PRESENTATION ON CAPITAL PLANNING & ALLOCATION

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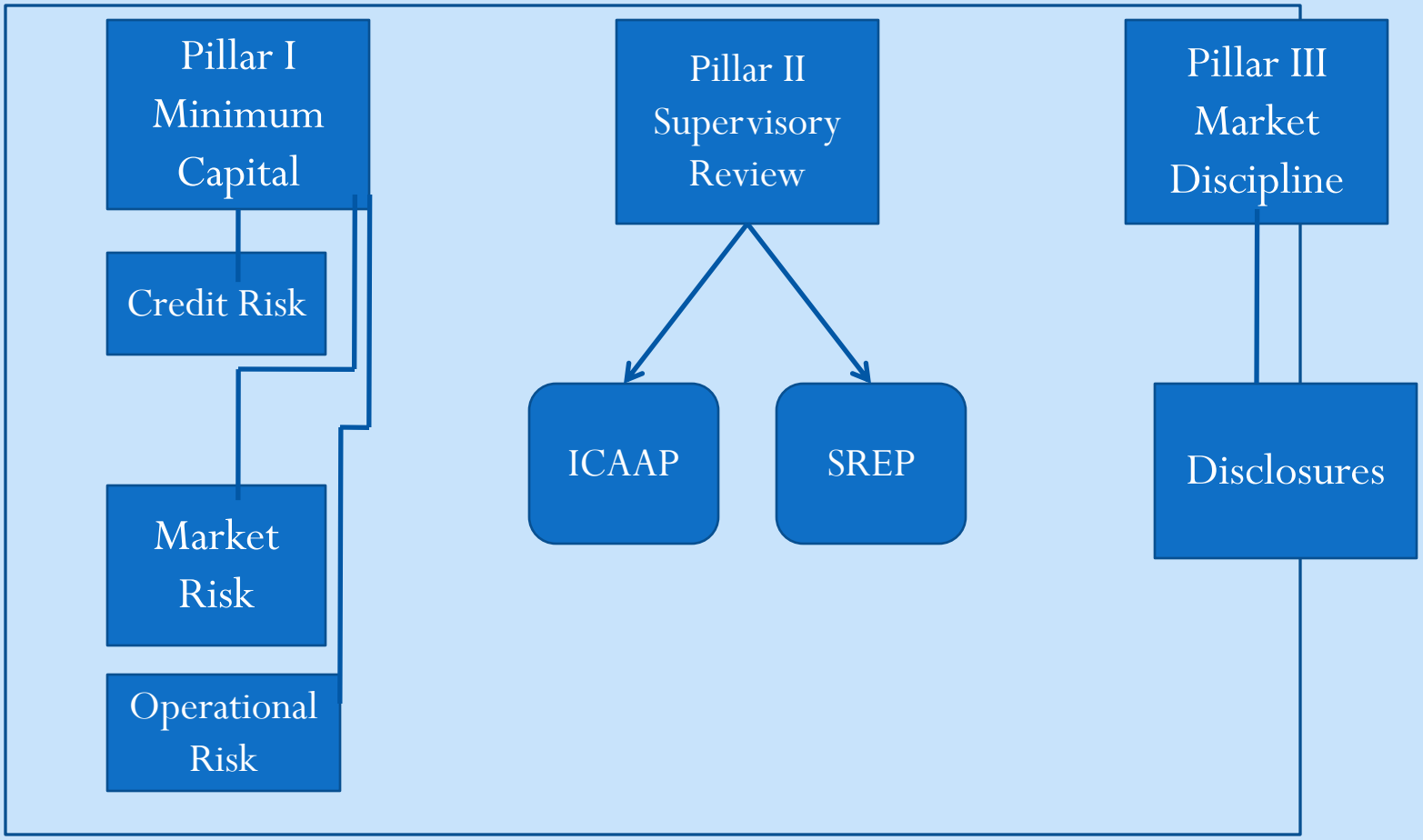
INTRODUCTION

THE THREE PILLARS OF BASEL



SREP and ICAAP

- Supervisory Review and Evaluation Process (SREP) and Internal Capital Adequacy Assessment Process (ICAAP), thus, address:

  - ✓ Risks not fully captured by the minimum capital ratio prescribed under Pillar 1
  - ✓ Risks not at all taken into account under Pillar 1
  - ✓ Factors external to the bank

- It becomes necessary to hold capital in addition to the requirements of Credit, Market and Operational because of:

  - ✓ Possible under-estimation of risks under Pillar 1 framework, and
  - ✓ quality of the risk management architecture of the bank not accurately capturing its actual risk exposure

Risks not captured under Pillar – I

❖ Some of the risks that banks are generally exposed to, but which are not captured (or not fully captured) in the regulatory CRAR would include:

- ✓ Interest rate risk in the banking book
- ✓ Credit concentration risk
- ✓ Liquidity risk
- ✓ Settlement risk
- ✓ Reputational risk
- ✓ Strategic risk
- ✓ Risk of under-estimation of credit risk under the Standardized approach
- ✓ Model risk i.e., the risk of under-estimation of credit risk under the IRB approaches
- ✓ Risk of weakness in the credit-risk mitigants

4 key principles of SREP

- **Principle 1:** Banks should have a process for:

  - assessing their overall capital adequacy in relation to their risk profile, and

  - a strategy for maintaining their capital levels.

4 key principles of SREP

- **Principle 1:** Banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels.

- **Principle 2:** Supervisors should:

- review and evaluate banks' internal capital adequacy assessments and strategies,

- review the banks' ability to monitor and ensure their compliance with the regulatory capital ratios

- take appropriate supervisory action if they are not satisfied with the result of this process.

4 key principles of SREP

- **Principle 1:** Banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels.
- **Principle 2:** Supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with the regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process.
- **Principle 3:** Supervisors should:
- - expect banks to operate above the minimum regulatory capital ratios, and
- - have the ability to require banks to hold capital in excess of the minimum.

4 key principles of SREP

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- **Principle 2:** Supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with the regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process.
- **Principle 3:** Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum.
- **Principle 4:** Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored.

CAPITAL PLANNING

Importance of Capital Planning

- The recent crisis emphasized the importance of

  - ✓ Effective capital planning
  - ✓ Longer-term capital maintenance

because the crisis proved that three major assumptions had gone wrong:

a) That bankers were prudent / responsible
b) That investors were sophisticated, and
c) That risk was distributed

Importance of Capital Planning

- Assumption 1: Were bankers prudent / responsible?

  Rapid / runaway growth in any business activity can present banks with significant risk management challenges.

- Were investors sophisticated?

  Investors relied solely on the ratings of the credit rating agencies (CRAs) when determining whether to invest in structured credit products

  - ✓ They conducted little or no independent due diligence
  - ✓ Many banks had insufficient risk management processes in place to address the risks associated with exposures held on their balance sheets, as well as those associated with off-balance sheet entities.

- Was risk distributed?

  The inability to properly identify and measure such risks may lead to

  - Unintended risk exposures and concentrations
  - Concurrent losses arising in several businesses and risk dimensions due to a common set of factors.

RBI guidance on capital planning exercise

- Banks shall have an explicit, Board-approved capital plan which should spell out the institution's objectives in regard to
  - ✓ The level of capital
  - ✓ The time horizon for achieving those objectives
  - ✓ The capital planning process and responsibilities for that process

- The adequacy of a bank's capital is a function of its risk profile. Banks should, therefore, set their capital targets which are consistent with
  - ✓ Their risk profile
  - ✓ Operating environment.

