially, those additions to capital may seem in hindsight unwarranted, personal consumption and corporate investments may be reduced and the loans that supported the earlier capital acquisitions ill-judged.

Since equities are (imperfect) substitutes for other speculative assets such as property, changes in equity prices are correlated with changes in property values. Thus falling equity prices often go hand-in-hand with falling property prices and with a rise both in insolvencies in the construction and property sectors and in arrears on residential mortgages.

consideration of the Government of Oman to issue of US dollar denominated bonds, sometime in 2014 assumes key significance. Firstly, when issued, it would establish a benchmark for the private sector and their borrowing requirements. Secondly, if issued, this would be a sequel to its first issue in March 1997 when Oman tapped the international bond market with a \$225 million eurobond. By reestablishing Oman's presence in the international bond market, a sovereign issue could pave the way for regular deficit financing through bond issues in future, if need be, particularly if oil prices fluctuate due to economic cycles and if there emerges a need to borrow on the part of the Government.

## Chapter II

### FINANCIAL INSTITUTIONS

The recent financial crisis has highlighted the importance of stability of financial institutions because disruption in financial system aggravates economic downturns and puts heavy burden on the national exchequer to rescue distressed institutions. Financial institutions in Oman include banks, finance and leasing companies, insurance companies, mutual funds, pension funds, and exchange companies. The health of these institutions is crucial because these provide the basic intermediation function, that is, channeling funds from those who have surplus to those who are in need of these funds. Moreover, these institutions also form the backbone of the payment system infrastructure. Oman has a relatively small and introvert banking system, which has largely remained insulated from regional and global volatility. Financial institutions in Oman also offer relatively less complex products than their global counterparts. This keeps them immune from the adverse effects of toxic assets that were spread all over the world starting from American banks.

#### 2.1 BANKING SECTOR

*Banks continue to enjoy leading position in the financial sector landscape*

2.2.1 The financial system of Oman remains predominantly bank-centric with total assets of the banking sector forming about 94 per cent of the total financial sector assets as at the end of Financial Year 2012 (FY-12) ([Graph 2.1](#)). The total assets of banking sector at RO 20.9 billion, registered a year on year increase of 14 per cent over FY-11. This dominant share continued to rise over years as well indicating relatively sluggish growth of other segments of the financial system. While banks keep the backbone of the Omani economy and payments and settlements system well-oiled, an overly skewed structure, given the externalities of the banking sector, warrants

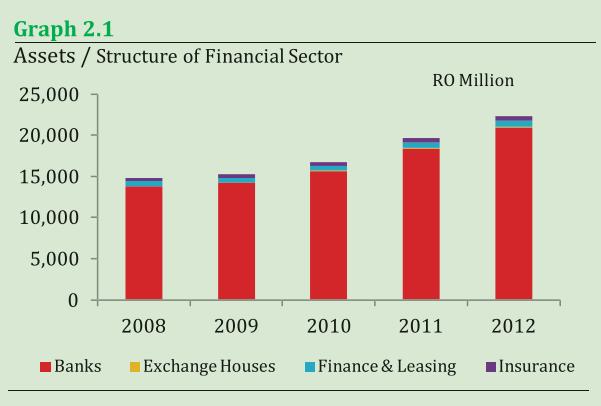
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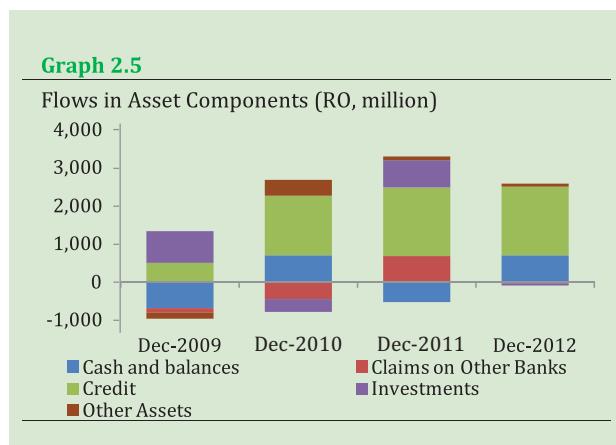
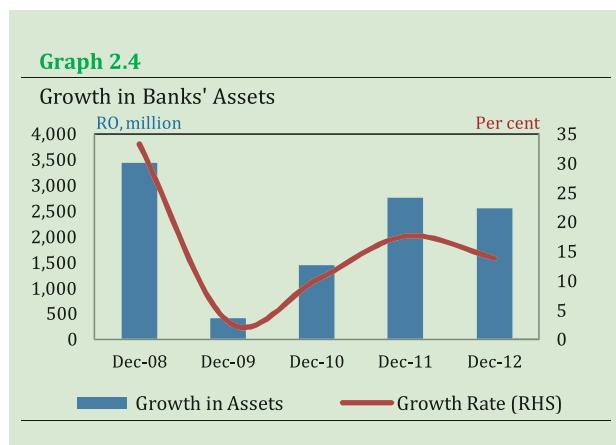
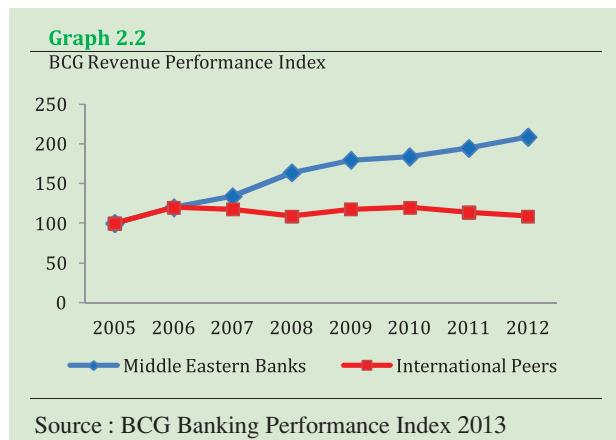
*Global financial stability is improving but the outlook remains fragile, however, banking sector in Oman appears to be fairly shielded from negative developments*

2.2.2 Towards the end of 2012, the global financial markets have been showing the signs of recovery with short term stability risks easing out. The improved conditions and lowered macroeconomic risks have boosted the resilience of markets. However, despite improvements, the situation especially in the euro area still remains fragile (IMF GFSR, April 2013).

2.2.3 It may, however, be noted with comfort that the banking sector in Oman and the Middle East as a whole appears to be well shielded from adverse global developments, largely due to less financial integration with the rest of the world. Notwithstanding a slump in the banking sector growth rates, in the midst of crisis, the banking sector remained resilient to the global financial crisis and maintained positive growth rates.

2.2.4 After the onset of financial crisis when the revenues and profits of banks plummeted worldwide, these indicators for the banks in the middle east continued to surge, showing high level of resistance to the adverse developments





around the globe (Graph 2.2 and Graph 2.3).

*Banks continue to maintain double digit growth*

2.2.5 Despite uncertain global macro-economic conditions, the banks in Oman continue to post double digit growth in assets since FY-10. Although the growth in the banking sector assets tapered off during FY-12, the asset base of banking sector still managed to grow by a healthy RO 2.6 billion or 14 per cent (Graph 2.4).

*Credit growth largely explaining the asset growth calls for banks to remain vigilant*

2.2.6 Most of the growth in the banks' assets is fueled by the increase in the credit portfolio of the banks. During FY-12, growth in credit (net) accounted for over 73 per cent of the asset growth. Claims on CBO accounted for another 23 per cent of the increase in assets (Graph 2.5). Over the years, there is no fundamental change in the asset mix of the banks. However, banks' burgeoning credit portfolio, that is vulnerable to credit risk, requires the banks to be more cautious of the developments affecting credit risk. Credit growth in Oman appears to co-move with the GDP growth rates, a simple model to estimate credit growth is presented in Box 2.1.

### Credit Risk

*Credit risk dominates the risk profile of the banking sector amid lending growth and consequent increase in CRWA*

2.2.7 Credit risk continues to be the dominant risk in the banking sector with Credit Risk Weighted Assets (CRWA) forming about 91 per cent of the total risk weighted assets of the banking sector (Graph 2.7). The CRWAs continued to climb, however, during the period under review their growth rate decelerated (8% YoY growth) as compared to that during the previous year (14% YoY growth), primarily due to dwindling investment portfolio and decelerated growth in credit off-take during

## Box 2.1

### Credit Growth Model

Credit growth model is used to estimate changes in loan portfolios depending on macroeconomic developments. Estimation of credit growth model is important because even for baseline of very mild recession scenarios in which credit growth continues, the increase in loans implies and increase in risk-weighted assets (RWA) and thus also a potential pressure on capital adequacy. Whereas, in stress periods, banks could deleverage (decrease in loan portfolios) which could provide them with additional possibility to cope with accounting losses and decline in regulatory capital.

In economies like Oman where banks concentrate on corporate and retail lending and less on investment banking, credit growth influences to a large extent banks' operating profit levels (especially net interest income, but partly also fees income). If for example banks deleverage, they might decrease RWA, but simultaneously the operating profit falls which together with large loan losses can decrease regulatory capital much

more so that the fall in RWA will not be sufficient and actually can even be in the above mentioned sense self-predatory.

Visual inspection of the quarterly data on Oman's GDP growth rates and credit growth rates from Dec-2007 to Dec-2012 suggest a link between these two variables ([Graph 2.6](#)). With a lag, credit growth appears to be positively correlated with GDP growth rates.

A simple OLS model was estimated to model credit growth in Oman. The dependent variable was credit growth rate and explanatory variable was GDP growth rate. The estimation results are reported in [Table 2.1](#).

The results show that, the coefficient of one-period lagged explanatory variable is positive and statistically highly significant, which suggests that credit growth is positively affected by GDP growth and vice versa, albeit with a lag. The estimation results of this model can be used to project credit growth rates in alternative scenarios.

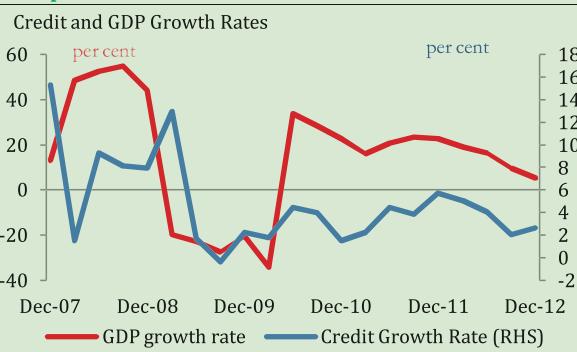
**Table 2.1: Estimation of Credit Growth**

Dependent Variable: GDP Growth Rate

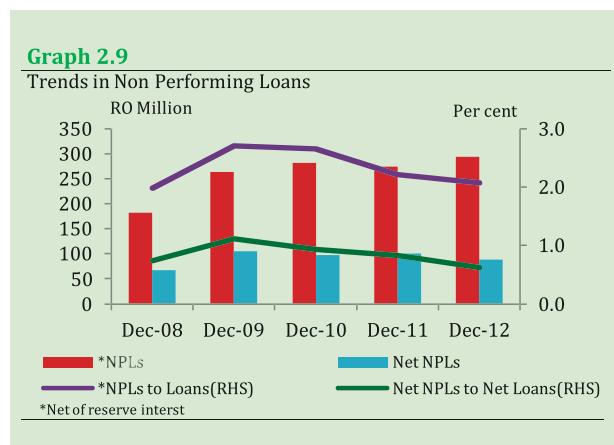
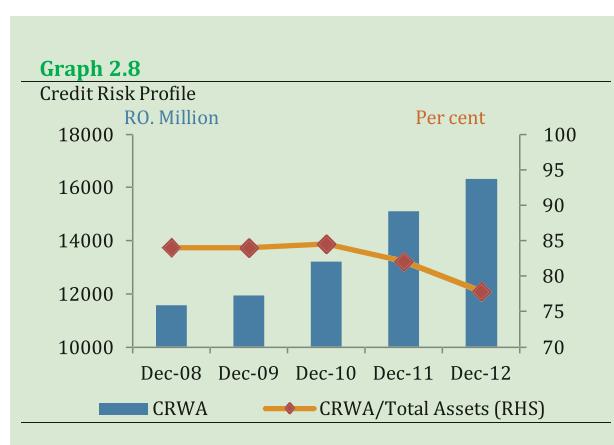
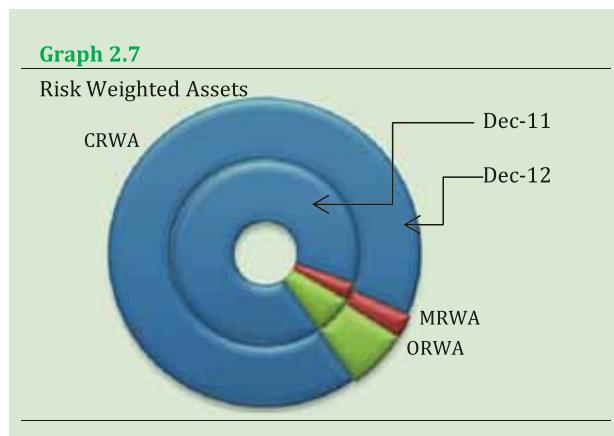
	Coefficient	t-Statistic*	Prob.
C	1.333	2.234	0.039
GDP Growth Rate(-1)	0.138	4.989	0.000
R-squared	0.599	F-statistic	25.43
Adjusted R-squared	0.576	Prob(F-statistic)	0.000

\*White heteroskedasticity-consistent standard errors & covariance

**Graph 2.6**



this period. Due to relatively sluggish growth in credit during FY-12. The CRWA to Total Assets of the banking sector thus declined marginally to 78 per cent from 82 per cent in the preceding year (**Graph 2.8**).



*However, banks need to be cautious of rising business costs of the corporate sector*

2.2.8 The (gross) credit portfolio of banks reached RO 14.3 billion at the end of 2012 from RO 12.5 billion a year ago. Going forward, the credit off-take by the corporate

and consumer sectors is expected to increase further in tandem with the economic growth and in the wake of sizeable state intervention in the economy, strong demand following hike in the floor for private sector salaries from July-2013 and Government's plans to create 56,000 new jobs during the year. The proposed increase in the minimum wages is expected to increase the cost of doing business, and the rising costs for the corporate sector might adversely affect their cash flows and bottom lines. During the transition period the banks need to be more watchful of the financial health of their corporate customers to avoid any spillover effect to the financial sector.

*Nonetheless, presently the credit risks remained well contained...with both gross and net NPL ratios falling*

2.2.9 The optimistic domestic economic environment has permitted the continued growth in lending without much rise in the credit risk in the banking sector. The NPLs (net of reserve interest) of the banking sector inched up only by RO 20 million or 0.14 per cent of gross loans during the year under review, thereby increasing the total stock of NPLs to RO 294.9 million. The rate of growth of NPLs remained less than the rate of growth of loans, therefore, the gross NPL ratio decreased to 2.1 per cent from 2.2 per cent a year earlier. Thanks to ample provisioning, the net NPLs declined by RO 12 million during the year under review, the net NPL ratio, thereby, diminished to 0.64 per cent from 0.83 per cent at the end of the preceding year (**Graph 2.9**). The low and almost stable level of NPL ratio suggests satisfactory asset quality and well contained credit risk. In Oman, accretion of loans to NPLs appears to be a function of GDP growth rate and oil prices, as can be seen from a simple model to estimate NPL ratio presented in **Box 2.2**.

## Box 2.2

### Credit Risk Model

Credit risk is the most important and challenging risk for banks and is also the most analyzed risk by central banks. This box aims to model NPL, for the Omani banking sector, as a function of macro-economic indicators. Visual inspection of the quarterly data on NPL ratio, Oman's GDP growth rates and oil prices from Dec-2007 to Dec-2012 suggest that there is a link between domestic GDP, oil prices and NPLs ([Graph 2.10](#)). With a lag, both oil prices and domestic GDP growth rate appear to be negatively correlated with NPL ratio. In many central bank stress testing models, GDP is the most used variable to explain changes in bad loans. Other variables that are usually tried include interest rate (that are less relevant in Oman because of interest rate ceilings) and unemployment (which is highly correlated with GDP, thus does not need to be included)

Given the data limitation, a simple OLS model was estimated. The dependent variable was NPL ratio (NPL/total loans) and explanatory variables were oil prices and domestic GDP growth rate. The estimation results are reported in [Table 2.2](#).

The results show that, the coefficients of both

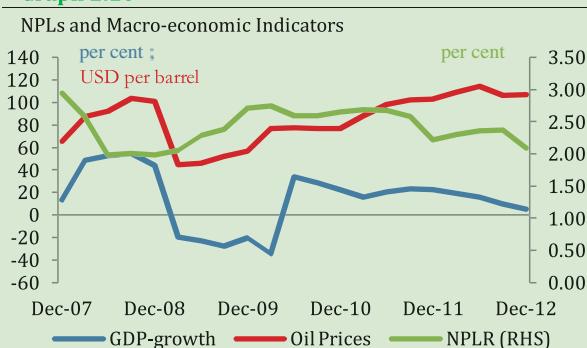
**Table 2.2: Estimation of NPL Ratio**

Dependent Variable: NPL Ratio

	Coefficient	t-Statistic*	Prob.
C	3.507	9.895	0.000
GDP Growth Rate(-3)	-0.011	-2.167	0.047
Oil Prices (-2)	-0.009	-1.825	0.088
Adjusted R-squared	0.426		
F-statistic	7.306	Prob(F-statistic)	0.006

\*White heteroskedasticity-consistent standard errors & covariance

**Graph 2.10**



the three-quarter-lagged domestic GDP and two-quarter-lagged oil prices both domestic GDP growth rates and Oil Prices are negative and statistically significant, which suggests that both of these variables negatively affect the NPL ratio, albeit with a lag.

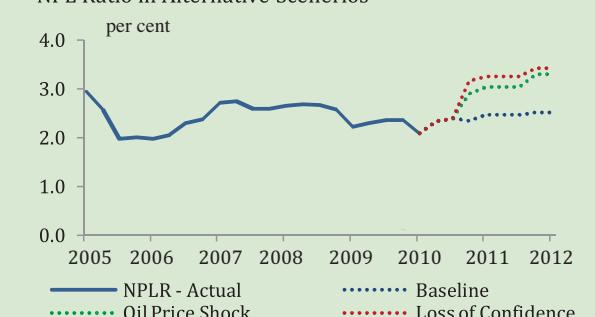
#### NPL Ratio in Alternative Scenarios:

For alternative scenarios, the projected path for NPL ratios is estimated using this simple NPL model. Three scenarios are defined for projections, (i) a baseline scenario, in which the GDP growth rate and oil price projections of IMF are used (ii) an Oil price shock scenario which assumes a large drop in oil prices from current levels to 50 USD/barrel in 2013 and 22 USD/barrel in 2014. Concurrently, the Omani GDP growth is assumed to be close to zero, and (iii) Loss of confidence scenario was constructed that assumes even larger shock to oil prices (to reach 30 USD/barrel in 2013 and 12 USD/barrel in 2014). In this scenario, the Omani real GDP is assumed to be declined by more than 2 percentage points in 2013 and 14.

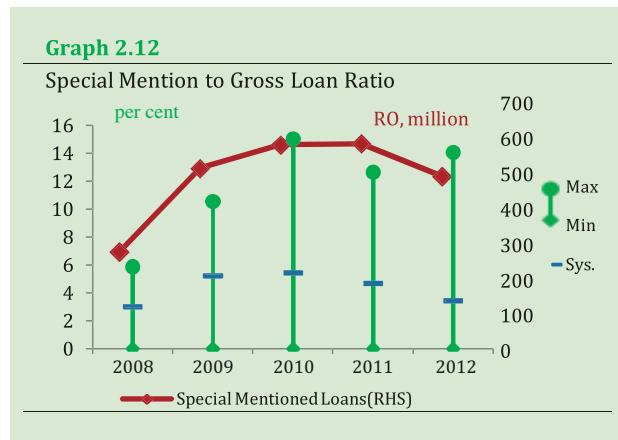
The NPL projections are shown in [Graph 2.11](#). The graph illustrates that a fall in oil price and GDP takes some time to pass-through to the NPL ratio. Clearly, in the worst scenario Loss of confidence the NPL ratio is highest as there is a direct effect from the decline in oil prices (capturing the NPL from the oil-producing sectors) and indirect effect of the decline in oil-prices via GDP (capturing other non-oil corporate NPL and household NPL) albeit with a certain lag.

**Graph 2.11**

NPL Ratio in Alternative Scenarios

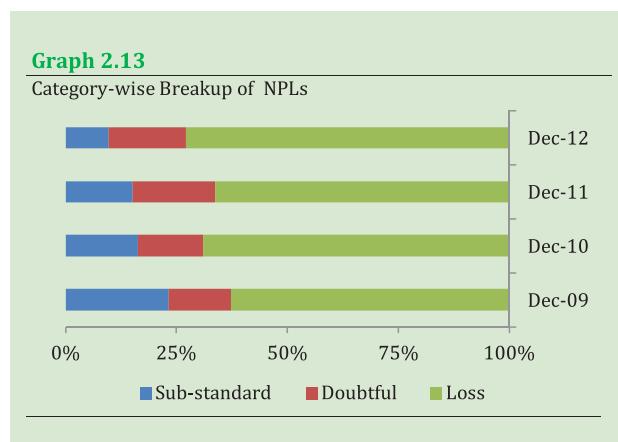


*Special mention loans also witnessed a contraction*



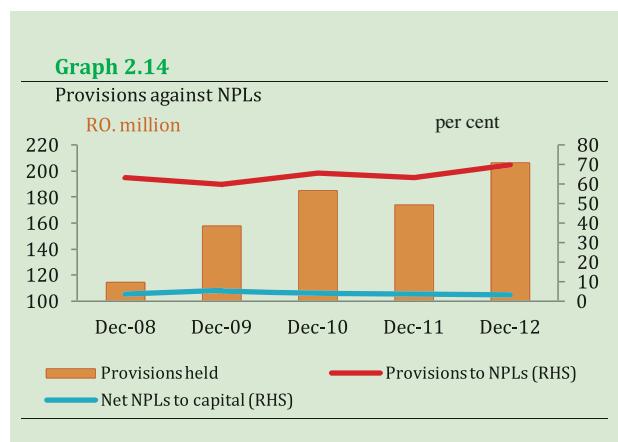
2.2.10 The conducive domestic environment has not only decelerated the buildup of NPLs, it has also resulted in lower level of ‘performing but delinquent’ loans in the Special Mention category. The amount of special mentioned loans decreased by RO 92.5 million during FY-12, with the ratio of these loans to Gross Loans also having declined to 3.5 per cent from 4.7 per cent a year ago (**Graph 2.12**). Ceteris paribus, while the decrease in special mentioned loans bodes well for asset quality of the banks, their levels being much higher than that at the end of FY-08 remains a concern.

*Accretion of NPLs to Loss category, however, remains a concern*



2.2.11 Classification of NPLs shows that bulk of the NPLs is classified in the Loss category with bleak prospects of recovery and this accumulation of NPLs in Loss category has increased over time with almost 73 per cent of NPLs accumulating in this category (**Graph 2.13**). The accretion of most of the NPLs in the loss category suggests the inability of the banks to arrest the slippage of NPLs in worse categories once a loan is classified as NPL. With the current low level of NPLs, this situation appears to be less worrisome. However, during the economic downturns when NPLs can be higher, this could be viewed as a source of potential vulnerability.

*Adequate provisioning provides an additional comfort*



2.2.12 It may, however, be noted with comfort that the existing loan portfolio is well covered against expected losses through adequate provisions (**Graph 2.14**). During the period under review, the (specific) provisions increased in line with the increase in level and severity of NPLs and stood at RO 206.2 million at the end of FY-12, up from RO 174 million at the end of previous year, corresponding to

a coverage ratio of 69.9 per cent<sup>1</sup>. Net NPLs to Capital ratio remained low at 3.1 per cent (conversely, the capital is 32 times of the Net NPLs) keeping the risks of insolvency quite low.

*However, recovery efforts need to be geared up*

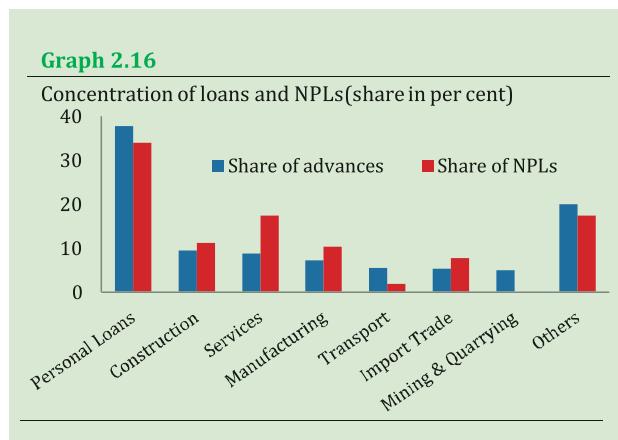
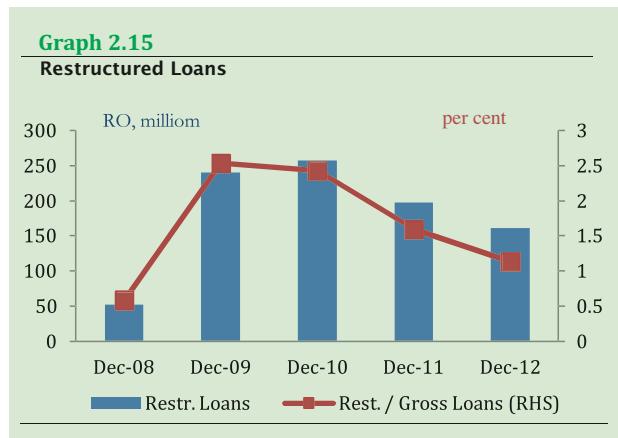
2.2.13 During FY-12, banks were able to recover only 8.2 per cent (or RO 36.5 million) against non-performing loans. Moreover, banks managed to recover an additional 7.6 per cent (or RO 35 million) from other delinquent loans (special mentioned category). The low recovery rate, especially in the newly delinquent category (special mentioned) suggests that banks need to step up their recovery efforts, particularly against those loans which are yet to be migrated to the non-performing category and where recovery might be relatively easier.

*Restructuring of loans also shows signs of respite*

2.2.14 Restructuring of debt that surged in 2009, peaked in 2010 and since then it is on decline both in terms of absolute volume and as a per centage of total loans. During FY-12, the restructured loans (in performing loan category) declined by RO 36.8 million to RO 160.8 million from RO 197.6 million a year ago. Similarly, the restructured loans to total gross loans ratio also dropped to 1.13 per cent from 1.6 per cent at the end of the preceding year (Graph 2.15). While a decline in the buildup of restructured loans is an encouraging sign for the future containment of credit risk, their high volume compared to the position as at the end of FY-08, considering the underlying potential for migration down to the NPL category, could be a matter of concern.

*Bulk of the loans are booked in the personal loan category*

2.2.15 As is often the case in a commodity based economy, the loans are concentrated in the consumer segment (34 per cent of total loans) with the construction and services sectors, respectively being the distant second and third largest recipient of the bank loans (Graph 2.16). While such a trend is in line with the structure of the economy, however, given the high quantum of the banks' exposure to the consumer segment, having volatile performance, could be a source of concern as it might spell a situation of debt overhang<sup>2</sup> in the wake of onset of default during downturns. The consumer segment, however, has been performing well with its share in NPLs being less than its share in loans. During FY 12, the personal loan portfolio of banks increased by RO 702 million, whereas, the NPLs dropped by RO 14 million, thereby, decreasing the NPL ratio for this sector to 2.2 per cent from 2.8 per cent during the preceding year.



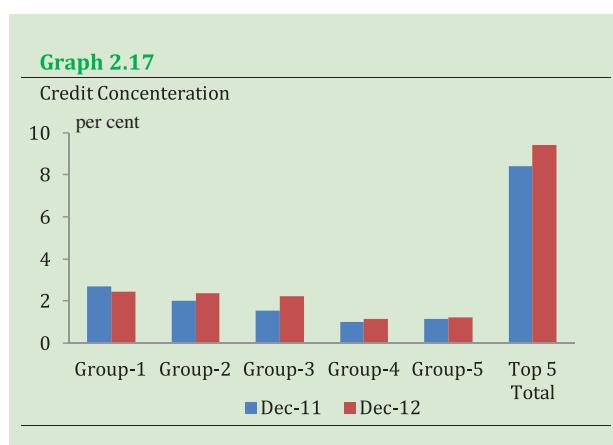
<sup>1</sup> The coverage ratio inclusive of general provisions is 137 per cent.

<sup>2</sup> 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.

*This may have crowded out credit flow into the SME sector*

2.2.16 Focus on lucrative consumer segment might also have a crowding out effect on the credit to the more productive sectors of economy including the SME sector, which continues to get a meager 2.7 per cent of the total loans extended by the banking sector. Recently CBO has mandated the banks to allocate at the least 5 per cent of the loans to SMEs. Implementation of this guideline would increase the availability of credit to this sector.

2.2.17 Many SMEs operate as suppliers of products and services to larger corporate, which may be lethargic in making payments to SMEs. To limit this tendency, larger corporates may be asked to make more disclosures in their financial statements on dues to SMEs.



*Exposure in the construction and services sectors appears to be particularly vulnerable*

2.2.18 The construction and services sectors have proportionally very high incidence of NPLs thus posing as a window of vulnerability for the banking sector. However, relatively lower share of these sectors in total loan portfolio provides some comfort.

*Banks need to be watchful concerning loans against real estate*

2.2.19 Banks' exposure against real estate reached RO 1.76 billion or 12.8 per cent of the total credit portfolio at the end of FY-12. In

the absence of a real estate price index, banks need to step up their mechanisms to monitor the developments in the real estate sector to guard themselves against any fall in real estate prices. Extra caution is warranted while taking exposure in the pockets that are getting saddled with over-supply situation.

*Single party concentrations continue to be a concern*

2.2.20 High corporate concentration remains an enduring feature of the Oman's banking system, and single party concentration remains a concern. The five largest borrower groups, account for about one-tenth of the banks' total credit portfolio and the banks' exposure to these groups also increased to 9.4 per cent from 8.4 per cent last year, thereby increasing the concentration risk in the banking sector (Graph 2.17).

**Market Risk**

*Market risk remains overshadowed by credit risk*

2.2.21 The very nature of the operations of the banking system makes market risk an important risk component in the overall risk profile of the banking sector. Other than the stand alone considerations, the market and credit risks may interact to reinforce each other and may result in substantial losses if not managed jointly<sup>3</sup>. Despite its significance, when measured in terms of current practices of calculating market risk weighted assets<sup>4</sup>, the contribution of market risk remains very low in the overall risk profile of the banks (Graph 2.7).

*Sufficient levels of liquidity keeps the interbank market calm*

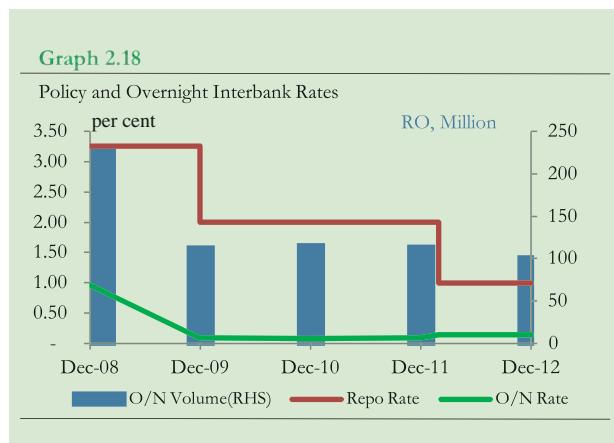
2.2.22 The policy rates remained constant and low with repo rate at one per cent since the first quarter of 2012. Due to sufficient

<sup>3</sup> BCBS(2009), " Findings on the Interaction of Market and Credit Risk", BIS WP. 16

<sup>4</sup> Throughout this section, Risk Weighted Assets (RWA) are limited to RWA under Pillar-1 of Basel II capital accord, that is, interest rate risk in banking book is explicitly excluded from the analysis.

liquidity, during FY-12 the activity level in the interbank market remained in line with the previous year with volume of around RO 101 million. Consequently, the interbank rates also remained stable with an average of about 0.14 per cent which is only 5 basis points higher than the previous year's average (Graph 2.18). Further, as may be seen in chapter IV of this report, banks do not carry much interest rate risk.

2.2.23 Since maturity transformation is a core banking function, therefore, unsurprisingly the banks are susceptible to changes in interest rates. However, the stress testing exercise as



of Dec-12 shows that the interest rate risk in banks is within reasonable bounds as banks would lose RO 66 million or a paltry 2.14 per cent of their capital if they face a 200 basis point adverse movement in interest rates.



### MSM index shows lackluster performance

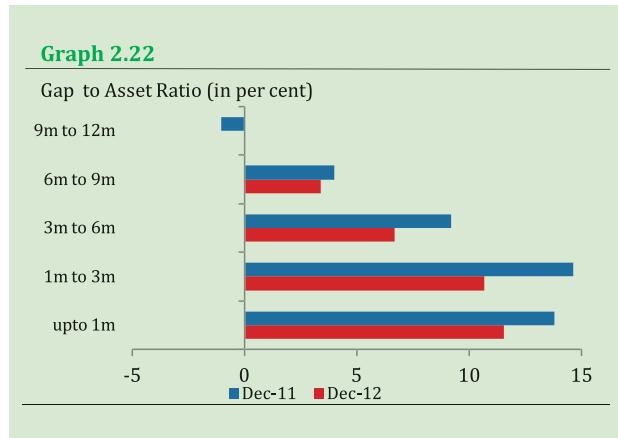
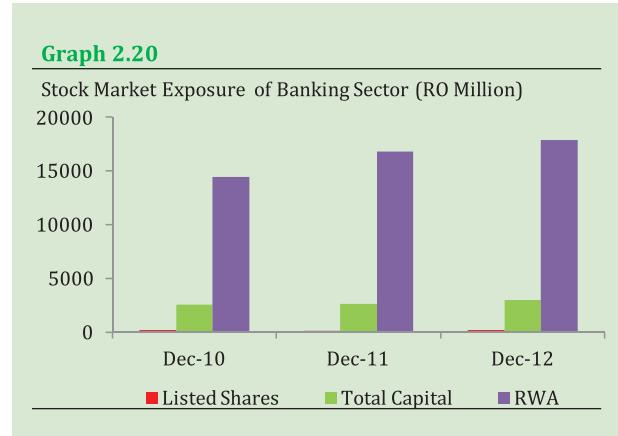
2.2.24 During the period under review, the MSM-30 index remained volatile. The performance of MSM-30 index remained lackluster during the FY-12, with alternating bouts of recovery and slide. Generally investments in stock market is considered as an insurance against inflation, however, the Index lagged far behind the CPI inflation (2.8 per cent), gaining only 0.6 per cent during the year and closing at 5,730 at the end of FY-2012 (Graph 2.19). The number of trades and trading volumes in the MSM also remained subdued indicating uncertainty and lack of interest amongst investors.

*Limited exposure of banks keeps them insulated from any adverse affect*

2.2.25 Despite the weak performance of the Index, banks remained largely insulated from adverse stock market performance owing to their modest exposure of RO 182 million to the market as stock market investments constitute about 1 per cent of banks' Risk Weighted Assets (RWA) or about 6 per cent of their capital as of 31-Dec-2012 (Graph 2.20). However, the banking sector remains also exposed to indirect hit from the falling equity prices through the loans secured for purchase of stocks, that constitute another RO 168 million or 0.9 per cent of RWA

*Credible peg to USD and limited exposure in other currencies limits the foreign exchange risks*

2.2.26 Generally, foreign exchange exposure of up to 40 per cent of capital is considered acceptable; however, banks in Oman have been historically maintaining foreign exchange exposures of less than 25 per cent of their Tier-1 capital. The foreign exchange exposure to Tier-1 capital at the end of FY-12 was 14.7 per cent which is well within the prudent limits. Since RO (and some other GCC currencies) is pegged to USD, exposures in USD (and other



currencies pegged to USD) does not entail any foreign exchange risk<sup>5</sup>. The effective foreign exchange exposure, i.e. exposure in non-USD and other non-pegged currencies for banks remained even much lower at just 3.85 per cent of their capital during the period under review (Graph 2.21).

### Liquidity Risk

*Positive gaps bode well for liquidity, however, already low interest rates keeps the risks manageable*

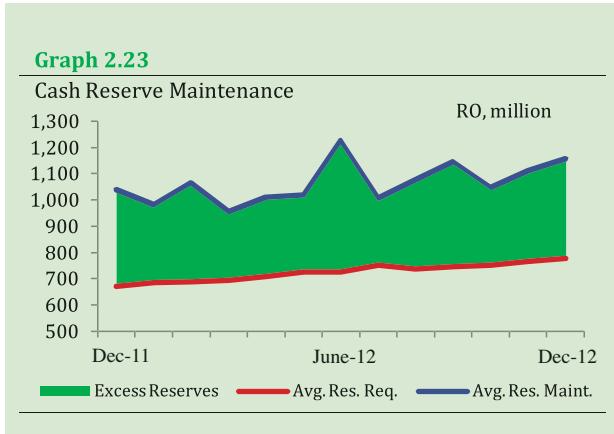
2.2.27 During the period under review, the gap between assets and liabilities remained positive in all time bands, other than in nine-month to twelve-month time bucket (Graph 2.22). The gap to asset ratio in the shorter tenors, that is, up to one-month and one to three-month time buckets exceeded the generally accepted tolerance limit of +/- 10 per cent, thus exposing banks to maturity mismatch risk.

2.2.28 In a potential scenario of rise in interest rates, the banks need to keep a watch over the position of interest-rate-sensitive liabilities and assets. They may also remain aware of the fact that the position of gains out of sale / purchase of investments during the current falling interest rate scenario might not last long. There could be lurking risks of losses due to higher provisions in line with falling values in the portfolio.

*Availability of sufficient level of liquidity ensures banks' compliance to the reserve requirements without much ado*

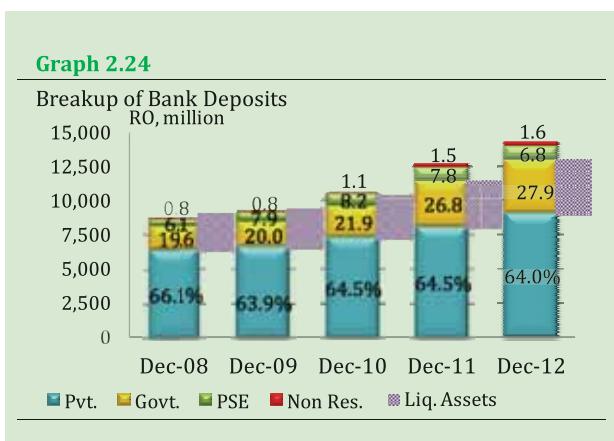
2.2.29 Despite the dynamic lending activity, the banking system in Oman shows no immediate signs of liquidity pressures. The banks in Oman are required to keep cash reserves of at least 5 per cent of their demand and time liabilities. Over the last years, the banks had comfortably maintained

<sup>5</sup> 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.



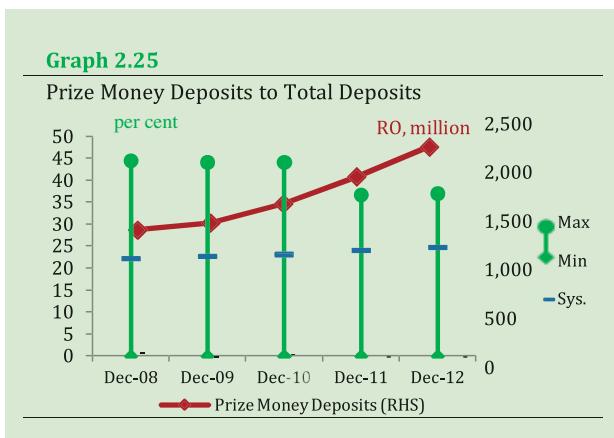
the cash reserve requirements without any single episode of default on this requirement. A position of excess liquidity was evidenced as banks had maintained cash reserves in excess of the mandatory requirements ([Graph 2.23](#)). During FY-12, banks on average held RO 337 million<sup>6</sup> of reserves in excess of the minimum requirements. However, a position of excess liquidity in the market is a mixed blessing, as on one hand it keeps the liquidity risks well contained while, on the other, it may hinder the transmission of monetary policy initiatives should CBO switch to a tighter monetary policy stance.

*Sizeable government and PSE deposits lend robustness to the liquidity positions even as they expose banks to concentration risk*



2.2.30 Government and Public Sector Enterprises (PSEs) jointly contribute to about 35 per cent share in the total deposits and are showing a rising trend ([Graph 2.24](#)). This could pose a covert yet potent risk should these groups decide to make significant withdrawals from the banking sector. Further, the liquid assets (excluding interbank placements) of banking sector as a whole barely match the deposits made by Government and PSEs ([Graph 2.24](#)), implying that withdrawal by these groups is going to put the banking sector under severe liquidity stress.

*Considerable proportion of Prize Money Deposits may impede monetary policy transmission*



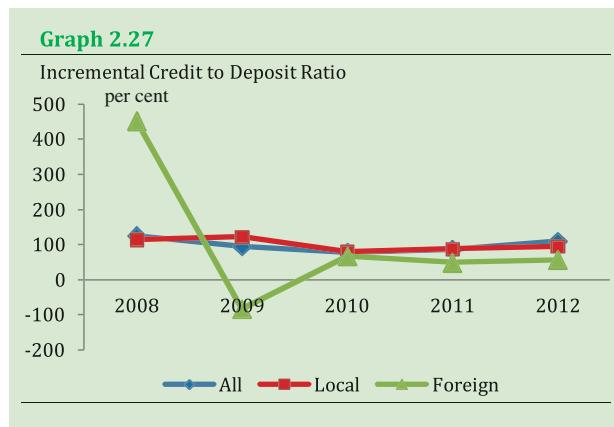
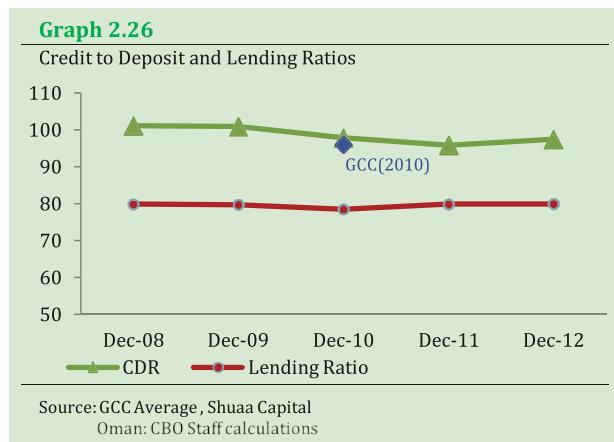
2.2.31 The banks continue to attract a considerable fraction of deposits through prize money schemes. On an average 25 per cent of the deposits are raised using such schemes, in some banks deposit raised through these schemes make up as much as 37 per cent of total deposits ([Graph 2.25](#)). Although, such prize schemes do not pose an immediate threat to the financial stability, and in fact

<sup>6</sup> 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.

might be helping banks to raise cheaper funds, however, these schemes make the depositors less sensitive to the changes in interest rates, and might distort the interest rate pass-through mechanism.

### *'Credit to Deposit' and Lending ratios remain healthy and within defined bounds*

2.2.32 The banks in Oman have a healthy credit-to-deposit ratio averaging over 97 per cent which is in line with the GCC average. The healthy credit-to-deposit ratio indicates that banks are gainfully employing the depositors' funds rather than keeping them idle. Similarly, the lending ratio (loans to eligible deposits plus capital) remained around 80 per cent as against the ceiling of 87.5 per cent prescribed by CBO (Graph 2.26). The cushion available in the lending ratio means that banks may increase credit supply by about 9 per cent or RO 1.3 billion without needing to mobilize additional deposits. However, it may be noted that over one-third of the deposits in banks belong to government or public sector



enterprises. The credit-to-deposit and lending ratios would surge sharply should government decides to withdraw these deposits.

### *Incremental Credit to Deposit ratio bouncing up for the first time in four years*

2.2.33 The incremental credit to deposit ratio has been less than 100 per cent since 2009 causing the credit to deposit ratio to slide for three consecutive years. During the year 2012, however, the incremental credit to deposit ratio surged above 100 per cent for the first time in the last four years (Graph 2.27), resultantly the credit to deposit ratio also witnessed a marginal increase during FY-12.

### **Competition, Concentration and Interconnectedness**

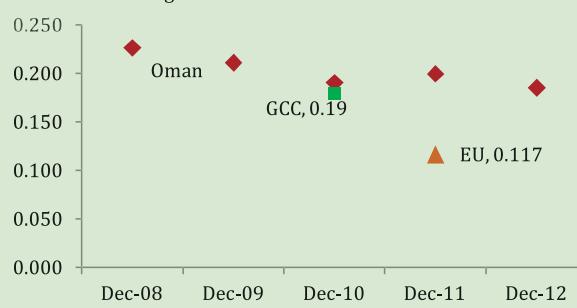
#### *High concenration and interconnectedness in banking sector an issue*

2.2.34 In Oman, concentration in the banking sector is moderately high, however, it is generally showing a decreasing trend since 2008. The degree of concentration as measured by Herfindahl-Hirschman Index (HHI)<sup>7</sup> reflects that concentration in banking sector in Oman is comparable with that in GCC countries; however, it is much more than that in advanced economies, for example in the European Union (Graph 2.28). Another measure of banking sector concentration, share of assets of the top few largest banks in the total banking sector assets, paints similar picture. The top five (three) banks account for about 81 per cent (61 per cent) of total banking sector assets (Graph 2.29). Even though, the higher concentration is in sounder and stronger institutions, however, it could prove not only detrimental for efficiency and competition but also may increase the magnitude of systemic risk arising out of the failure of one of the larger institutions in a concentrated market.

<sup>7</sup> 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.

**Graph 2.28**

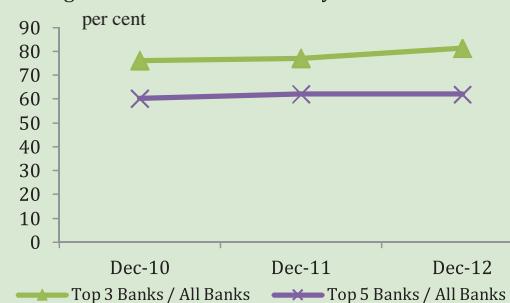
HHI of the Banking Sector



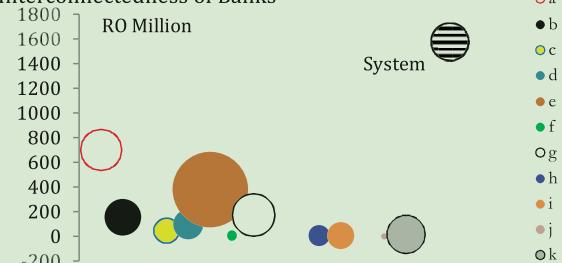
Source: Europe: Maudos and Nagore (2005)  
GCC: Haskour, Abdulqader and Zeitun (2011)

**Graph 2.29**

Banking Sector Concentration - by Total Assets

**Graph 2.30**

Interconnectedness of Banks



Each bubble represents a bank, for each bank the position of bubble along Y-axis shows absolute amount of 'Claim on Other Banks', whereas, the size of bubble is proportional to the ratio of 'Claims on Other Banks / Regulatory Capital'.  
(Note: Banks with less than RO 1 million in claims are not included in graph)

**2.2.35** Other than stand-alone idiosyncratic risks to the individual financial institutions, the financial system is also exposed to the risk of contagion caused by the propagation of shocks from other financial institutions through financial networks. We gauge this risk using a crude measure of interconnectedness of the banking sector within Oman. We measure interconnectedness by absolute value of 'claims of a bank on other banks' and also by ratio of 'claims on other banks' to 'regulatory capital' (**Graph 2.30**). Some banks are seen to have had significant interconnectedness as proxied by one or the other measure of interconnectedness. In some cases, ratio of 'claims on other banks to regulatory capital' is more than 100 per cent suggesting that for these banks, default by counterparty(ies) may erode their entire capital, which may in turn, trigger a domino effect of cross defaults through interbank channel. Moreover, in some cases, these funds have been placed abroad indicating possibilities of avoidable import of financial instability should something go wrong in the country(ies) where funds are placed.

**Solvency and Profitability**

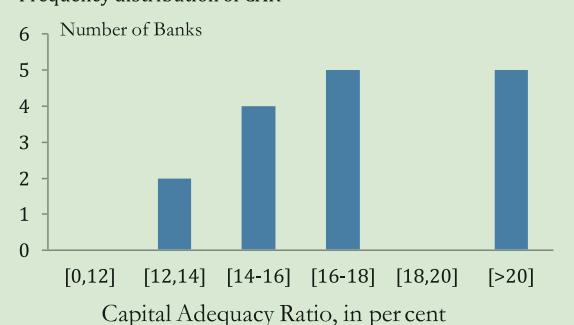
*High quality of tier-1 capital ensures that banks will easily be able to meet Basel-III capital requirements*

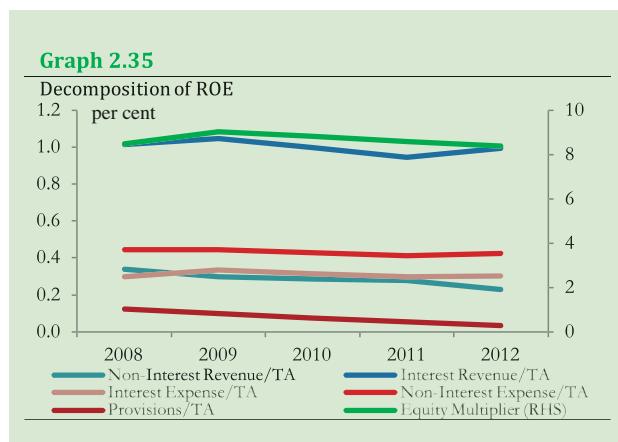
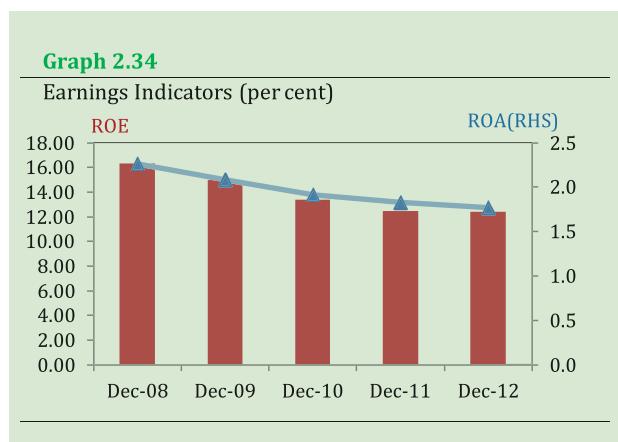
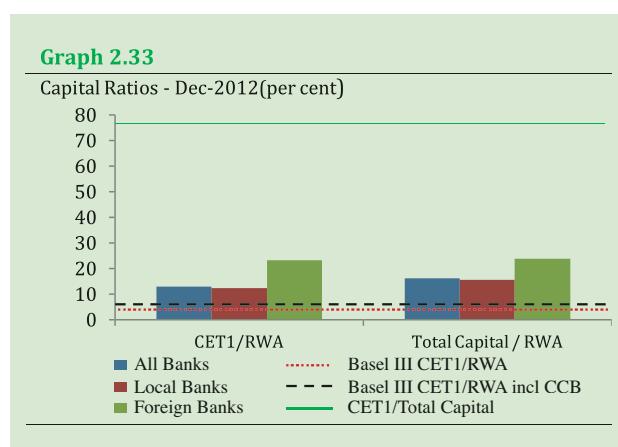
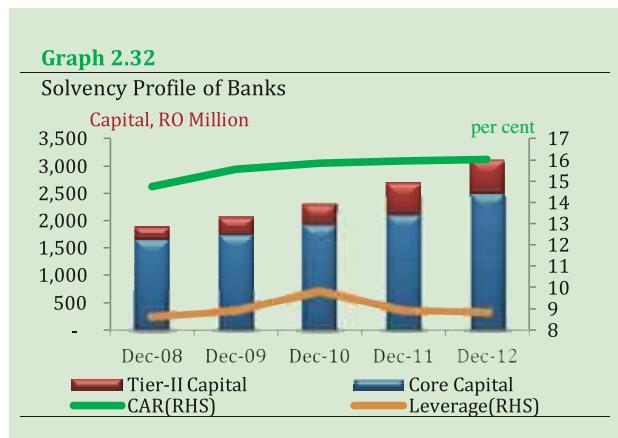
**2.2.36** The CAR at the end of FY-12 remained at a healthy level of 16 per cent. The capital strength of banks in fact remained robust with a CAR above 15 per cent since 2008. At system level, even the core capital segment was sufficient enough to meet both the stipulations of CBO (at 12 per cent) and BIS (at 8 per cent) (**Graph 2.31**). The strengthening of core capital can be attributed to sustained profitability as a couple of banks resorted to issuance of bonus shares on the back of strong earnings. Moreover, some banks also issued right shares to shore up additional capital.

**2.2.37** All banks operating in Oman were able

**Graph 2.31**

Frequency distribution of CAR





to meet the CBO requirements of 12 per cent of CAR. Moreover, 14 banks had CAR of 14 per cent or over. The five foreign banks operating in Oman maintained excessive levels of CAR of 20 per cent or beyond, indicating their inability to efficiently manage their funds to improve profitability (**Graph 2.32**).

2.2.38 The banks in Oman possess, high quality of Tier-1 capital, comprising entirely of Common Equity Tier -1 capital (**Graph 2.33**). This would ensure that, banks would easily be able to meet the Basel-III capital requirements when the new guidelines are enforced.

### Profitability inches up as Net Interest Margin (NIM) remains steady

2.2.39 During 2012, the profit before tax inched up to RO 346.3 million from RO 299.8 million during the preceding year. The profitability ratios (ROA and ROE), however, marginally declined during the same period but still remained healthy at 1.8 per cent and 12.4 per cent, respectively (**Graph 2.34**)<sup>8</sup>. The improved profitability position was contributed essentially by a strong and rising NIM, which stood at around 3 per cent. The profitability of banks in Oman, appears to be a function of credit and GDP growth rates. An empirical attempt to model profitability growth in Oman is given in **Box 2.3**.

2.2.40 To figure out the factor contributing to the change in ROE of banks, it can be broken down into several components using Dupont-type decomposition<sup>9</sup>. The decomposition of the ROE (**Graph 2.35**) shows that decrease in equity multiplier (total assets/ equity), relatively lax cost management as evident by increase in interest and non-interest expenses as per centage of total assets and a bit less efficient asset utilization as portrayed from decrease in non-interest income to total assets contributed to the fall in ROE. However,

<sup>8</sup> In this section, profitability ratios are calculated using pretax figures.

<sup>9</sup> ROE = Total Assets / Equity x [(Non-interest Revenues/ Total Assets + Interest Revenues/ Total Assets) – (Interest Expense / Total Assets + Non-Interest Expenses/ Total Assets + Provisions / Total Assets)]

### Box 2.3

#### Operating Profit Model

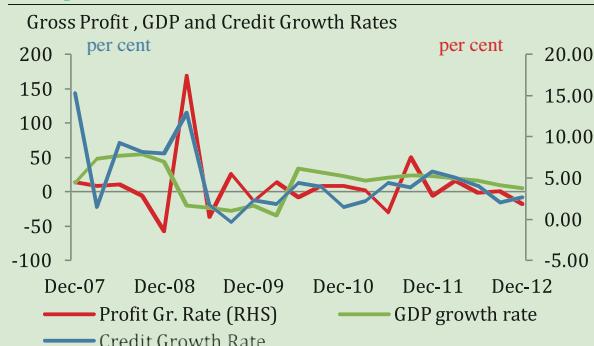
Available evidence shows that building a good operating profit model is very difficult as operating profits of banks do not always co-move with macroeconomic development. In some central and eastern European countries with sound banking sector, such as the Czech Republic, Poland or Slovakia, operating profits actually increased during macroeconomic decline as a result of increased net interest income (due to inflow of current – i.e. cheap – deposits from other riskier investments and increase in risk premia in client loan rates) and cuts in administrative costs. Banks also have a large leeway when managing operating profit\*.

Visual inspection of the quarterly data of Oman's GDP growth rates, credit growth rates and operating profit growth rates (calculated as gross profit growth rates) from Dec-2007 to Dec-2012 suggest a link between these three variables

([Graph 2.36](#)). With some lag, operating profit growth rate appears to be positively correlated with GDP growth rate and credit growth.

For this box, a simple model was estimated. The dependent variable was annual growth in operating profits, whereas, GDP growth rate and credit growth were selected as explanatory variables. The estimation results are reported in [Table 2.3](#).

The results illustrates that coefficients of credit growth rate and, four-quarter lagged GDP growth rate are positive and statistically significant, which suggests that credit growth is positively affected by GDP growth rate (with a lag) and credit growth rate. The estimation results of this model can be used to project credit growth rates in alternative scenarios.

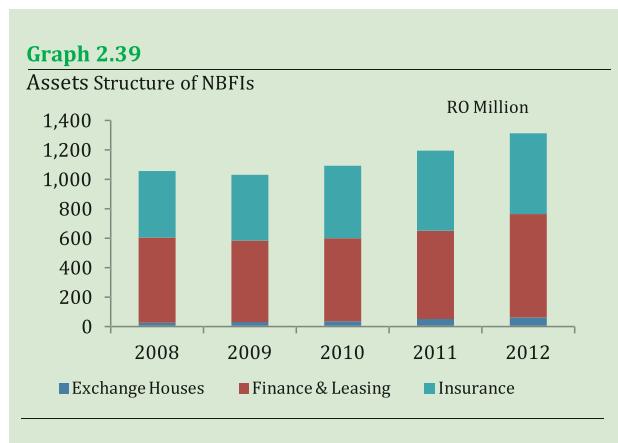
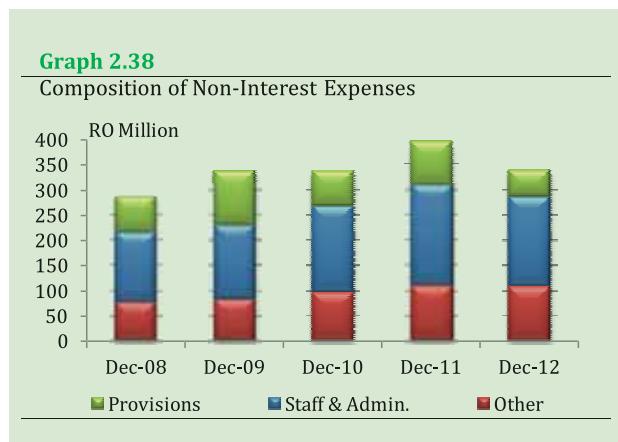
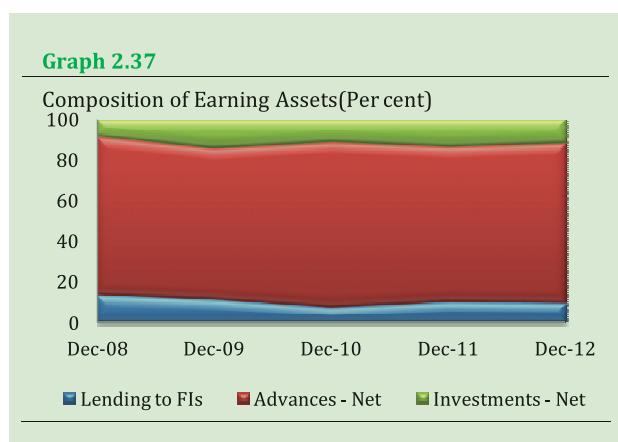
**Graph 2.36****Table 2.3: Estimation of Operating Profit Growth**

Dependent Variable: Gross Profit Growth Rate

	Coefficient	t-Statistic*	Prob.
C	-33.122	-1.918	0.076
Credit Growth	9.169	2.330	0.035
GDP Growth (-4)	0.648	1.840	0.087
Adjusted R-squared	0.521	F-statistic (Prob.)	9.690 0.002

\*White heteroskedasticity-consistent standard errors & covariance

\* “International Monetary Fund (IMF) Technical Assistance Mission on Stress Testing to Central Bank of Oman”, May 19-23, 2012



improvement in interest revenues and reduction in provisioning as a per cent of total assets helped contain fall in the ROE.

2.2.41 Interest income remained dominant (78 per cent) in total revenues of the banks, whereas, non-interest sources contributed only 19 per cent to the revenues of the banks. Moreover, within the interest income, ‘interest earned on advances’ formed the lion’s share with 90 per cent contribution. This skewed position remained almost same over the last five years reflecting banks’ inability to diversify sources of income. This calls for concerted efforts by the banks to try to diversify the sources of income within the present bounds, limits and prudential norms ([Graph 2.37](#)).

2.2.42 Major portion of banks’ non-interest expenses stems from the staff and administration costs with a share of 52 per cent in the total non-interest expenses. This is considered large, even though, the social program of employment generation and popularization of Islamic banking may have contributed to this. During the period under review, banks have managed to reduce the total amount of non-interest expenses through controlling provisioning expenses ([Graph 2.38](#)). Although the banks need to buckle up and try increasing efficiency in their operations, staff hiring to prepare for the launch of Islamic banking services may well be a reason for escalation in the staff and administration costs.

## 2.2 NON-BANKING FINANCIAL INSTITUTIONS (NBFIs)

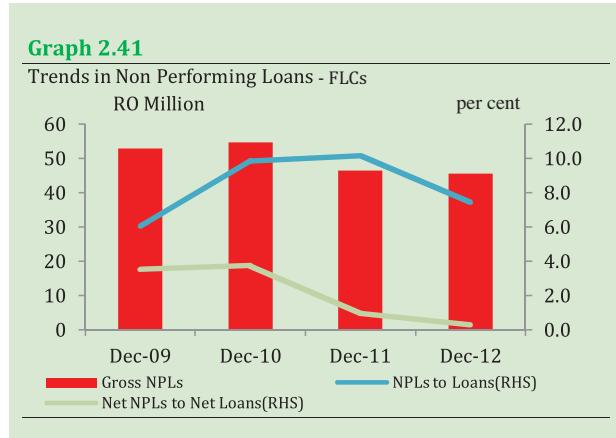
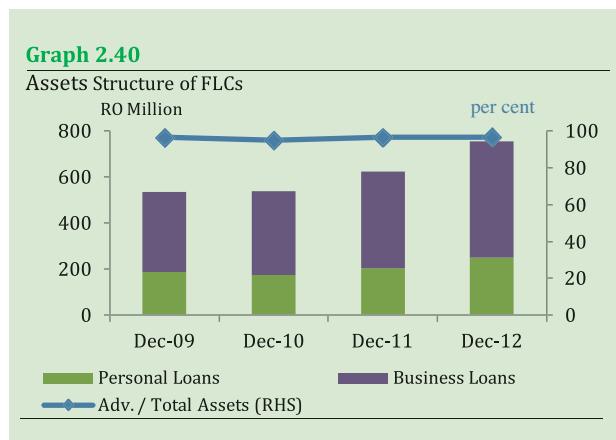
*FLCs and Insurance companies form bulk of the NBFIs’ assets*

2.2.1 In Oman, the NIFI sector is dominated by Finance and Leasing Companies (FLCs) and Insurance Companies. The assets of FLCs form more than half, whereas Insurance Companies form more than 40 per cent of the total assets of NBFIs. The share of Exchange houses (that issue drafts) is less than 5 per cent in the total assets of NBFIs ([Graph 2.39](#)).

## Finance and Leasing Companies

### *Assets growth continues on the back of strong growth in loans and advances*

2.2.2 The total assets of FLCs posted double digit growth rates for the second consecutive year. During FY-12, the total assets of FLCs increased by 22 per cent to reach RO 736 million. This growth rate was achieved on the back of impressive growth in the credit portfolio of FLCs which grew by 22 per cent during FY-12 to reach RO 713 million. The loans and advances continue to have a commanding share in the asset structure of FLCs. At the end of FY-12, net loans and advances formed about 97 per cent of the total assets of FLCs indicating efficient deployment of assets ([Graph 2.40](#)).



2.2.3 The business and personal loan segments grew by 24 and 20 per cent respectively during FY-12. The relative proportion of credit to business and personal

loans remained nearly unchanged over the past four years, with business loans forming about two-third of the credit portfolio whereas, the personal loans taking the other one-third of the total credit portfolio ([Graph 2.40](#)).

### *Asset quality indicators show signs of improvement during FY-12*

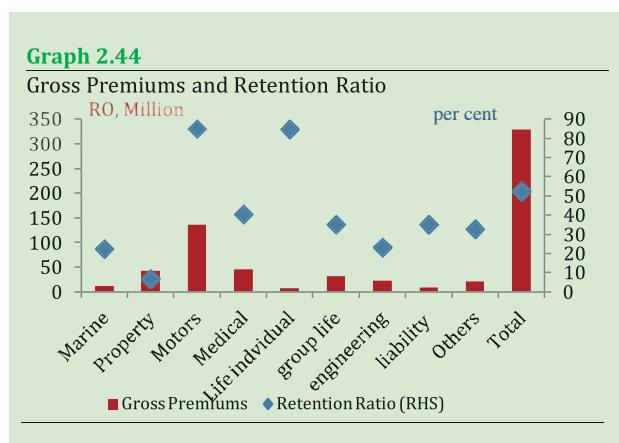
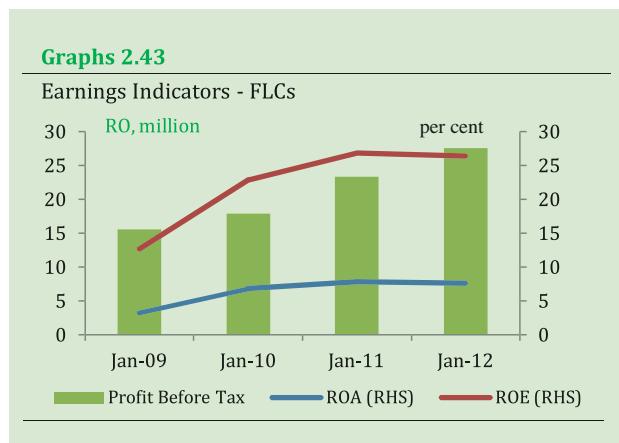
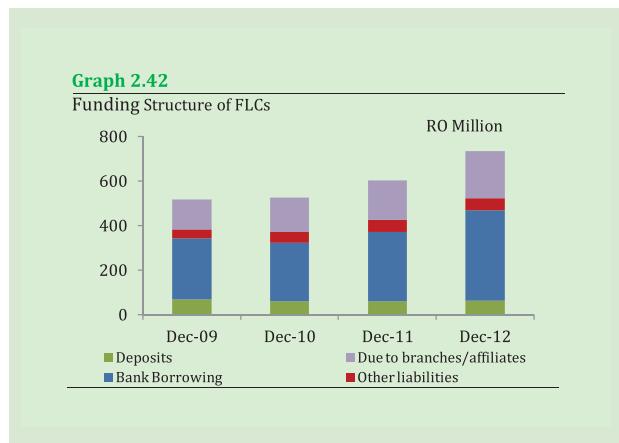
2.2.4 The gross NPL ratio (gross NPLs to Loans) of FLCs has been higher than that of banks, however, during FY-12, there are signs of improvement in asset quality indicators of FLCs. The gross NPL ratio of FLCs declined from 10 per cent to 7.5 per cent during the review period, similarly net NPL ratio of FLCs went down to 0.3 per cent at the end of FY-12 from 0.9 per cent at the end of the preceding year. The low level of Net NPL ratio suggests adequate provisioning of NPLs ([Graph 2.41](#)).

### *Reliance on bank funding might be a constraint for future growth*

2.2.5 To fund their assets, FLCs rely mainly on bank borrowing followed by their own capital. As at the end of FY-12, borrowing from banks and ‘capital and reserves’ form over 55 per cent and 29 per cent of the total funds raised by FLCs respectively ([Graph 2.42](#)). For the last couple of years, FLCs have been witnessing rapid increase in asset growth, however, heavy reliance on bank borrowing might restrict their future growth should the bank funding dry up or become prohibitively expensive when interest rates go up.

### *FLCs might get destabilised during banking sector troubles*

2.2.6 Due to relatively much less proportion of customer deposits, the chances of a bank-like run on FLCs is limited. However, as FLCs are heavily reliant on banks for their funding needs, any trouble originating in the banking sector may quickly pass-through to the FLCs in the form of unavailability of liquidity and financing from banks. Resultantly, crisis-like situation in banking sector may quickly



destabilise FLCs because of their heavy dependence on banks.

*Profitability remains strong but is prone to decline when interest rates shoot up*

2.2.7 During 2012, the profit before tax inched up to RO 27.6 million from RO 23.4 million during the preceding year. The profitability ratios, namely ROA and ROE, improved as well to a healthy 7.6 per cent and 26.4 per cent, respectively (Graph 2.43)<sup>10</sup>. The healthy profitability position was contributed essentially by a strong NIM, which stood at around 13.5 per cent for FY-12. The low funding rates, helped by excess liquidity and low overall interest rate environment, have 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 rates bounce up again.

### Insurance Sector

2.2.8 Insurance companies continued to grow on the back of ongoing construction activity and mushrooming fleet of automobiles. There are 21 insurance companies operating in Oman at the end of FY-12, of these companies 10 are local, whereas, 11 are foreign. Non-life insurance (general insurance) sector dominates the insurance sector in Oman. The total assets of insurance companies exceed RO 600 million, out of these about 80 per cent are owned by general insurance companies, whereas, 20 per cent are owned by life insurance companies.

*Motor insurance leads in premium collection; higher retention ratio in this segment suggests higher risk retention*

2.2.9 During FY-12, the premium collection remained robust with 18 per cent year-on-year increase. Premium collected on account of motor insurance leads the total premiums with a share of 41 per cent (Graph 2.44). The overall

<sup>10</sup> In this section profitability ratios are calculated using pretax figures

retention ratio for the insurance industry remained about 52.4 per cent, suggesting transfer of the rest of the risk to re-insurers. In the motor and life segments, the companies, however, retained most of the risk as evident from the retention ratio of about 85 per cent.

*The unstable weather conditions, and rising level of road accidents are a cause of concern*

2.2.10 The risk of road accidents in Oman is among the highest in the Gulf countries. This coupled with compulsory third party liability insurance and higher retention ratios make the insurance companies particularly vulnerable.

2.2.11 The presence of El Nino Modoki<sup>11</sup> effects has resulted in increased formation of cyclones in the Arabian Sea, that has resulted in unstable weather conditions in Oman. These unstable weather conditions may further drive

up claims and need to be carefully monitored by the insurance sector.

### **Money Exchange Companies**

*Money exchange companies may pose legal and reputational risks underscoring the need to scale up operational vigilance*

2.2.12 At the end of FY-12 there were 15 money exchange companies operating in Oman. These companies mainly exchange foreign currencies and issue drafts. The transactions in money exchange companies are on spot basis and therefore, cannot pose systemic risk to the financial system. However, owing to the nature of their business, operational risks, for example, risk of receiving or delivering fake currency remains high and may lead to reputational and legal risk for the companies and also for the public at large.

<sup>11</sup> Sumesh, K. G. and Kumar, M.R.R (2013) "Tropical Cyclones over North Indian Ocean during En-Nino Modiki Years", Natural Hazards

**Chapter III****FINANCIAL SECTOR REGULATION, SAFETY NET AND INFRASTRUCTURE**

*The reforms in financial sector are underway to create a more resilient global financial system that can actively support sustainable growth in output and employment. The priority areas under active process of mending are quality of capital and sufficiency of liquidity. Handling of shadow banks and the systemically important institutions as also trading platforms for Over-The-Counter (OTC) derivatives are also drawing policy makers' attention. More important are the attempts to level the global playing field in the area of managing finance so that systemic risks from interconnectedness are contained. Current focus is hence rightly on the implementation of agreed reforms at the national level while striving concurrently to maintain its consistency across the globe. Newer ideas to improve systems of financial safety nets and financial infrastructure are also part of this global agenda. Islamic banking is getting popular creating better avenues of finance even as it might embody potential sources of systemic risks.*

**3.1 FINANCIAL SECTOR REGULATORY/SUPERVISORY REFORMS<sup>1</sup>**

3.1.1 The global crisis proved the point that managing health of individual financial institution through regulation and supervision does not necessarily mean that the whole system would automatically remain stress-free. The crisis brought home the fact that even when the institutions are individually strong, when each one of them tries to pursue and preserve its' own self-interest, their actions could lead to instability of the system. Some of the regulatory and supervisory gaps that contributed to the crisis were clearly revealed and the importance of revamping the regulatory/supervisory architecture to contain recurrence of any crisis of the kind was laid. Together with regulating institutions at an individual level, the need to regulate all the institutions from a macro perspective aimed to effectively address the systemic risks arising out of procyclicality and interconnectedness was picked up as a major learning point.

3.1.2 The banks which manifested the global crisis were well-capitalised but were overly-leveraged and interconnected both with fellow banks nationally and across banks internationally. Through trade and

financial flows channel, such contagion spread across various economies in the world. The interconnection of financial sector with the real sector was explicitly visible and the concept of systemic risk and macroprudential regulation of the economic system tended to evolve.

3.1.3 Systemic risk can be defined as the probability that a series of correlated defaults among financial institutions, occurring over a short time span, will trigger a withdrawal of liquidity and widespread loss of confidence in the financial system as a whole. While prudent financial regulation can play a defining role in countering the ill effects of systemic risk, the objective of managing instability in the financial system as a whole (including the interactions between the financial and real sectors) as opposed to individual components (that take the rest of the system as given) would require that such macroprudential regulation may be suitably and adequately complemented by the existing system of microprudential regulation and monetary policy measures.

3.1.4 The existing Financial Stability Forum (FSF) was upgraded in to Financial Stability Board (FSB) during the London Summit on 2 April 2009 of the G-20 leaders to coordinate at the international level the work of national financial authorities and international standard setting bodies towards concrete steps to implement effective regulatory, supervisory and other financial sector policies in the interest

<sup>1</sup> Duncan Alford (2013) : International Financial Reforms-Capital Standards, Resolution Regimes and Supervisory colleges, and their effect on Emerging Markets, ADB WP Series No 402, January

Sinha Anand (2013) : Approach to Regulation and Supervision in the post-crisis World Key Note Address at CAFRAL, Mumbai, February 04.

FSB (2013) : Progress of Financial Reforms, April 15

of financial stability. It brings together national authorities (Finance Ministries and Central Banks) responsible for financial stability in 24 countries and jurisdictions (comprising 89 per cent of global GDP and two-thirds of the world's population), international financial institutions, sector-specific international groupings of regulators and supervisors, and committees of central bank experts. Through the six regional groups, the FSB will be able to develop global financial policy initiatives through a more inclusive process.

### *Regional Consultative Group (RCG) for the Middle East and North Africa (MENA)*

3.1.5 At the Toronto Summit in June 2010, the G20 Leaders endorsed such a process by calling on the FSB "to expand upon and formalize its outreach activities beyond the membership of the G-20 to reflect the global nature of our financial system". Accordingly, in 2011, six regional consultative groups<sup>2</sup> of the FSB were established to bring together financial authorities from FSB member and non-member countries to exchange views on vulnerabilities affecting financial systems and on initiatives to promote financial stability. RCG-MENA<sup>3</sup> was thus constituted co-chaired by the Governor, Saudi Arabian Monetary Agency and the Governor, Central Bank of Kuwait as extended arms of FSB in formulating policies relating to financial stability. The member co-chairship of the RCG-MENA will shift to the Governor, Central Bank of the Republic of Turkey with effect from 1 July 2013 for a term of two years along with the Governor, Central Bank of Lebanon as the non-member co-chair. Oman is represented in the RCG by the Executive President of the Central Bank of Oman.

### *New BASEL III-Minimum Capital Adequacy Norms*

3.1.6 The professed norms emphasize adequacy of capital both in terms of quantity as well as quality. The rules relating to the

calculation of capital and asset risk is proposed to be tightened too. The regulators intend to move to a regime in which primary attention is paid to common equity, the best quality Tier 1 capital. Under Basel III this minimum requirement will be 4.5 per cent. The tier 1 capital ratio will increase to 6 per cent of the new (higher) level of Risk Weighted Assets (RWA). In addition to this core capital standard, international banks must also meet an additional capital conservation buffer equivalent to 2.5 per cent of risk-weighted assets in the form of common equity. It can be drawn on in times of stress. Also, at the discretion of national supervisors, banks may be required to hold an additional amount of capital as a countercyclical buffer equivalent to 2.5% of risk-weighted assets with the intention of protecting the banking sector from periods of excess credit growth. Thus, the total capital required for international banks could potentially increase from 2 per cent of risk-weighted assets under the previous standard to 13 per cent under the new, more stringent Basel III standard. These will be construed as the *minimum* standard while the national supervisors are encouraged to apply more stringent capital requirements if their jurisdiction so need.

**Table 3.1** In per cent

	New Capital Adequacy Norms		
	From 1 <sup>st</sup> Jan. 2013	From 1 <sup>st</sup> Jan. 2014	From 1 <sup>st</sup> Jan. 2015
Common Equity			
Tier 1 Capital / Risk Weighted Assets ("RWA")	3.5	4.0	4.5
Tier 1 Capital / RWA	4.5	5.5	6.0
Total Capital /RWA	8.0	8.0	8.0

3.1.7 Two other learning points from the crisis were that (a) the losses in the trading books of banks were several times the losses as computed by the Value-at-Risk (VaR) models and (b) most losses arose from the mark to market losses due to deterioration in the credit quality of the counterparties rather

<sup>2</sup> Americas, Asia, Commonwealth of Independent States, Europe, Middle East and North Africa, and Sub-Saharan Africa.

<sup>3</sup> Algeria, Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, Turkey and the United Arab Emirates.

than outright default. These observations hence prompted the new Basel III regulations to expand the risk coverage, specially, in the trading book and of risks relating to counterparties.

3.1.8 The 27 member jurisdictions of the Basel Committee on Banking Supervision (BCBS)<sup>4</sup> continue to make progress towards implementation of these new norms. While 14 had issued final regulations by 12 February 2013, the remaining 13 jurisdictions have since tabled draft regulations. The European Union and the United States published draft regulations in 2012 and intend to finalise them over the course of 2013.

3.1.9 Despite some delays in implementing Basel III regulations, national supervisors are ensuring that internationally active banks are, where necessary, making steady progress in strengthening their capital base to meet the new Basel III standards. The latest data collected by the Basel Committee indicate that, for the 12 months ending June 2012, large internationally active banks on average raised their capital ratios. For example, the average Common Equity Tier 1 (CET1) capital ratios rose from 7.1 per cent to 8.5 per cent of risk-weighted assets. For those banks that do not yet meet the fully-phased in requirements, CET1 capital shortfalls fell from roughly €450 billion to €200 billion, 45 per cent less than at end-2011.

3.1.10 The new Basel III norms have evoked concerns as well especially at the end of developing economies which may have to balance the trade-off between keeping more capital for financial stability while foregoing incremental capital use for their economic growth needs. The sourcing of huge capital requirements<sup>5</sup> as retained earnings alone may not be sufficient to fund this new capital is a

formidable challenge. The impact of the rise in cost of bank intermediation on supply of credit and hence on the output growth is said to be a short-term concern while “in the long run there may even not be any need to trade-off the level of output and the safety of the financial system at all: we can have our cake (financial stability) and eat it (higher economic activity) too. However, at the same time the challenges of transition and the structural implications of reform are profound”. Nonetheless, the lurking risks out of the implementations of the new regulations likely to disrupt supply of credit to the economy especially to the small businesses will remain.

#### *Suggested Leverage Ratio*

3.1.11 The belief that keeping the banks well-capitalised would solve the problem was proved wrong in the 2007-2009 crises. It was earlier revealed during the Long Term Capital Management (LTCM) blow-up and was seen again in the Northern Rock episode. These financial firms had no problem so far as adequacy of capital was concerned but those were so excessively leveraged that their problems engulfed others viciously. This issue of leverage got aggravated for many commercial and investment banks from 2003 onwards despite being compliant with the capital adequacy requirement, pointing to serious deficiencies in risk measurement methodologies and models.

3.1.12 Accordingly, to address this, for the first time the Basel Committee has also proposed a leverage ratio for international banks. This ratio is calculated as the amount of capital held by the bank divided by the amount of exposure of the bank. Exposure includes the value of bank assets and the value of derivatives and off-balance sheet items. Again, the intent is to capture all risks, both on and off-balance sheet, for which the bank is liable. The ratio will be tested at a level of 3 per cent from 1 January 2013 to 1 January 2017.

#### *New Liquidity Adequacy Norms*

3.1.13 As the financial crisis unfolded more and more, it was also revealed that financial

<sup>4</sup> Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

<sup>5</sup> The Quantitative Impact Study conducted by the Basel Committee as part of the development of Basel III showed that €577 billion were needed to meet these new capital standards for a sample of international banks. This same sample earned after-tax profits of €209 billion in 2009.

firms were running with liquidity buffers quite insufficient to the maturity mismatch risk those were carrying. The operating assumption that markets would continue to provide liquidity at all times had created a sense of false complacence that encouraged them to finance their long term assets with much shorter term liabilities. The outstanding Repurchase Agreements (repos) tripled between 2001 and 2007 with particularly rapid growth of overnight repos.

3.1.12 To address this, the Basel III proposes a new rigorous liquidity standard which will be measured by two separate ratios: a Liquidity Coverage Ratio (LCR) and a Net Stable Funding Ratio (NSFR). The LCR is the value of high quality liquid assets over the total net cash flow of the bank for a thirty-day period. This ratio should be greater than or equal to one and should be reported monthly to the appropriate supervisor. There has been some agreement reached by the Group of Governors and Heads of Supervision on the high-quality liquid assets that can be included in the LCR and the evidence-based assumptions to be considered about liquidity outflows in times of stress. The LCR will be introduced on 1 January 2015 with the minimum requirement at 60 per cent, rising in equal annual steps of 10 percentage points to reach 100 per cent on 1 January 2019. This graduated approach is designed to ensure that the LCR can be introduced without disrupting the orderly strengthening of banking systems or the ongoing financing of economic activity.

### Table 3.2

Status of Basel III components and target dates for implementation	
Core Component of Basel III	Progress
Basel III capital adequacy reforms	Published in 2011; implementation from 1 January 2013
G-SIB/D-SIB framework	Published in 2011 and 2012; implementation 1 January 2016
Liquidity Coverage Ratio	Published in 2013; implementation from 1 January 2015
Leverage ratio	Disclosure starting in 2015 with a view to migrate to Pillar 1 in 2018
Net Stable Funding Ratio	Under review; minimum standard to be introduced in 2018

3.1.13 In contrast to the LCR, the NSFR is intended to promote the resilience of the bank over a longer time period of one year. This ratio is the bank's Available Stable Funding over its Required Stable Funding. The Required Stable Funding is an amount determined by the appropriate supervisor using assumptions regarding the liquidity risk profile of the bank. The Available Stable Funding is the sum of a bank's capital, preferred stock with a maturity over one year, non-maturing deposits, term deposits, and wholesale funding that is expected to remain with the bank in the event of a financial crisis. This NSFR should be greater than or equal to one and must be reported quarterly. The supervisor in the home jurisdiction typically enforces this ratio according to the home jurisdiction's standards. With respect to retail and small business deposits, the liquidity standards of the host jurisdiction are applied.

### *Banks in Oman getting ready to adopt Basel III norms*

3.1.14 CBO supports the implementation of the Basel III reform measures and proposes to strengthen the existing capital and liquidity standards for licensed banks in Oman, bringing them in line with Basel III. The CBO targets to implement the reform package in Oman in accordance with the globally-agreed levels (or more) and implementation timeline which provides for a gradual phase-in of the standards beginning 2013 until 2019. Accordingly it had advised banks on October 6, 2010 to remain prepared in this regard and reiterated its stance in December 2011 when the banks were advised to reassess their capital position vis-à-vis anticipated business growth and prepare themselves by assigning additional capital for compliance with the Basel III requirements in due course. Based on the recommendations of the specially-formed 'Basel Accord Implementation Group' with representation from select banks and CBO in April 2012 a draft roadmap for implementation of Basel III was issued to banks for comments in the same month. The final roadmap was then issued in August 12, 2012.

#### *Regulating Systemically Important Financial Institutions (SIFIs)*

3.1.15 The Basel Committee has proposed an “indicator based measurement approach,” consisting of five indicators; Cross-Jurisdictional Activity, Size, Interconnectedness, Substitutability and Complexity (each of equal weight) to define Global Systemically Important Financial Institutions (G-SIFIs) and Domestic Systemically Important Financial Institutions (D-SIFIs); entities that could potentially create larger negative externalities to the financial system if they were to get into trouble and fail. It was recognized that the systemic impact of the failure of a bank would typically be more severe as the complexity of the bank increases and hence it is imperative to stipulate greater loss absorbency for these entities, subject them to more intense supervision and put in place stronger resolution regime.

3.1.16 In November 2011 the FSB designated 29 financial institutions to be systemic and therefore be subjected to the additional capital requirement ranging from 1 per cent to a potential 3.5 per cent of risk-weighted assets, depending upon their systemicity and assigned rating. In late 2012, an updated list of G-SIBs was released with the number reduced by one to 28. The new list showed for the first time the allocation of G-SIBs to buckets corresponding to the level of additional common equity loss absorbancy (ranging from 1 to 2.5 per cent of risk weighted assets) that they would be eventually required to hold if they remain G-SIBs. This loss absorbency capital essentially in the nature of common equity Tier 1 is in addition to the other forms of capital required by Basel III. In effect, this would mean that the capital required to be held by global systemically important banks would increase from 2 per cent of risk-weighted assets to potentially 16.5 per cent. These requirements will however be phased in from 2016, initially for those banks identified as G-SIBs in 2014.

#### *Strengthening the oversight and regulation of Shadow Banking*

3.1.17 Shadow Banks, predominantly by-product of regulatory arbitrage tend to emit bank-like risks to financial stability emerging from outside the regular banking system while remaining aloof from explicit government backstop, namely, deposit insurance protection and access to lender of last resort (LOLR) and are rarely backed by any other discretionary support in the eventuality of adverse events. This sector grew phenomenally in the run-up to the crisis and overshadowed even the regular banking system in many jurisdictions. The risks originated in this lightly, or totally unregulated segment. It spread by and by to the regular banking system and exacerbated the crisis.

3.1.18 Current discussions veer around a few possible ways to keep this sector under ongoing watch. While regulating banks' exposure to shadow banking system could be the popular one, considering direct macroprudential measures to address risks in securities lending and repo transactions may be the other. Expanding disclosure obligations on their activities and containing their ability of maturity transformation and leverage through harder bank like regulation are also being considered.

#### *Oman is yet to get in to shadow banking in its true sense*

3.1.19 Shadow Banking as a concept is not quite popular in Oman. Over 94 per cent of the total assets of the Omani financial system belong to banks. The Central Bank of Oman apart from the banks also regulates specialized banks, non-bank finance and leasing companies and money exchange establishments, constituting 2.0 per cent, 3.0 per cent, and 0.3 per cent respectively of the total assets of Oman's financial system in 2012. Insurance and Mutual Fund sectors (constituting 2.5 per cent and 0.2 per cent respectively of the total assets of Oman's financial system in 2012) are regulated by Capital Market Authority (CMA).

3.1.20 Thus the Shadow Banking (considering even the entire non-bank sector) sector in Oman is quite small but quite well-regulated. Effectively, the Finance and Leasing Companies (FLCs) and the Mutual Funds (MFs) are construed to be Shadow Banks in true sense of the term. The MF sector is in nascent stage, though under tight regulation of CMA, while FLCs are gaining prominence attracting adequate regulatory attention of the CBO. Considering the facts as under on FLCs, Shadow Banking does not appear to have confronted as an issue of concern for Oman.

3.1.21 First, as of the activities carried out by FLCs, they are limited, operating in three market segments, retail financing, equipment leasing and factoring and working capital financing. They operate under the license of CBO with limited authorization to accept deposits from corporates. Most of these activities have been allowed with due diligence done and with appropriate regulatory limits attached to them. Any proposal of introducing new product and service which are not conventional in nature would require prior approval of CBO. As a matter of general rule, FLCs are not authorized to invest in any other securities or shares other than in Government Development Bonds that too up to 20 per cent of their net worth.

3.1.22 Second, as of capital adequacy, FLCs are required to maintain at all times a paid up capital of not less than RO 5 million. Considering their growing size, this requirement has been raised to RO 25 million to be attained before end-December 2016.

3.1.23 Third, FLCs's leveraging in terms of raising outside liabilities shall not exceed 5 times of net worth and their borrowings in foreign currencies beyond 40 per cent of net worth shall attract exchange reserve of 20 per cent. Lending of Rial Omani to non-residents and placements of RO with banks and financial institutions abroad are prohibited. As such, the proportions of their borrowings from banks and financial institutions in their gross loan component have declined from 55.0 per cent in 2008 to 53.4 per cent in 2012.

### *Improved regulation and supervision of OTC and commodity derivatives*

3.1.24 OTC financial transactions are contracts / instruments that are traded directly between two parties without going through an exchange. By nature the OTC markets have been opaque. Lack of transparency in the OTC markets was another major factor which led to build up of risks in the system. Information about the position building was not available even with the regulators, leave alone the counterparties. The insurance giant, American International Group (AIG) wrote huge credit protection (to the tune of USD 400 billion) collecting huge premium in return, believing that it would not be required to settle claims of protection buyers. The quantum of protection sold by AIG was not known to the market participants due to which they went on buying credit protection from AIG. When the system came under severe stress and AIG was required to post higher margins, it found itself in deep trouble and had to be eventually bailed out by the Federal Reserve.

3.1.25 Improvement in transparency of the OTC market is one of the main pillars of post-crisis measures contemplated for promoting financial stability. G-20 Toronto summit declaration of June 2010 affirmed a commitment to (a) trade standardised OTC derivatives on exchanges or electronic trading platforms, (b) clear these trades through Central Counter Parties (CCPs), wherever appropriate and (c) report OTC derivative contracts to trade repositories.

3.1.26 Internationally, the concept of Trade Repository (TR) is evolving. The International Swaps and Derivatives Association (ISDA) has taken the initiative in the US and has awarded mandate to the Depository Trust and Clearing Corporation (DTCC) to further consolidate the already existing TR for Credit Default Swaps (CDS) and to TriOptima (a company registered in Sweden which already have a service for trade compression) for Interest Rate Derivatives. Reportedly, some repositories have also been constituted in EU jurisdiction. The Dodd Frank Act of July

2010 and the European Market infrastructure Regulation provide for TRs.

3.1.27 The flip side of this useful initiative may be that by migrating OTC products to CCPs, there is a possibility of warehousing all risks in a few entities leading to systemic risk buildup and adding more “too important to fail” entities. There is also a serious debate over whether the CCPs that have become systemically important need to be provided central bank liquidity support. While there are strong arguments for providing such facilities to them given their criticality in the financial system, the issue of moral hazard needs to be adequately addressed while providing such support.

3.1.28 While progress has been made toward meeting the G20 commitments, through international policy development, adoption of legislation and regulation, and expansion of infrastructure, no jurisdiction had fully implemented requirements by end-2012<sup>6</sup>. Less than half of the FSB member jurisdictions currently have legislative and regulatory frameworks in place to implement the G20 commitments and there remains significant scope for increases in trade reporting, central clearing, and exchange and electronic platform trading in global OTC derivatives markets.

#### *Supervisory Colleges*

3.1.29 Light-touch regulation with de-intensified supervision, in fact prevented the irregularities to come to fore. The basic philosophy of supervision, i.e. ‘trust but verify’ was considerably diluted. Hesitation to ask questions when the going is good are against the principle of good supervision. Lack of proper understanding of new financial products resulted in the supervisors’ inability to see through the risks building up when banks started dealing in very complex products or when banks started relying excessively on short term funding sources for their operations. This is more so in respect of SIFIs with their cross-border characteristics.

3.1.30 Supervisory colleges for cross-border financial institutions have been advocated to improve the international legal framework for financial supervision of such complex institutions. These *ad hoc* groups are intended to improve the exchange of information among supervisors with the goal of ensuring safe and sound banking practices, reducing the possibility of governmental assistance to financial institutions, and building confidence generally in the international financial system. The G-20 and the European Union (EU) have been particularly active in developing these colleges and codifying best practices for their operation.

3.1.31 However, this experiment is not taking off fast in the face of inadequate acceptance to the idea of sacrifice in times of crisis by way of information and resources. Lack of confluence in legal conclusions across the participating jurisdictions is another impediment. Further, the skills and capacity of supervisors and even, the supervisory approach may vary widely. Towards the end of increasing the intensity and effectiveness of supervision the Basel Core Principles (BCPs) on Effective Supervision – the global standards against which supervisors are assessed as part of the IMF-World Bank Financial Sector Assessment Program (FSAP) – have been recently revamped. The Joint Forum has published principles for supervision of financial conglomerates. Several other issues i.e. model risk; management, enhanced scrutiny of Boards and senior management are being addressed.

3.1.32 Postcrisis, there has been a shift towards risk based supervision (RBS) away from the erstwhile CAMEL approach. CAMEL is essentially a scorecard based approach which is more of a backward looking methodology and transaction testing model operating with a lag. The RBS, on the other hand, is a forward looking approach in as much as it assesses the risk buildup in banks. RBS also enables conservation of supervisory resources.

<sup>6</sup> FSB press release on fifth progress report on implementation of OTC derivatives market reforms, 15 April 2013

### *Resolution and Insolvency Regimes*

3.1.33 A proper framework was absent for bailing out distressed institutions inflicted by the crisis. This necessitated use of public money in the interest of up keeping systemic stability. At the instance of the G-20, both the FSB and the Basel Committee have proposed the creation of a resolution regime for SIFIs. A well-defined resolution regime enables separation and continuation of core activities from noncore activities followed by an orderly resolution has been advocated by FSB in its “Key attributes of effective resolution regimes for financial institutions” (Box 3.1) In the US, under the Dodd-Frank Act, an orderly resolution framework has been put in place.

3.1.34 In creating a bank resolution regime, the different objectives of a corporate insolvency regime and a bank insolvency regime must be recognized. Corporate insolvency laws attempt to reach a fair and predictable treatment of creditors and the maximization of assets to satisfy creditors' claims. On the other hand, the bank insolvency regime must ensure the protection of (insured) depositors and the continuity of banking and payment services and minimize the contagion of a bank failure. As long as these goals are attained, a bank should be allowed to fail in order to avoid moral hazard.

3.1.35 There is also a serious debate on revamping the banking models especially in the context of concerns regarding systemically important and complex institutions. There is an increasing realization that the retail part of the banking system, which offers core services to the people in terms of deposits and retail credit, should remain safe. There are three well known reports in this regard; Vickers' report in the UK proposes ring fencing the retail business from the investment banking activities. The Volker rule under the Dodd-Frank Act in the US proposes restrictions on proprietary trading with some exceptions and puts limitations on banks sponsoring Hedge funds, Venture Capital funds and Private Equity funds. A recent addition is the Liikanen report for the Euro zone which is on somewhat similar lines. An idea of a SIFI Stability Fund<sup>7</sup> (SSF) has been floated among the institutions considered to be global systemically important banks by the international authorities. Every year, 20 per cent of the net profits of these banks are put into a fund (basically an escrow account) managed by the IMF or another international institution (ideally a self-managed structure audited by the IMF). After five years, the oldest contribution to the fund is given back to the banks. If problems arise and an SSF participant needs recapitalization, it can tap the fund.

<sup>7</sup> Lorenzo Esposito “Connect them where it hurts. The missing piece of the puzzle” Bank of Italy Occasional papers, Number 151 – February 2013

### Box 3.1

#### The Key Attributes of Effective Resolution Regimes for Financial Institutions

1. **Scope** - The regime should cover any financial institution that could be systemically significant or critical if it fails.
2. **Resolution authority** - The regime should be administered by a resolution authority (or authorities) with a statutory mandate to promote financial stability and the continued performance of critical functions.
3. **Resolution powers** - The regime should provide for a broad range of resolution powers, including powers to transfer the critical functions of a failing firm to a third party; powers to convert debt instruments into equity and preserve critical functions ('bail-in within resolution'); powers to impose a temporary stay on the exercise of termination rights under financial contracts (subject to safeguards for counterparties) and

impose a moratorium on payments and on debt enforcement actions against the failing firm; and powers to achieve the orderly closure and wind-down of all or parts of the firm's business with timely pay-out or transfer of insured deposits.

4. **Set-off, netting, collateralisation, segregation of client assets** - The segregation of client assets should be effective in resolution. Financial contracts, including netting and collateralisation agreements, should be enforceable. However, entry into resolution and the exercise of any resolution powers should not in principle constitute an event that entitles any counterparty of the firm in resolution to exercise acceleration or early termination rights under such agreements provided the substantive obligations under the contract continue to be performed (as would be the case if the contracts were transferred to a

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- sound financial firm or bridge institutions).
- 5. Safeguards** - All creditors should receive at a minimum what they would have received in a liquidation of the firm ('no creditor worse off than in liquidation' safeguard). Resolution powers should be exercised in a way that respects the hierarchy of claims, subject to some flexibility for authorities to depart from the general principle of equal treatment of creditors of the same class where necessary to contain the potential systemic impact of a firm's failure or to maximise the value for the benefit of all creditors as a whole. Rights to judicial review should be available for affected parties to challenge actions that are outside the legal powers of the resolution authority.
  - 6. Funding of firms in resolution** - Resolution regimes should include funding mechanisms that can provide temporary financing to continue critical operations as part of the resolution of a failing firm. Such funding should be derived, or recovered, from private sources.
  - 7. Legal framework conditions for cross-border cooperation** - Resolution regimes should empower and encourage resolution authorities wherever possible to act to achieve a cooperative solution with their foreign counterparts. Authorities should be able to give effect in their jurisdiction to resolution measures taken by a foreign resolution authority.
  - 8. Crisis Management Groups (CMGs)** - Home and key host authorities of all G-SIFIs should maintain CMGs with the objective of enhancing preparedness for, and facilitating the resolution of a G-SIFI.
  - 9. Institution-specific cross-border cooperation agreements (COAGs)** - COAGs should be in place between the home and relevant host authorities that need to be involved in the preparation and management of a crisis affecting a G-SIFI.
  - 10. Resolvability assessments** - Resolvability assessments should be carried out for all G-SIFIs. Authorities should have appropriate powers to require the adoption of appropriate measures to ensure that a firm is resolvable under the applicable regime.
  - 11. Recovery and resolution planning** - Recovery and resolution plans (including high level resolution strategies) should be in place for all firms that may be systemic or critical in the event of failure.
  - 12. Access to information and information sharing** - Jurisdictions should remove legal,
- regulatory or policy impediments that hinder the domestic and cross-border exchange of information - in normal times and during a crisis - necessary for recovery and resolution planning and for resolution.
- #### Living Wills
- A living will is a recovery and resolution plan for a financial institution. Typically the bank will draft the initial plan to be reviewed and challenged by the supervisors. The core supervisory college—the home supervisory and key host supervisors—typically conduct this review. The living will should cover all operations of the bank; therefore, there should be one plan rather than separate national plans. The development of living wills may lead to the simplification of complex legal structures of global financial institutions.
- Living wills ideally should include a burden sharing plan among the institution's supervisors. Each country's burden will be aligned to the benefit the country would receive in the event of financial distress—the economic value of the "maintenance of financial stability." The core supervisory college would prepare the burden-sharing agreement. Because each country would have a financial obligation pursuant to the burden-sharing agreement, "it has an incentive to make sure that supervision is properly done to minimize the possibility of failure." However, living wills will not be as effective as intended without a harmonized insolvency procedure for financial institutions across nations, which do not currently exist.
- #### Contingent Convertibles (CoCos)
- CoCos' are a form of debt that converts to equity when a bank faces financial distress. In principle, they are debt instruments in normal times that automatically convert into common equity when a pre-specified stress related trigger is breached. The triggers can be linked to the deterioration in the condition of the specific banking institution and/or to the banking system as a whole. However, using contingent capital during tough times does not necessarily imply actual cash being transferred to the bank, but could simply mean a change in its existing liability structure.
- #### Bank Creditors' Bail-Ins
- Though similar to contingent capital in its objective, this is functionally different as it would possibly apply to a larger part of banks' liabilities and could encompass future as well as existing debt. Bail-ins essentially turn the whole capital structure into contingent capital and are expected to take place close to the point of non-viability of the bank., which may raise some issues as to the feasibility of bail-ins.

### *Reducing Reliance on Ratings by Credit Rating Agencies (CRAs)*

3.1.36 As demonstrated during the financial crisis, reliance on external ratings to the exclusion of internal credit assessments can be a cause of herding behaviour and of abrupt sell-offs of securities when they are downgraded (“cliff effects”). These effects can amplify procyclicality and cause systemic disruption. In October 2010, the Financial Stability Board (FSB) drew up a set of principles for reducing the reliance on Credit Rating Agency (CRA) ratings. The principles provide basic guidance for the reduction of the reliance on CRA ratings in standards, laws and regulations and by markets, calling on the relevant authorities to assess and remove, if possible, any references to CRA ratings and to reorient such basic guidance to particular financial market activities, such as banks’ mechanistic reliance on CRA ratings as triggers for margin calls or information disclosure by securities issuers.

3.1.37 Any attempt at reducing reliance on CRAs would mean developing alternative risk assessment capabilities and processes, so that use of CRA ratings is able to be no more than an input to risk assessment. This is a big challenge and the need is to find ways of incentivising the market participants to be able to develop internal rating methodologies by way of developing adequate risk management capacity within themselves. It is expected of the Standard setters to find out ways and means to inculcate in them the sense to reduce their mechanistic reliance on CRAs and to encourage them to conduct their own credit risk assessments. Firms should publicly disclose information about their credit assessment approach and processes, including the extent to which they place any reliance on, or otherwise use, CRA ratings. Standard setters and authorities should develop transition plans and timetables to enable the removal or replacement of references to CRA ratings wherever possible and the associated enhancement in risk management capabilities to be safely introduced. Supervisors should incentivise banks to develop internal credit risk assessment capacity, and to increase

use of the internal-ratings-based approach under the Basel capital rules. In order to do this, supervisors should enhance their ability to oversee and enforce sound internal credit policies. Investment managers should conduct risk analysis commensurate with the complexity and other characteristics of the investment and the materiality of their exposure, or refrain from such investments. Regulators of investment managers should enhance their ability to oversee and enforce sound internal credit policies. Market participants and central counterparties should not use changes in CRA ratings of counterparties or of collateral assets as automatic triggers for large, discrete collateral calls in margin agreements on derivatives and securities financing transactions. Even, Central Banks should avoid mechanistic use of CRA ratings.

### *Revisiting Compensation Practices across Businesses and Jurisdictions*

3.1.38 The financial crisis has revealed that performance-based compensation structure in financial institutions was encouraging perverse incentives and was essentially flawed<sup>8</sup>. Participants were paid large bonuses on the basis of short term performance (culminating in transitory high earnings) even though the embedded risks could be much higher lurking around to strike sometime later. Such a compensation structure was characteristically myopic as it encouraged private sharing of profits now while leaving to the future the scope of socializing the possible losses by taxing the general public.

3.1.39 The reform proposal has called for compensation structure justified by the business model and risk profile of the institution with each FSB member jurisdiction having a clearly defined national regulations or supervisory guidance in this regard which necessarily should address the potential regulatory arbitrage as a result of market developments and emerging risks. As evident, supervisory cooperation in the area

<sup>8</sup> Wall Street paid bonuses amounting to \$18.4 billion in 2008. For 6 of the 9 biggest banks saved by the US government in 2008, bonus payments exceeded profits that year

of compensation practices and especially, taking this along the agenda of supervisory colleges may be a necessity. Supervisors should ensure that all financial institutions deemed significant for this purpose take immediate steps to align their practices with the key requirements in the area of effective governance of compensation. Particular attention should be given to the independence and expertise of the institution's remuneration committee, to the independence of risk and compliance functions in the compensation process, and to evidence of real cultural change within the institution. They should also ensure that all such financial institutions comply with the Basel Committee's Pillar 3 disclosure requirements for remuneration.

3.1.40 A recent survey<sup>9</sup> by the Federal Reserve shows that the largest US banks are deferring more than 60 per cent of senior bank executives' bonuses. An idea of a "bonus pool"<sup>10</sup> has been advanced in order to average the performance of a manager over for many years or for many managers, putting all the potential bonuses in an escrow account that can be tapped if losses arise in the following years. Another interesting recommendation<sup>11</sup> has been forwarded in terms of which the systemically important financial institutions should be required to hold back a substantial share – perhaps 20% – of the compensation of employees who can have a meaningful impact on the survival of the firm. This holdback should be forfeited if the firm's capital ratio falls below a specified threshold. The deferral period – perhaps 5 years – should be long enough to allow much of the uncertainty about managers' activities to be resolved before the bonds mature. Except for forfeiture, the payoff on the bonds should not depend on the firm's performance, nor should managers be permitted to hedge the risk of forfeiture. The threshold for forfeiture should be crossed well before a firm violates its regulatory capital requirements and well before its contingent convertible securities convert to equity.

<sup>9</sup> S. Nasiripour "US banks defer 60% of executive bonuses", Financial Times, 10 October 2011

<sup>10</sup> Roubini N., Mihm S. (2010). Crisis Economics, London: Allen Lane

<sup>11</sup> Aligning Incentives at Systemically Important Financial Institutions-A Proposal by the Squam Lake Group March 25, 2013

#### *Use of Peer Reviews: Thematic and Country to Level the Playing Field on International Best Practices*

3.1.41 Thematic peer reviews pick up a theme (of regulatory or supervisory concern with implications on systemic financial stability) and attempts to survey and compare its implementation across the FSB membership. Themes are based on international financial standards and policy prescriptions agreed within the FSB. The objectives of the reviews are to encourage consistent cross-country and cross-sector implementation, to evaluate the extent to which standards and policies have had their intended results and, where relevant, to make recommendations for potential follow up by regulators, supervisors and standard setters. They provide an opportunity for FSB members to engage in dialogue with their peers and to share lessons and experiences. A peer review of resolution regimes has been published in April 2013, while one on CRA has started. The thematic review on risk governance was published by FSB in February 2013 while such an exercise on Insurance core principles is underway by International Association of Insurance Supervisors (IAIS).

3.1.42 Thematic peer reviews complement FSB country peer reviews, which focus on the progress made by an individual FSB member jurisdiction in implementing IMF-World Bank Financial Sector Assessment Program (FSAP) regulatory and supervisory recommendations. All BCBS members will be assessed over time with priority being given to jurisdictions which are home to G-SIBs. Reviews of Japan, the European Union and United States were published in October 2012 and Singapore in March 2013.

#### *Systemic Risk Surveillance Architecture*

3.1.43 There is no difference in opinion about handling financial stability or systemic risk separately as a concept and art, but what should be an ideal Regulatory Architecture for a Systemic Regulator is still being debated. The prevailing weakness of absence of an explicit pursuit of macroeconomic and financial stability by any agency or

regulator definitively mandated with this responsibility was exposed during the crisis necessitating moves to explicitly indicate which agency/agencies will be responsible for financial stability and to specify a protocol for addressing threats to financial stability. This is being done in a proactive manner as a pre-emptive mechanism to handle future crisis. Reactive actions rarely work before the damage gets done.

3.1.44 Avoiding systemic collapse is an important public risk-management function in a free market economy, an inevitable feature of which is failure. As the financial sector regulator, lender of last resort, monetary policy maker, manager of payments and settlement systems as also in many jurisdictions custodian of the foreign exchange reserves, central banks have a major role in maintaining soundness of the economic system. Central Banks can bring the required expertise in monitoring financial markets and the analysis of aggregate and sectoral developments that can help confronting possible procyclicality risks and reducing probability and impact of individual failure.

3.1.45 This implies that systemic risk concerns, that have the potentiality of causing financial instability, should be in the working agenda of a central bank. In fact, following the crisis, most countries have entrusted their central banks the authority with the responsibility for preserving financial stability. An IMF survey<sup>12</sup> indicates that the central banks have been given a financial stability mandate in most countries (90 percent) that responded to the survey.

3.1.46 The Financial Stability Board also endorses this same view and recommends that the “central banks may have clear responsibility for both macroprudential and microprudential policy (as in Malaysia and, prospectively, the UK), or account for a large share of the votes in the committee (as in the ESRB). In the US arrangements, the Federal Reserve is one of 10 voting members of the Financial Stability Oversight Council

<sup>12</sup> IMF, Macroprudential Policy: An Organizing Framework March 14, 2011

(FSOC), but it is charged with the regulation of systemically important banks and non-bank financial institutions, as designated by FSOC”<sup>13</sup>. Similarly in the arrangements at India, the real operative wing of the Financial Stability Development Council (FSDC), chaired by the Minister of Finance, is the Sub-Committee of the FSDC chaired by the Governor, Reserve Bank of India in which all other members of the FSDC (regulators of capital market and insurance sector and the Secretaries of Finance and Financial services and the Chief Economic Advisor to the Finance Minister) are the members with almost the same mandate to work on. FSU at the central bank coordinates the work of this sub-committee of FSDC.

3.1.47 This does not imply in any way that Central Banks should solely take on this added and loaded responsibility. The cross-country experience shows that a Committee approach taking on board all the regulators and the Government led by the Central Bank has been the most popular one. “Inter-agency committees can bring together different perspectives on the sources of systemic risk and the potential for regulatory arbitrage, as well as identifying the most appropriate tools (which may be housed in different agencies)”<sup>14</sup>. Such Committees have been given a well-identified authority that has a clear macroprudential mandate and has been promoting consistency across policies to preserve financial stability. Further, such a clear division of labour helps protect the independence arrangements for monetary policy that are needed for maintaining price stability.

3.1.48 Finance ministries have traditionally played a strong role in committees with a role in crisis management and recapitalization or bail out only, given their responsibility over the use of public funds. For instance, the US Secretary of the Treasury has veto power over emergency measures that might involve public money. Benefits from their involvement on a macroprudential policy committee include the

<sup>13</sup> FSB, Macroprudential Policy Tools and Frameworks, Progress Report to G20, 27 October 2011

<sup>14</sup> FSB, Macroprudential Policy Tools and Frameworks, Progress Report to G20, 27 October 2011

ease of integration of fiscal and exchange rate policies and, more broadly, of discussion of any legislative changes that may be required to mitigate systemic risks. A possible risk associated with a central involvement of finance ministries in the operation of macroprudential frameworks is a reduced degree of insulation/independence of central banks from pressures linked to the political cycle.

3.1.49 With the exception of the US where the Treasury has recently established the Office for Financial Research, the Treasury usually does not specialize in the analysis of financial stability, nor is it endowed with any macroprudential tools. However, since it is the ultimate back-stop to the financial system, the Treasury has to play the role akin to that of an “owner”<sup>15</sup> who is liable when things go wrong. It also plays an important role in defining the financial environment through the issuance of sovereign debt instruments, which play a key role as collateral in market-based financial intermediation.

3.1.50 Successful monetary policy and macroprudential policy are likely generally to reinforce each other. Measures to strengthen the resilience of the financial system reinforce monetary policy by shielding the economy from sharp financial disruptions. Conversely, macroeconomic stability reduces the financial system’s vulnerability to procyclical tendencies. The conduct of one policy will need to take account of developments and settings in the other. Interventions in either area will affect economic and financial conditions. Macroprudential settings will influence credit supply conditions, and hence monetary policy transmission. Meanwhile, measures that strengthen the resilience of the financial system may also help monetary policy to influence credit conditions more precisely in the wider economy, by reducing the impact of financial frictions on credit supply.

3.1.51 There should not, however, be one-size-fits-all approach in this. The structure should be country-specific to serve its best of interests.

*The concept of a Dedicated Macroprudential Authority for Oman is evolving, even while systemic risk surveillance is undertaken*

3.1.52 The concept of an explicit mandate in favour of a dedicated macroprudential authority is evolving in Oman. The CBO implicitly does this as it regulates 94 per cent of the financial system and also discharges the Lender of the Last Resort (LOLR) function. An independent Financial Stability Unit (FSU) has been formed to carry forward this cause. The FSU is developing database on key variables relating to macro-economy, financial markets, financial institutions and financial safety nets/infrastructure towards formulating an Early Warning Signal system for macro-financial surveillance of the Omani system.

3.1.53 FSU generates Stress Tests Reports (STR) every quarter indicating the possible impact that might befall on the system should there be stresses of various hypothetical intensity on potential credit risk, solvency risk and liquidity risk. It also makes quarterly vulnerabilities assessment of the whole system to indicate and analyze various lurking points of distress by way of putting together Systemic Risk Dash Boards (SRDB). Through both these two documents, STR and SRDB, lurking distress points for the system are escalated to the Higher management of CBO. The annual Financial Stability Report (FSR) is published (this being the maiden issue) for the information of all the stakeholders in line with international practice.

3.1.54 In order to approach the issue of assessment of vulnerabilities in a holistic manner, a formal system of confluence of free flow of thoughts have been operationalized by way of quarterly meetings of the Internal Tier I Committee on Financial Stability headed by the Vice President in charge of Regulation and Supervision departments with the Heads of relevant departments and in-charge of FSU as the coordinator. These meetings are held to gather inputs on potential points of vulnerabilities in the system.

3.1.55 Similarly, another system of quarterly meetings of non-CBO market players have

<sup>15</sup> Rules, Discretion, and Macro-Prudential Policy, Itai Agur and Sunil Sharma, IMF WP March 2013

been put in place in which a meeting of the CEOs/Heads of Treasury/Credit of banks, Exchange Houses, Housing Banks, Specialized Credit Institutions, Finance and Leasing Companies etc. chaired by the In-Charge of FSU are held. The objectives of these meetings are to assimilate the opinion of both the internal and external stakeholders on their perception of what could pose potential vulnerabilities to the system. These opinions are further researched to be included in the quarterly Financial Stability Dash Boards as also FSR.

3.1.56 A bi-annual Systemic Risk Survey (CRS) is undertaken (Box 3.2) to take into account what external stakeholders perceive about the macro-financial position on which the FSR would leverage its quality of coverage

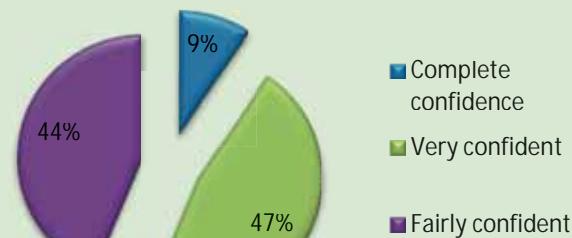
on. There is a proposal under discussion to form a designated Apex body on Systemic Risk Regulation (Macroprudential Committee), namely, Higher Committee for Financial Stability and Development (HCFSD) with the Government, the CBO and the CMA as its policy contributors. Once that comes into being, the other areas, namely, fiscal issues and the issues related to the balance sectors (capital market and insurance) will be included in the systemic risk assessment radar. Inter-connectedness would be measured in a more accurate manner once there is a formal coordination established for sharing of data and information among various authorities. Cross-country experiences are being studied to finalise an Oman-specific model.

### BOX 3.2

#### Systemic Risk Survey Results

##### Graph 3.1

Confidence on Omani Financial System

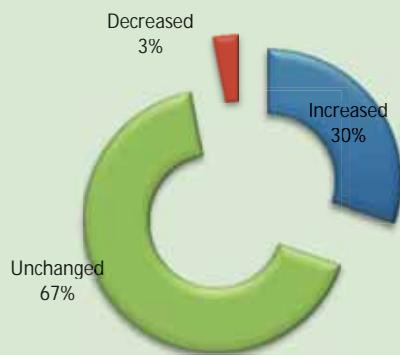


**There was a sense of elevated optimism on favourable health of Omani Macro Financial System.**

All the respondent-stakeholders reposed confidence on the good performance of the Omani financial system as a whole over the next three years. All the respondents have gone in favour of ‘completely confident’, ‘very confident’ or ‘fairly confident’. No one had expressed pessimism on this.

##### Graph 3.2

Perception on continuance of Stability



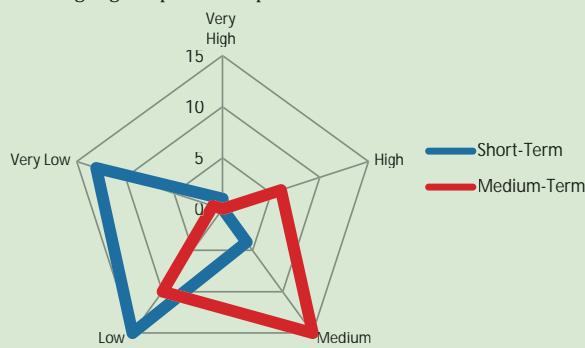
**Most felt that the good performance has been well-sustained and is likely to continue.**

When asked if this confidence has changed over the past six months, only (3 per cent) of respondent's confidence decreased while the remaining either remained unchanged (67 per cent) or had increased (30 per cent).

**It was perceived to be less probable for a high-impact event to surface in the short-term (0-12 months) while the same may not be ruled out in the medium term (1-3 years).**

##### Graph 3.3

Surfacing High Impact event probable?

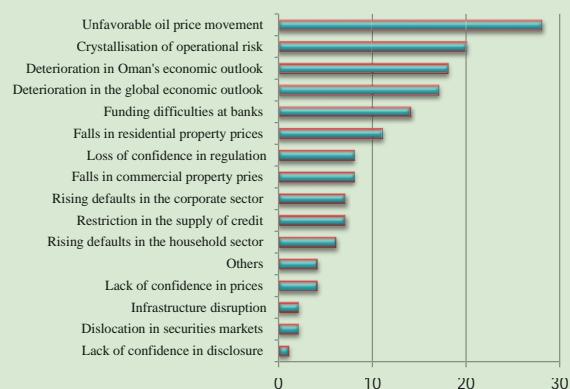


Market players and stakeholders in the survey were asked about the probability of a high impact event occurring in Oman's financial system in the period ahead. Results were very assuring in the short-term (0-12 months) but were concerning in the medium-term (1-3 years). In the short-term (84.9 per cent) of the respondents believed that the threat is either low (45.5 per cent) or very low (39.4 per cent) with only (3 per cent) believing it to be high or very high. This changed for the medium-term period, where (47 per cent) believed there was a medium probability of a high impact and another (19 per cent) believed that this probability was even high. Those believing that it was low and very low accounted for only (34 per cent) in the Systemic Risk Assessment Survey.

Respondents were CEOs/Heads of Treasury/Credit of banks, finance and leasing companies, insurance companies, money exchange establishments, securities intermediaries, and academics

**Graph 3.4**

## Potential Distress Points

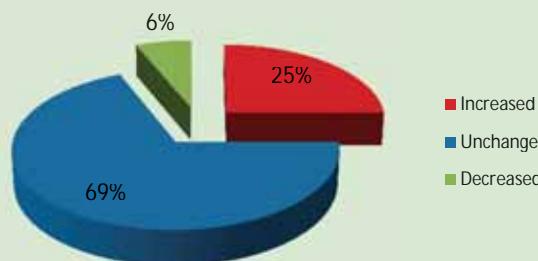


**Potential risks are likely to spring mostly from unfavorable oil price movement, Operations (eg. Terrorism, fraud, natural disaster, social unrest etc.), deterioration in Omani economic health and funding difficulties at banks and deterioration of both global and Oman's economic outlook.**

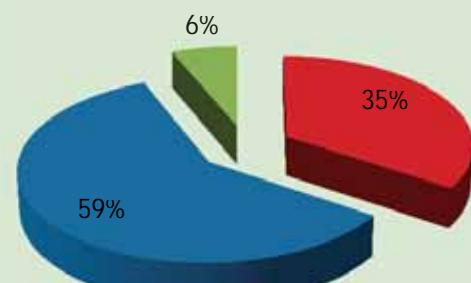
On the crucial feedback, requesting the respondents to rank risks with the greatest potential impact on the Omani financial system, as expected, due to the high dependence of Oman's economy on its hydrocarbon resources and especially crude oil, more than 18 per cent went in favour of unfavorable oil prices. Crystallisation of Operational risk, meaning any unforeseen problems arising was the distant second expectation.

**Graph 3.5**

## Short Term Perception of Risk

**Graph 3.6**

## Medium Term perception of Risk



**Stakeholders' perceptions on such possible potential risk remained the same both in short and long term.**

The survey then requested the respondents to identify if the probability of their perception of difficult risk to handle as above has increased, unchanged, or decreased in the both the short and medium term.

Stakeholders' perceptions remained intact in both the short-term (69 per cent) and the long-term (59 per cent).

#### *Financial Sector Assessment Programme (FSAP) by Joint IMF-World Bank Mission*

3.1.57 Oman is a member of the International Monetary Fund (IMF) and was subjected to IMF's financial sector assessment programme (in addition to its regular Article IV discussions with Omani authorities) first during 2003. The recommendations were followed up in another Mission during October 2010. The FSAP assessed overall financial system stability and vulnerabilities and reviewed the macroprudential framework, systemic risk oversight arrangements as well as crisis management and resolution frameworks existing in Oman. It attempted to update the assessments of regulatory and supervisory frameworks in the banking and capital market sectors while reviewing the liquidity management framework and the financial infrastructure including the payment and settlement systems and credit reporting. It also reviewed the development of the insurance sector and its regulatory framework and the Small-and Medium-sized Enterprises (SMEs) finance and real estate finance in the country. The Mission held meetings with officials from the Central Bank (CBO), the Ministry of Finance (MoF), the Capital Market Authority (CMA), the Ministry of Commerce and Industry (MOCI), and market participants.

3.1.58 The FSAP had commended the significant progress in implementing its 2003 action points and have extended a list of recommendations to further improve the position of financial sector in Oman. A High Level Committee has been formed which is overseeing their compliance on an ongoing basis.

#### *Islamic Banking is gaining popularity in Oman*

3.1.59 Islamic banking was introduced in Oman through an amendment to the Banking Law issued via Royal Decree 69/2012 during December 2012. The “new financial dawn”<sup>16</sup> based on Shari'a-compliant<sup>17</sup> and risk-

sharing schemes created new opportunities and also risks that demand special attention and continuous watch. Currently, only one bank, namely, Bank Nizwa is a full-fledged Islamic bank in the country, whereas the rest of the banks are conventional with separate Islamic windows to conduct Islamic financial operations. Another bank, Alizz Islamic Bank, is expected to commence full-fledged Islamic banking operations during the third quarter of 2013. Albeit, the last among the Gulf Cooperation Council countries to join the Islamic financial industry, it is too early to assess its likely growth and the underlying dynamics it might embody. However, its prospects in Oman look bright thanks to the large populace of Muslims and their aversion to the concept of interest on their deposits (riba). The portfolio of interest-free deposits lying with the banks are likely to fly over to Islamic banking unless newer attractive product configurations spring up. The Omani assets in Islamic banks abroad are also likely to flow back (as per Ernst & Young's forecasts likely to touch US\$6bn over the next few years) if the country rolls out a successful Shari'a-compliant banking system<sup>18</sup>.

<sup>16</sup> The term “New Financial Dawn” was taken from DiVanna, Joseph A, and Antoine Sreih. A New Financial Dawn: The Rise of Islamic Finance. Cambridge: Leonardo and Francis Press, 2009. Print.

<sup>17</sup> Sharia-compliant services and products are those that are consistent

with the teaching of the Quran and the traditions of the prophet (Hadith and Sunnah).

<sup>18</sup> For further information, please refer to <http://www.businesstoday.co.om/disCon.aspx?Cval=1204>

## BOX 3.3

### Islamic Banking and Financial Stability\*

#### **Implications of profit distribution management on financial stability**

Islamic Finance is built on the principle of risk-sharing rather than risk-transfer with investors and borrowers. This makes participatory contracts based on profit-loss-sharing central to its financial products and as a result the role of profit distribution management becomes pivotal in Islamic finance institutions. For the purpose of macro prudential analysis, implications on financial stability arise when this distribution is not tackled properly by such institutions attempting to smooth profit distribution by passing on risks to share-holders. To protect investors from excess volatility and losses, Islamic finance institution may decide to reduce its own earnings and that of shareholders to compensate in their profit-loss-sharing scheme which would increase volatility and risk for the bank.

#### **Implications of asset structure and restrictions on risk management tools**

The asset structure in Islamic financial institutions is mainly concentrated in short-term fixed rate assets. This stems from the prohibition of interest and the sale of debt in Islamic jurisprudence. As a result, mismatches may occur due to discrepancies between assets and liability returns because asset returns are usually predetermined and interest rates may vary during the holding period. Moreover, being Shari'a-compliant, these institutions cannot mitigate their risks via conventional methods such as derivatives, which are seen as speculative in nature (Maysir) and do not trade in real assets (money cannot make money through lending/borrow). Consequently, Islamic banks in order to ensure a competitive return to depositors may be forced to engage in smoothing the profits and losses. This brings us back to our first implication, which would expose the institution to higher

fluctuations in their earning and have implications in financial stability of the system.

#### **Implications of profit sharing equity investments**

Another implication of Islamic finance to financial stability develops because of concentrated investments made by its institutions in profit sharing equity investments. Unlike the interest based instruments, used by conventional banks, which provide a steady stream of revenue, equity investments based on profit sharing may have a long lag time before profitability. This may lead to lack of earning and a liquidity crunch for the institution. Hence, the proportion of profit sharing assets an institution is holding might have clear implication on the institution and the systemic financial stability.

#### **Implications of the lack of liquidity management and an Islamic lender of last resort**

Liquidity risk though common to both conventional and Islamic financial institutions, it is especially serious for Islamic institutions\*\*. Lack of liquidity for Islamic financial institutions is due to the following reasons: (1) Limited availability of Islamic money markets, interbank markets, and a lender of last resort; (2) Islamic assets are illiquid in nature due to the prohibition of the sale of debt; (3) Lack of Islamic financial products makes it difficult to raise funds in the market; and (4) Liquidity management systems are not well developed in many Islamic Financial Institutions. Since liquidity is the life line in any financial institution, the inability to manage it and dip into it when needed, puts Islamic financial institutions in a very precarious situation that have worrisome implications on financial stability as a whole.

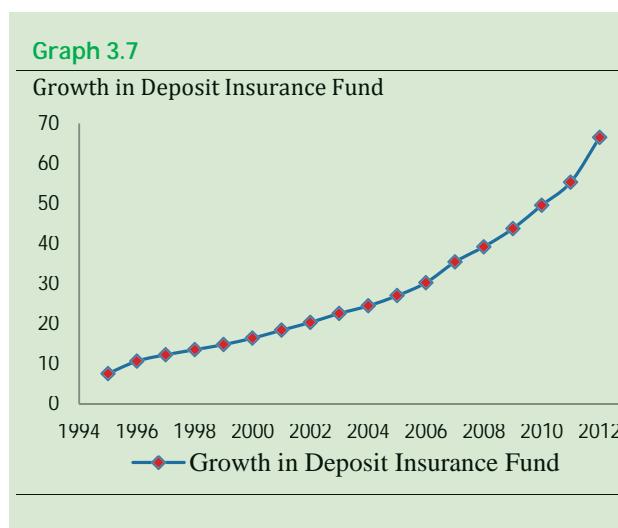
\* For further information about common and unique risk in conventional and Islamic institutions, please refer to: [http://www.academia.edu/1220921/Islamic\\_Banks\\_and\\_Financial\\_Stability\\_Further\\_Evidence](http://www.academia.edu/1220921/Islamic_Banks_and_Financial_Stability_Further_Evidence)

\*\* Mahlknecht, Michael. Islamic Capital Markets and Risk Management: Global Market Trends and Issues. London: Risk Books, 2009.

## 3.2 FINANCIAL SAFETY NET

### DEPOSIT INSURANCE SYSTEM (DIS)

3.2.1 The global financial crisis demonstrated clearly that an effective DIS is an important pillar of a financial safety net that can help maintain depositors' confidence and avoid contagion. It also laid bare several weaknesses in extant depositor protection systems across the globe. As part of an immediate reform package, several countries increased their insurance coverage limits and some even extended blanket deposit guarantee as a temporary measure. Many countries are in the process of overhauling the design of deposit insurance system to include, inter alia mandates beyond 'pay box' structures, higher coverage levels, the elimination of co-insurance, improvements in the payout process, greater depositor awareness, the adoption of ex-ante funding, the strengthening of information sharing and coordination with other safety net participants etc.



3.2.2 A system of "explicit insurance" of deposits is in vogue in Oman since March 1995. This rule based scheme is run under the aegis of the CBO with the 17 commercial banks as its members. The base capital resources of this financial safety net for the depositors aimed at "providing comprehensive insurance cover on deposits" of 'maximum of RO 20,000' and hence to "encourage savings and promote financial stability"<sup>19</sup> of the Omani system are drawn from initial contributions

<sup>19</sup> Booklet "Bank Deposit Insurance Scheme"-first edition-2012, published by Central bank of Oman.

of RO 5 million each from the CBO and the member banks collectively. Premiums are collected on an ex-ante basis from member banks at the rate of 0.05 per cent of the total value of deposits at the end of each financial year ending December 31, each year and CBO contributes half of the total premiums paid by the member banks each year.

3.2.3 An Administrative Committee at the CBO which has members from the member banks undertake suitable investment of the resources of this premium fund, not exceeding at any time 70 per cent of the total resources at hand, in risk free top class government guaranteed bonds/instruments as also in safe shares and securities quoted on the Muscat Securities Market (MSM). While the cap for the former has been fixed at 'not exceeding 50 per cent', the latter has got a limit of 'not exceeding one-third' of the resources at hand, respectively. The funds are also invested in securities issued by the foreign governments and/or the foreign central banks (not exceeding one-third of the total resources) and in shares and securities issued by the reputed International Financial Institutions (not exceeding one-third of the total resources) and as deposits with banks.

3.2.4 The fund as on end-December 2012 stood at RO 66.49 million. This is sufficient to cover approximately 2.4 per cent of all eligible deposits in the member banks which is considered inadequate<sup>20</sup>. However, over 90 percent of the deposit accounts having funds below RO 20,000 are covered under the scheme.

<sup>20</sup> According to IMF, Deposit Insurance Funds usually cover around 5% of the eligible deposits within the banking system. BDIS has an ambitious target to achieve this coverage ratio by 2020 and has increased the premium charged from 0.03% to 0.05% w.e.f. 2012.

**BOX 3.4****Recommendations of the FSB Peer Review on the theme of Deposit Insurance Systems****Recommendation 1: Adoption of an explicit deposit insurance system**

- FSB member jurisdictions without an explicit Deposit Insurance System (DIS) should establish one in order to maintain financial stability by protecting depositors and preventing bank runs.

**Recommendation 2: Full implementation of the Core Principles**

FSB member jurisdictions with an explicit DIS should undertake actions to fully align their DIS with the Core Principles. Such actions include:

- Including as members in the DIS all financial institutions accepting deposits from those deemed most in need of protection.
- Reviewing the DIS coverage level to ensure that it strikes an appropriate balance between depositor protection and market discipline and that it promotes financial stability. In those jurisdictions where depositor protection levels are high, compensatory measures should be in place to mitigate the risk of moral hazard. Unlimited deposit coverage, whether via the complete protection of eligible deposits or the existence of guarantee arrangements protecting the institution itself, could adversely affect the effectiveness of the DIS and should be avoided.
- Ensuring that the current resources (including any back-up funding options) of their Deposit Insurance Agency (DIA) are adequate and immediately available to meet the financing requirements arising from its mandate.
- Removing any banking system-wide coverage limit by the DIS that could create the perception in times of stress that some insured deposits would not be reimbursed in the event of a (large) bank failure, or complementing such a limit

with explicit arrangements to deal with a payout above that amount.

- Establishing and publicly communicating a prompt target timeframe for reimbursing depositors, and making all necessary arrangements to meet the payout target.
- Adjusting the DIA governance arrangements to ensure adequate public oversight and to mitigate the potential for conflicts of interest. Formalising information sharing and coordination arrangements between the DIA, other safety-net participants and foreign DIAs. Sufficient information on cross-border protection by foreign DIAs should be made available to relevant domestic depositors.

**Recommendation 3: Additional analysis and guidance by relevant standard-setters to include**

- Developing benchmarks to monitor the effectiveness and adequacy of coverage levels. Identifying instruments and good practices that can help mitigate moral hazard.
- Ensuring that there is effective coordination across systems in jurisdictions with multiple DISs and that any differences in depositor coverage across institutions operating within that jurisdiction do not adversely affect the systems' effectiveness.
- Conducting regular scenario planning and simulations to assess the capability of making prompt payout.
- Exploring the feasibility and desirability of greater use of ex-ante funding.
- Developing appropriate mechanisms to regularly monitor public awareness of the DIS.

## EMERGENCY LIQUIDITY ASSISTANCE (ELA) FRAMEWORK

3.2.5 There exists an operational framework for ELA since late 1980s in terms of which CBO extends a Standing Credit Facility (in the form of Treasury Bills Discounting, Commercial papers rediscounting and Repos in Government Securities and CBO CDs) to the local money market. CBO also uses Reserves Requirements for this purpose as was done during the crisis<sup>21</sup>. CBO has been taking decisive steps to mop up short term excess liquidity in the system through regular issue of weekly 28-days CDs, by raising its volume as was done during 2008-2010. CD rates on the other hand have been used as the benchmark in the interbank market.

3.2.6 Moreover, the CBO (with the active support of the Government) had come to the rescue of the financial system during the crisis period with direct USD loans and swap facilities.

3.2.7 Government Development Bonds are also issued from time to time<sup>22</sup> to lend depth to the local money market and to provide alternate avenues of investment.

3.2.8 Mitigation of sustained structural liquidity surplus position is achieved through a transfer of government deposits to the CBO from the banking system, as an increase in government deposits with CBO results in a withdrawal of liquidity from the banking system. While this looks easier in the current context in which the government deposits contribute to around 35 per cent of total deposits in the banking sector and the incremental loan-deposits ratio touching 100 per cent, long run sustenance of such a comfort<sup>23</sup> may appear tricky.

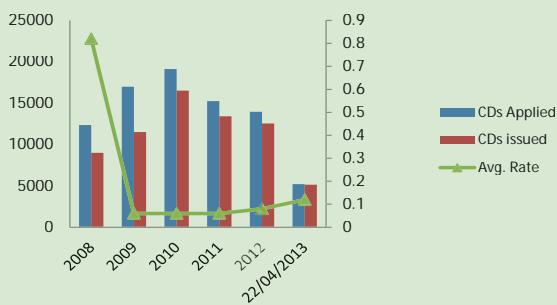
<sup>21</sup> In response to concerns about tightened liquidity, the CBO increased the availability of liquidity through repo operations and established a \$2 billion lending facility for banks to cope with foreign currency liquidity shortages. It also eased statutory reserve requirements in December 2008 from 8 percent to 5 percent and raised the statutory loan-to deposit ratio (from 85 per cent to 87.5 per cent) in January 2009. The government increased its deposits in the banking system by 58 percent between September 2008 and July 2010, in part, to support liquidity.

<sup>22</sup> Ministry of Finance had issued such bonds worth RO 150 million during December 2011 and RO 200 million during 2012.

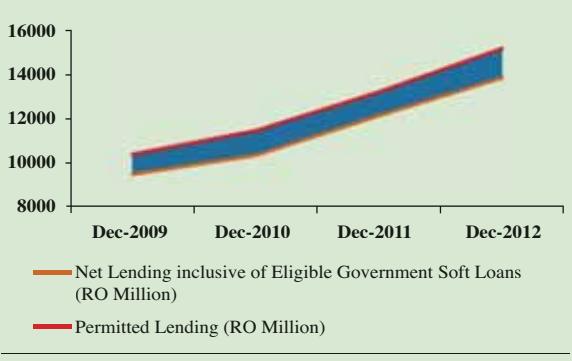
<sup>23</sup> Structural liquidity surplus on a sustained basis could fetch the risk of inflation, particularly on account of the monetary transmission risk in a surplus liquidity scenario, since monetary transmission is substantially more effective in a deficit liquidity situation than in a surplus liquidity situation. In normal times, management of liquidity should be to ensure that it remains broadly in balance, with neither a large surplus diluting monetary transmission nor a large deficit choking off fund flows.

**Graph 3.8**

Managing Liquidity through CDs

**Graph 3.9**

Measure of Aggregate Liquidity



## **CRISIS MANAGEMENT MECHANISM (CMM) FOR CBO-REGULATED ENTITIES**

3.2.9 A Crisis Management Group (CMG) within the CBO is proposed to be formed with the Vice President of Regulatory and Supervisory departments in the Chair and the Heads of the relevant departments as members. In-Charge, FSU is the member-Secretary. This Group will have periodical (at least once a year) meetings to assess any potential crisis-like vulnerability and will keep an on-going watch on any eventuality should they tend to occur out of financial shocks, both internal as also external. As a beginning, a Concept Document will be prepared on Crisis and Crisis Management Mechanism for CBO regulated Entities (banks, Finance & Leasing Companies & Specialized Credit Institutions) in Oman based on which a Financial Crisis Simulation Exercise will be endeavoured in due course. The Document would spell out a formal system (a) defining possible crisis-like-situations in an economy like Oman (b) devising an Early Warning System with defined-indicators which will inform the lurking crisis and (c) developing a dynamic response system (in the nature of Disaster Management) lining-up instruments to handle them as they tend to show up. The final step will be to prepare a Resolution Framework for entities regulated by the CBO.

3.2.10 The idea may then be extended to other jurisdictions having Inter-Agency implications that may warrant joint effort by CBO, CMA and the Ministry of Finance in the preparation of a Macro-Document on Crisis Management for the entire financial system in Oman and for a robust mechanism thereafter to implement the same.

## **3.3 FINANCIAL INFRASTRUCTURE**

### **CREDIT REPORTING**

3.2.11 There exists a system of a public credit registry (Bank Credit and Statistical Bureau-BCSB) owned by CBO. Its membership is restricted to licensed banks and finance & leasing companies from/with whom data are collected and the collated data shared. BCSB collects both positive and negative

credit information related to both consumers (individuals) and corporate borrowers. This covers any type of credit facility which is RO 1/= and above. A new fully automated BCSB system has been launched in August 2010 in which information<sup>24</sup> is collected and updated on daily basis and as such provides up-to-date credit information to the banks and financial institutions round the clock throughout the year.

### **PAYMENT AND SETTLEMENT SYSTEM**

3.2.12 As typical in any payment system, payments in the domestic economy is carried out through cash and non-cash, through paper instruments or electronic-instructions. Electronic funds transfer systems include common state of art platforms viz. Real Time Gross Settlement (RTGS), Automated Clearing House (ACH), and Electronic Cheque Clearing (ECC) System. These payment platforms can be accessed through a variety of channels made available by banks to their customers, for example, telephone banking, internet banking, and mobile banking. To enhance the efficiency of the payment system and to promote cashless society, CBO has implemented National ATM and Point Of Sale (POS) Switch that enable customers to use their bank cards at any ATM or POS terminal in the country regardless of the issuing bank. CBO has further established direct OmanNet Switch with the Switch Network of all the other GCC countries enabling the Omani residents to access their accounts seamlessly through the local network of these countries. Box 3.5 below provides further information on latest development on the payment system.

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<sup>24</sup> BCSB collects information of borrowers which includes demographic/fermographic data, employment details, relationship details, many data fields related to the credit facilities, inquiry histories, details of securities, details of complaints etc. collate such information and provide them in the form of credit reports which include past 24 months' repayment history of the borrowers to enable them to take informed decisions. The system provides for scoring and rating on both consumers and corporate borrowers including probability of default (PD), loss given default (LGD) and exposure at default (EAD) estimates for internal use by CBO. Identification details provided by banks and financial institutions are verified with the data received from Royal Oman Police and Ministry of Commerce & Industry for correctness, clarity and consistency. Borrowers have access to a copy of their credit reports through licensed banks and financial institutions free of charge and can make complaints on error records, if any, through the automated Complaint Management System.

### Box 3.5

#### Developments in the Payment Systems in Oman

After having successfully implemented the core National Payment System (NPS) infrastructure components viz. RTGS, ACH, ECC and Payment Switch and ensuring their stability of operations, the Central Bank of Oman is now focusing on formalizing the subsequent phase of payment systems modernization. The CBO entered into an agreement with the Payment Systems Development Group (PSDG) of the World Bank to get their technical assistance in formulating a new NPS Strategy to guide the developments and its interventions in the next 5 years. Interactions with multiple stakeholders within Oman have taken place to understand the current practices, and their vision and perspective on further initiatives. A formal Payment Systems Strategy document, with a defined road-map for implementation, is expected to be in place by the second quarter of year 2013.

The CBO has also taken the initiative to draft National Payment Systems Law with the technical assistance of The World Bank. The proposed new law (under discussion) will provide a comprehensive legal framework to address all the aspects related to the Payments 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 the country. The new law will define and provide rules for key payment systems aspects like finality, netting and protection of collaterals and in the process will provide protection from bankruptcy procedures.

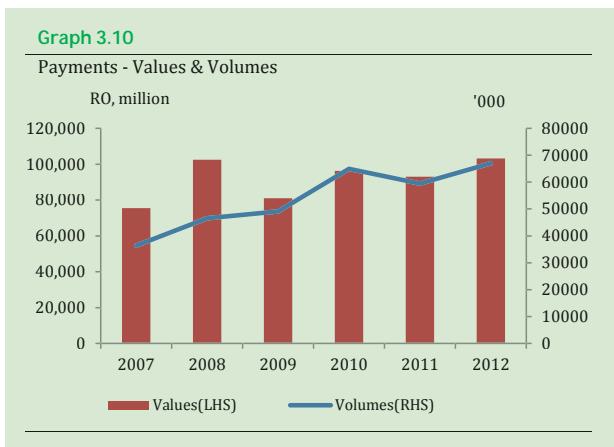
The CBO has taken some advance steps by way of doing internal departmental restructuring and has established a separate Payment Systems (PS) Oversight section within the Payment Systems Department. The PS Oversight section is totally

independent from operations, and has been tasked with developing oversight policy framework to expand and formalize the oversight function. The section is in the process of building the required tools, knowledge and experience which will help in developing the required expertise to contain the risks in various payment systems to the minimum possible level and to ensure the safety, security and efficiency of the payment systems and payment instruments.

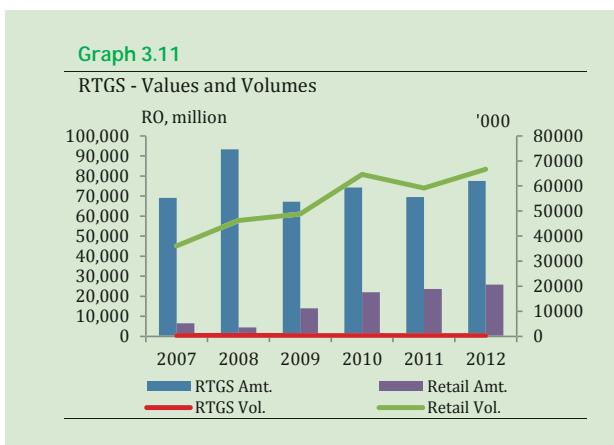
The RTGS and ACH Systems infrastructure was upgraded to bring it up to date with the current technical infrastructure components' standards and also to implement stronger and better security encryption mechanism. The Disaster Recovery (DR) site was also thoroughly upgraded to bring it at par with the production site to ensure that in case of any eventuality full operational load can be handled in an uninterrupted way. Steps have been initiated to revise and update the formal BCP document for these Systems.

The CBO is working on many initiatives to keep the Payments Infrastructure healthy and in line with the international developments with a clear focus to increase usage of electronic modes of payments. Some of these initiatives are implementing the International Bank Account Numbers (IBAN) to standardize the bank account numbers to facilitate easier and error free electronic transactions processing; implementing national EMV standards to enhance debit/credit card security and to bring them in line with international standards, upgrading the Electronic Cheque Clearing (ECC) Application and technical infrastructure and also implementing ECC Archiving solution, exploring value added services using the existing Payment Systems infrastructure, etc.

*Payments both in volumes and values have seen a rise*



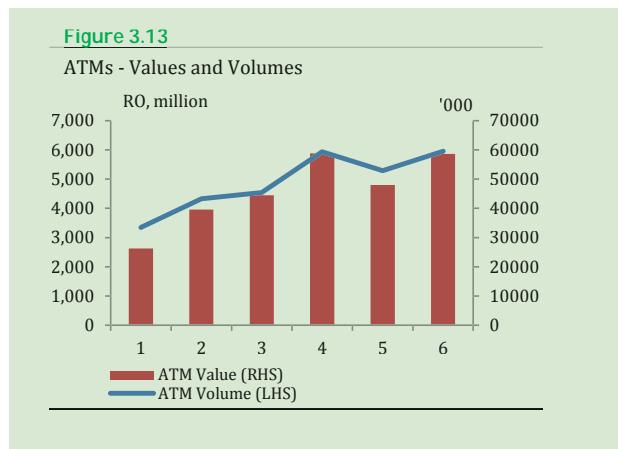
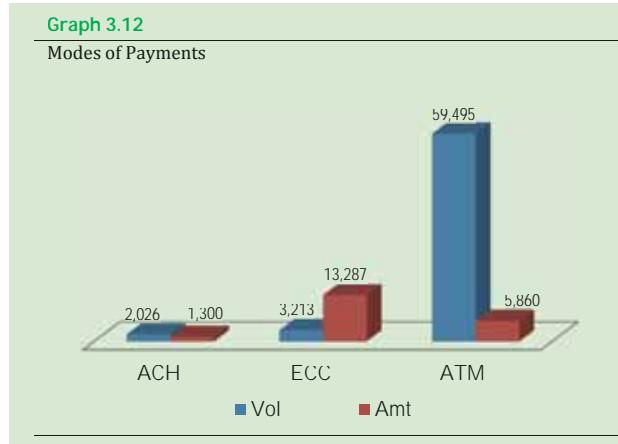
3.3.3 Aggregate fund transfers registered significant increase, both in volumes and values during 2012 compared to previous year, 2011 ([Graph 3.10<sup>25</sup>](#)). In terms of volumes, total number of payments increased by 12.65 per cent in 2012 compared to 59,508 million in 2011. Similarly, in terms of values, aggregate payments witnessed a moderate increase of 10.94 per cent over 93,073 million in 2011. The increase in payments transactions reflects primarily the economic growth of the country and the continuous improvements in information technology and security system that has increased the efficiency and reliability of the payment system. This has been illustrated vividly by the significant increase in values (40 per cent) as well as absolute numbers (28 per cent) during the 2012 in the payment transacted via the ATM networks, indicating the increasing use of payment cards in the economy.



3.3.4 RTGS-based transactions dominate the system in terms of value (more than 80 percent) despite its significantly very lower share in volumes (less than 2 per cent), ([Graph 3.11<sup>26</sup>](#)). During 2012, total number of transactions executed through RTGS stood at 290 thousands, amounting to RO 77.496 billion, with average size of each transaction at around RO 267,200. On a year-on-year basis, there had been an increase in volume and value of 4.3 per cent and 11.5 per cent, respectively. The relatively daily large-value transactions made through the RTGS is an indication of the significance of such system, which process time critical and large value payment instructions. As the net clearing balances of other payment systems like ECC, ACH and OmanNet Switch also gets settled through RTGS, therefore, RTGS forms the backbone of the payment and settlement infrastructure and is of systemic importance.

<sup>25</sup> The period 2007-2009 does not include statistics on ECC due to data availability issues

<sup>26</sup> ----ditto----



3.3.5 On the other hand, total number of retail transactions in 2012 was 66.747 million involving RO 25.790 billion, with average size of each transaction at around RO 386.0. On a year-on-year basis, there had been an increase in volume and values of 12.69 per cent and 9.35 per cent, respectively. Within retail transactions, cheques form the preferred mode of payment in terms of value compared to other paper-based and electronic instruments ([Graph 3.12](#)). Based on the recorded statistics, transaction through cheques accounted for 72.20 per cent of the value of all retail transactions in contrast to its significantly lower share in number of transactions (7.83 per cent). In terms of volume, ATMs with 89.1 per cent share have been the most popular mode, and it comes second in terms of value after cheques, with a share of around 22.8 per cent during 2012.

3.3.6 Furthermore, the wide network of ATMs all over the country has facilitated its wide spread use by the general public. The use of ATMs has been on average on rising trend over the past five years ([Graph 3.13](#)), with the increase in types of financial services being offered through ATMs such as cash deposits, utility bills payments, and fund transfers etc.

3.3.7 ACH forms the second popular form of electronic-based payment after ATMs, and it is used mostly for inter-bank retail payments such as payroll, utility bills, dividends, interest rates payments etc. Other forms of e-payments like internet and mobile banking constitute a very marginal share of total e-payment. They are however, expected to gain more acceptance over time because of convenience in their use and increasing variety of services being offered.

### *Stability of the Payments System well-guarded*

3.3.8 Payment and settlement systems are normally subject to two kind of risks, namely, operational risk from business continuity context and financial risk in the form of liquidity or credit risk. To some extent, the payment and settlement systems can also be subject to a reputational risk, whereby the payment systems can be used for mischievous

purposes (e.g. money laundering) that can expose the financial system to the threat of exclusion etc. However, this risk is mitigated through a number of procedures including putting in place strict participation criteria and operating rules. Also, direct participation is only allowed to banks and other government entities, and sub-participation by any other private entities to any of the systems is given through banks only. Banks, on the other hand are strictly required by CBO to assist in combating money laundering by adhering to various regulations of CBO on anti-money laundering.

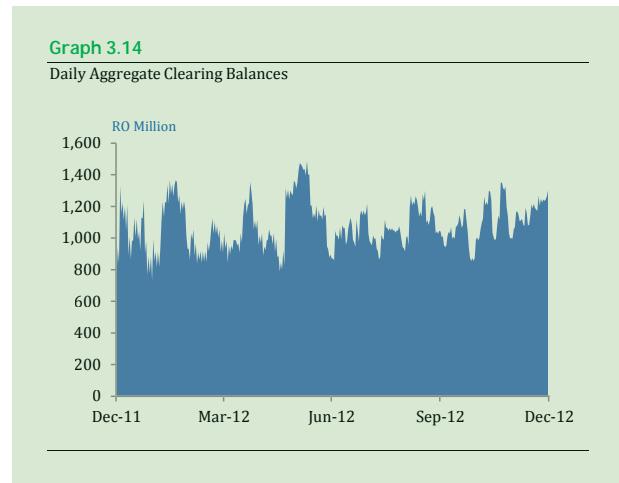
**3.3.9** The operational risk is contained at various levels. The systems have been built using “no-single point” failure designs. These include cluster technology at processing servers, disk mirroring at data storage level, load balancing and redundancy at gate-way level and in the LAN. The risk containment is further strengthened through periodic data backup as per standard procedures and availability of a hot standby Disaster Recovery Site (DRS) which is tested periodically and is located at a remote premise.

**3.3.10** Liquidity risk is normally triggered through payment delays, from any one of the participants, which can crystalize into systemic risk through the concentration channel and eventually have larger systemic implications. Therefore, maintaining sufficient clearing balance in the clearing account throughout the clearing day is necessary. In order to manage liquidity risk while handling large volume/value transactions, CBO provides fully collateralized intraday credit to individual banks, and has put in place queue management and gridlock resolutions mechanisms. These steps have helped in eliminating liquidity risk in system and enabled the system to perform smoothly without a gridlock.

**3.3.11** During 2012, the clearing balances of all the banks have been in surplus<sup>27</sup>, with average daily closing balance of around RO 1,079.6 million, suggesting low volatility of

<sup>27</sup> The prevailing excess liquidity in the market is mainly because of the significant government deposits (around 35 per cent of total deposits) with banks from oil revenues due to persisting high oil prices during the past periods.

liquidity in the clearing account (**Graph 3.14**). This further substantiated by non-utilization of the intra-day credit facility by the banks during the year, despite the fact that no penalty is charged on utilization of this facility by the banks.



**3.3.12** Vulnerability in the system can also be triggered because of concentration in liquidity and payment. Liquidity concentration through both channels makes the system vulnerable to payment gridlocks. If certain banks control significant amount of liquidity, the failure of these banks may indirectly disturb the system by straining the liquidity required for payment activities by otherwise healthy banks. Similarly, if payment is concentrated in few banks, their failure may directly impact the payment system by preventing even healthy banks from making necessary payments.

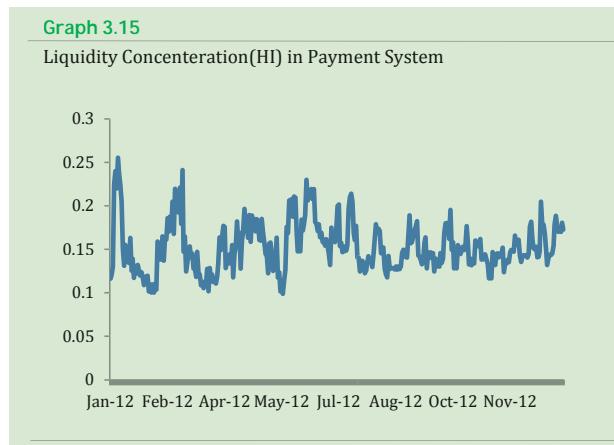
#### *Low concentration in liquidity held by participants*

**3.3.13** Herfindahl index (HI) 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:

$$HI \text{ (Liquidity)} = \sum_{\text{banks}} \left( \frac{\text{Closing balance of bank } i}{\text{Closing balance of all banks}} \right)^2$$

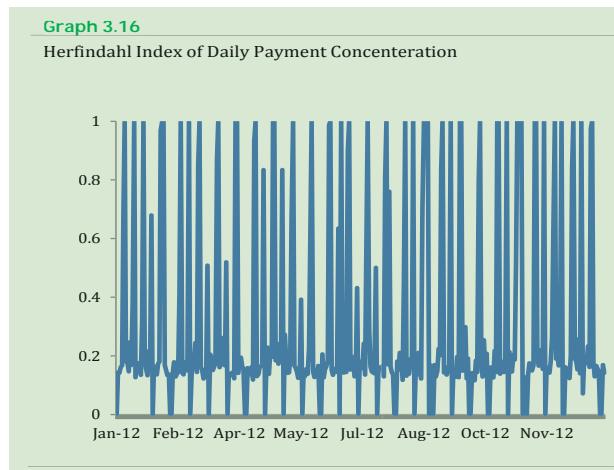
The index ranges between zero and one, with larger values of index pointing to higher concentration in the system. The HI for most

of the days in 2012 remained low, with daily average of around 0.152, suggesting low concentration in liquidity held by participants (**Graph 3.15**). However, during the first and the third quarters of the year the index experienced some elements of intermittent temporary concentration, which is presumably due to seasonal impact (Muscat Festivals, Holidays, Holy Month of Ramadan, and Eid Occasions).



### *High and persistent concentration in payment*

3.3.14 As in the case of liquidity concentration, the daily HI of payment concentration was calculated using payment data from RTGS, which showed relatively high payment concentration in the system. The concentration ranged between a minimum of 0.0 to as high as 1.0, with a daily average of around 0.3 (**Graph 3.16**) which suggest that payment is not made evenly by all participants and that significant share of the payment is made by only a few number of banks. Such a scenario could pose a systemic risk to the payment and settlement system because if any of the banks active in payments failed for any



reason to make payment on time, the inflow of other participants will be impacted, and the case might get magnified through interbank channel, resulting in disturbance to the sector and the economy at large. A close watch is however kept over the flow of transactions at those banks to prevent any such problem from occurring.

*Around 60 percent of the total turnover of financial transactions is dominated by four banks*

3.3.15 Further, another form of vulnerability stems from the fact that each payment involves both a paying as well as acquirer bank. Therefore, the payment might not get executed if either banks involved failed, suggesting that every bank is systemically important to payment and settlement if its share in the payment turnover is large relative to other banks. For assessing this risk, the Node Risk Index (NRI) has been calculated for every participant in the system as follows:

$$NRI_{banki} = \frac{Payment\ made_i + Payment\ Received_i}{Total\ Turnover}$$

The average risk index value for all the banks worked out to around 5.74 percent (**Table 3.3**). However, around 60 percent of the total turnover of financial transactions stood dominated by four banks, suggesting that more than half of the payment activity would be at risk should these four banks experienced problems.

### *Cheques processed mostly within 24 hours*

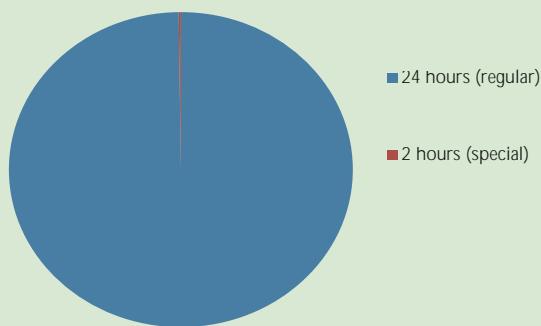
3.3.16 The duration of cheque processing cycle form an important element in improving the efficiency and lowering credit risk of the system. The shorter the time required to process the cheques, the more efficient is the system and lower is the credit risk of non-availability of expected funds. Moreover, less delay in processing the cheques can increase the velocity of money, which in turn impacts the GDP of the economy positively and contributes towards enrichment of the

**Table 3.3: Share in Payment System Activities**

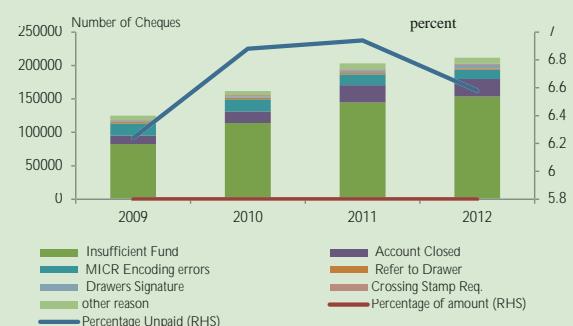
<i>Bank Name</i>	<i>Average Share in Payment Activities during the year 2012</i>	<i>Percent</i>
1		20.90
2		11.00
3		11.50
4		6.70
5		6.60
6		5.30
7		16.30
8		7.70
9		1.60
10		0.22
11		0.60
12		0.60
13		1.80
14		0.01
15		0.85
16		0.15
Average		5.74

**Graph 3.17**

Cheques Clearing

**Graph 3.18**

Reasons for Unpaid Cheques



economy. **Graph 3.17** reveals that around 99.8 per cent of cheques are processed within 24 hours and less than 1 per cent is processed within two hours. This is a significant improvement when compared to the period prior to the implementation of the ECC in January 2009. During that time, processing of the cheques used to take between a minimum of three days (in Muscat local clearing) to a maximum of around 14 days (from other regions in the country).

**3.3.17** As of 2012, the share of unpaid cheques, which witnessed a moderate decline of around 5.2 per cent during the year, constitute only about 6.58 per cent and 2.44 per cent of total number and amount of presented cheques, respectively (**Graph 3.18**). The main cause of non-payment is directly or indirectly related to issues with inability of the drawer to maintain sufficient balance in the account (unpaid cheques caused by insufficient balance and closure of account form 73 per cent and 12 per cent of the total unpaid cheques). Technical reasons, like data capturing error (MIRC coding), was the other major reason for non-payment and accounted for 6.5 per cent of the unpaid cheques during the year. While, the impediment to pay the beneficiary of the cheques caused by technical reasons may be decreased with advancement of technology and stronger operating environment, it is the lapse by the drawer of the cheque that is of more serious concern as it may decrease the confidence of the recipient regarding sanctity of the cheques and hence needs attention by the banks.

## Chapter IV

### STRESS TESTING OF THE BANKING SECTOR

The global financial crisis has highlighted the importance of measuring systemic risk and stability in the financial sector. Macro-prudential stress testing has emerged as a key tool of measuring the financial stability. It has the potential to quantify the impact of extreme, but plausible shocks to the financial system and to examine the resilience of such systems to the select administered shocks. CBO carries out solvency and liquidity stress tests on a quarterly basis as part of the quantitative assessment of financial stability. The solvency stress tests focus on detecting and capturing the potential impact of risks in the credit, foreign exchange, equity prices and interest rate structures of banks' portfolios and assess the extent to which these are matched by buffers like capital and profits of the banking sector. The liquidity stress tests assess the resilience of the banking system to sudden withdrawal of deposits. Under an assumed liquidity shock, 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.

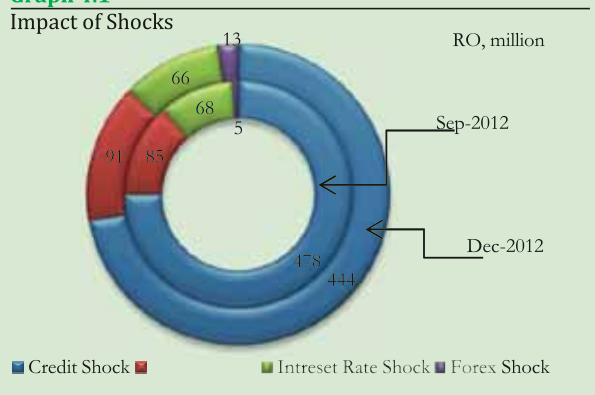
#### 4.1 SOLVENCY STRESS TESTING

4.1.1 The solvency stress tests are based on balance sheet approach which has an advantage of assessing the elements of the banks' balance sheets and identifying the risk drivers. The ultimate objective of solvency stress testing is to assess the assumed shocks' impact on the Capital Adequacy Ratio (CAR) of the banking sector. An overview of the methodology used in conducting stress tests is given in [Box 4.1](#), whereas, [Box 4.2](#) provides the scheme of shocks used for stress testing.

*Credit risk turns out to be the most relevant in stress testing*

4.1.2 The solvency stress test reveals that credit risk is the dominant type of risk for the banks operating in Oman ([Graph 4.1](#)).

**Graph 4.1**



The results show the credit portfolio as the main risk driver reflecting the composition of the local banks' balance sheets in which the lending portfolio accounts for over 80 per cent of the total assets. Under the stress test scenarios, the impact (provisioning and lost income on NPLs) stemming from the credit shock constitutes 72 per cent of the total stress impact followed by equity risk impact and interest rate risk impact of 15 per cent and 11 per cent respectively. In absolute terms, the credit risk shock depletes the capital by an amount of RO 444 million, which is about 14 per cent of the pre-shock regulatory capital.

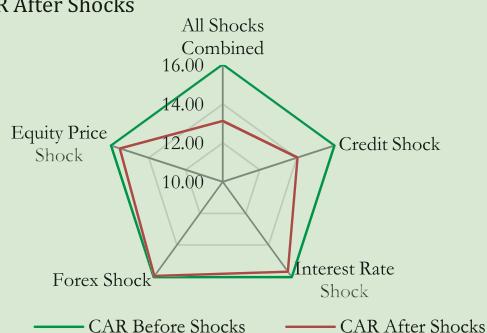
4.1.3 The risk arising from the equity investment is limited as banks' trading and investment activities is capped by CBO's prudential limit set at 20 per cent of banks' net worth. For the foreign exchange risk, the shock impact is very minimal, 2.0 per cent of the total stress impact, as most of the banks' foreign exposures, almost 74 per cent, are in currencies pegged to the U.S. dollar or the U.S. dollar itself.

*Other shocks having trifling impact on CAR of the banking system*

4.1.4 The credit risk turns out to be the only risk factor with a sizeable impact on the Capital

**Graph 4.2**

CAR After Shocks

**Table 4.1 : CAR under Stressed Conditions**

Bank	CAR before Shocks	CAR after Shocks*
	per cent	
1	16.16	13.13
2	14.40	11.18
3	16.03	12.89
4	14.96	12.27
5	16.91	14.56
6	14.03	10.42
7	17.37	14.87
8	14.86	13.17
9	13.03	11.60
10	39.60	37.72
11	27.35	25.51
12	30.70	29.30
13	110.17	108.50
14	99.30	98.30
15	17.03	14.24
16	15.45	14.19
All Banks	<b>16.04</b>	<b>13.13</b>

CAR< 10%      CAR= 12%      CAR> 15%

\*Concurrent application of Credit, Interest Rate, Equity Price, and Foreign Exchange Shocks

Adequacy Ratio (CAR) of the banking sector. The credit risk shock shrinks the CAR by two per centage points, whereas, the interest rate, equity and foreign exchange risks hit the CAR by less than half a per cent each (Graph 4.2). When concurrently applied, all shocks jointly decrease the CAR by 2.88 per cent from the pre-shock levels.

*System as a whole meets the statutory CAR requirements even under hypothetical stressed conditions*

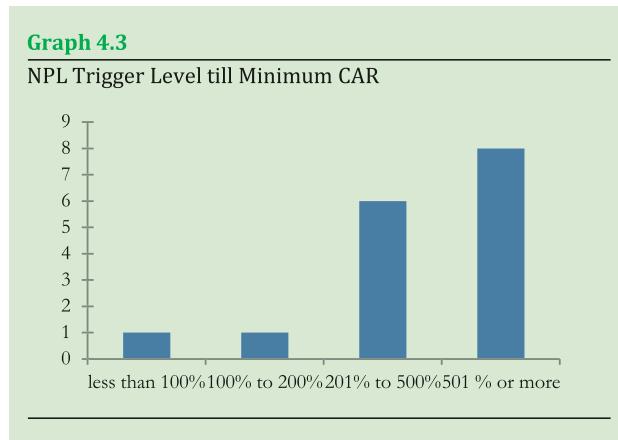
4.1.5 Under the assumed stress scenario, for December 2012, the CAR of the Omani banking system would have dropped by almost 3 per cent from its actual current level of 16.04 per cent to 13.13 per cent. Thanks to higher capital levels in the banking sector in Oman, even after the application of severe shocks, the system as a whole appears to be quite resilient and stays complied with not only the BIS mandated CAR of 8 per cent, but also remains conformed to the more conservative CBO prescribed CAR of 12 per cent (Graph 4.2).

*Three banks may miss the local requirements by a small margin*

4.1.6 At bank level as well, the solvency of banks under stressed conditions appears to be quite comfortable. Of the 16 banks operating in Oman, 13 banks would have remained complied with both the CBO and BIS prescribed CAR under stressed conditions. Three banks would have missed the CBO mandated requirements of 12 per cent, though comfortably meeting BIS requirements of 8 per cent CAR (Table 4.1).

*A small amount maybe needed to re-capitalise deficient banks confirms comfortable solvency position of the banking system*

4.1.7 In case the stressed scenarios materialize, the banking system would need an amount of only RO 44 million to recapitalize all three deficient banks to the 12 per cent



<b>Table 4.2: Assumptions Underlying Liquidity Stress Testing</b>	
<i>Item</i>	<i>Per cent per Day</i>
<i>Outflow of deposits</i>	
Government	1
Corporations	1
Households	0.1
<i>Outflow of interbank funding</i>	
Due to banks that are not renewed	1
<i>Off-balance sheet items</i>	
Contingent credit that is drawn	2
<i>Decline in value of liquid securities</i>	
<i>Share of interbank claims that can be used in liquid assets</i>	
Demand	100
Up to 1 Month	75
Between 1 Month and 3 Month	50
<i>Securities</i>	
Portion of long-term securities that is in HFT and AFS up to 1 Month	20

level. This amount comes out to about 0.23 per cent of the risk-weighted assets of the banking system. This further confirms that there is no immediate threat to the solvency of the banking sector in Oman.

*Lower existing level of NPLs suggests only a substantial rise in NPLs could adversely impact the system*

4.1.8 The level of NPLs in the Omani banks are quite low at about 2 per cent of the total credit portfolio; moreover, these NPLs are adequately provided for (please refer to Chapter II for details). Resultantly, even though credit risk comes out to be most significant one, only a substantial increase in NPLs would make the banks fall short of the CAR requirement

of 12 per cent. 14 banks would fall short of the CBO mandated CAR requirements only if their NPLs rise by more than 2 times or more of the current levels, whereas, 2 banks would not meet the CAR requirements if the NPLs are increased by between 99 to 200 per cent (Graph 4.3). Banks would tend to become insolvent only if the NPLs are increased by six folds of the current levels.

## 4.2 LIQUIDITY STRESS TESTING

4.2.1 The liquidity stress tests carried out at CBO are aimed at assessing the number of days banks would be able to withstand a run on their deposits. A reference period of thirty days is adopted for the liquidity stress testing horizon for all banks<sup>1</sup>. The assumptions used to carryout liquidity stress testing for the banks operating in Oman are tabulated in Table 4.2.

*Banks can sustain severe liquidity crunch for a considerable time*

4.2.2 When assessed with respect to the international benchmarks, banks have been found to be in a comfortable position to face the liquidity shocks under the assumed scenarios. Banks, on average would sustain for 17 days with cash and 19 days with cash and securities.

4.2.3 The number of days, local banks can sustain the deposit outflow with their liquid assets (that is, cash and securities) ranges between 11 to 30 days with an average of local banks have 17 days. Under the assumed stress testing scenario, at aggregate level, an amount of RO 1,719 million would be required to be injected to keep local banks afloat for the reference period of one month.

4.2.4 Foreign banks can sustain the deposit outflow with their liquid assets (that is, cash and securities) from 5 to 30 days. On an average, the foreign banks can sustain for

<sup>1</sup> This reference period is more conservative than the international benchmark or one business week or five days.

### Box 4.1

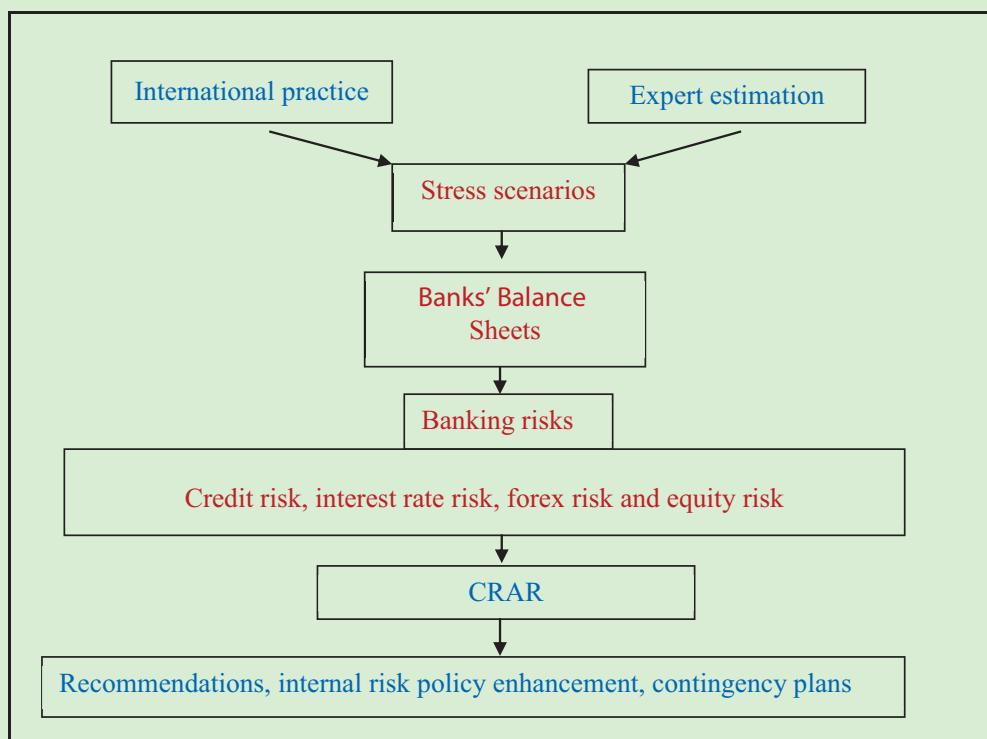
#### **Methodology for Solvency Stress Testing**

The solvency stress testing is based on balance sheet approach which has an advantage of assessing the elements of the banks' balance sheets and identifying the risk drivers. The test assesses the banks operating in Oman against credit risk, equity risk, foreign exchange risk and interest rate risk. All risk types are based on single factor tests and scenario analysis.

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 (RWA) are also adjusted accordingly. The impact of concentration risk is assessed separately as default by five largest borrowers of the banking sector. The ultimate objective of solvency stress testing is to assess the assumed shocks' impact on the capital Adequacy Ratio (CAR). **Graph 4.4** depicts the mechanism of conducting the solvency stress testing for the banking sector in Oman.

**Graph 4.4: Solvency Stress Testing Scheme at CBO**



## Chapter IV

Bank	Survival with Cash	Survival with Cash and Securities	Number of days
1	14	18	
2	13	13	
3	11	13	
4	11	11	
5	13	20	
6	5	13	
7	30	30	
8	16	16	
9	5	5	
10	30	30	
11	16	17	
12	30	30	
13	30	30	
14	30	30	
15	11	11	
16	20	20	
All Banks	17	19	

5 Days      15 Days      >30 Days

21 days during the assumed liquidity stress scenario. On aggregate, foreign banks would require an injection of RO 226.181 million to be able to survive with the deposit outflows for one month (Table 4.3). Although, the liquidity test shows comfort on banks' liquidity position, liquidity crises are known to be of very low frequency but high impact events. Liquidity crises are highly challenging in that they usually occur very suddenly, spread by a mix of facts and rumors, giving banks very little time to react. Therefore, bank's liquidity position should be carefully monitored.

### **Box. 4.2 Shock Levels for Solvency Stress Tests**

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.

#### **Level of Shocks for Solvency Stress Testing**

Type of Risk	Level of Shocks				
Credit Risk (loan Portfolio)	Migration of loans to lower categories based on the following <i>hypothetical</i> transition matrix.				
<b>Table 4.4: Proposed Transition Matrix for Loans (in per cent)</b>					
Migration from →	Performing & Special Mentioned	Substandard	Doubtful	Loss	
Migration to ↓					
<b>Performing &amp; Special Mentioned</b>	90				
<b>Substandard</b>	10	75			
<b>Doubtful</b>	-	25	50		
<b>Loss</b>	-	-	50	100	
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.					
Credit Risk (Investments)	Hypothetical shock of 1 per cent of the 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				
Equity Price Risk	50 per cent adverse movement in the equity prices in respect of a bank's own investments only.				
Foreign Exchange Risk	15 per cent adverse movement applied to the net forex exposure excluding USD and GCC currencies (notably Arab Emirates Dirham).				
Interest Rate Risk	Adverse movement in the interest rates by 200 basis points. The earning impact for one year time horizon is considered.				
Concentration Risk	Failure of the top five business groups to which banks have the largest level of exposure.				





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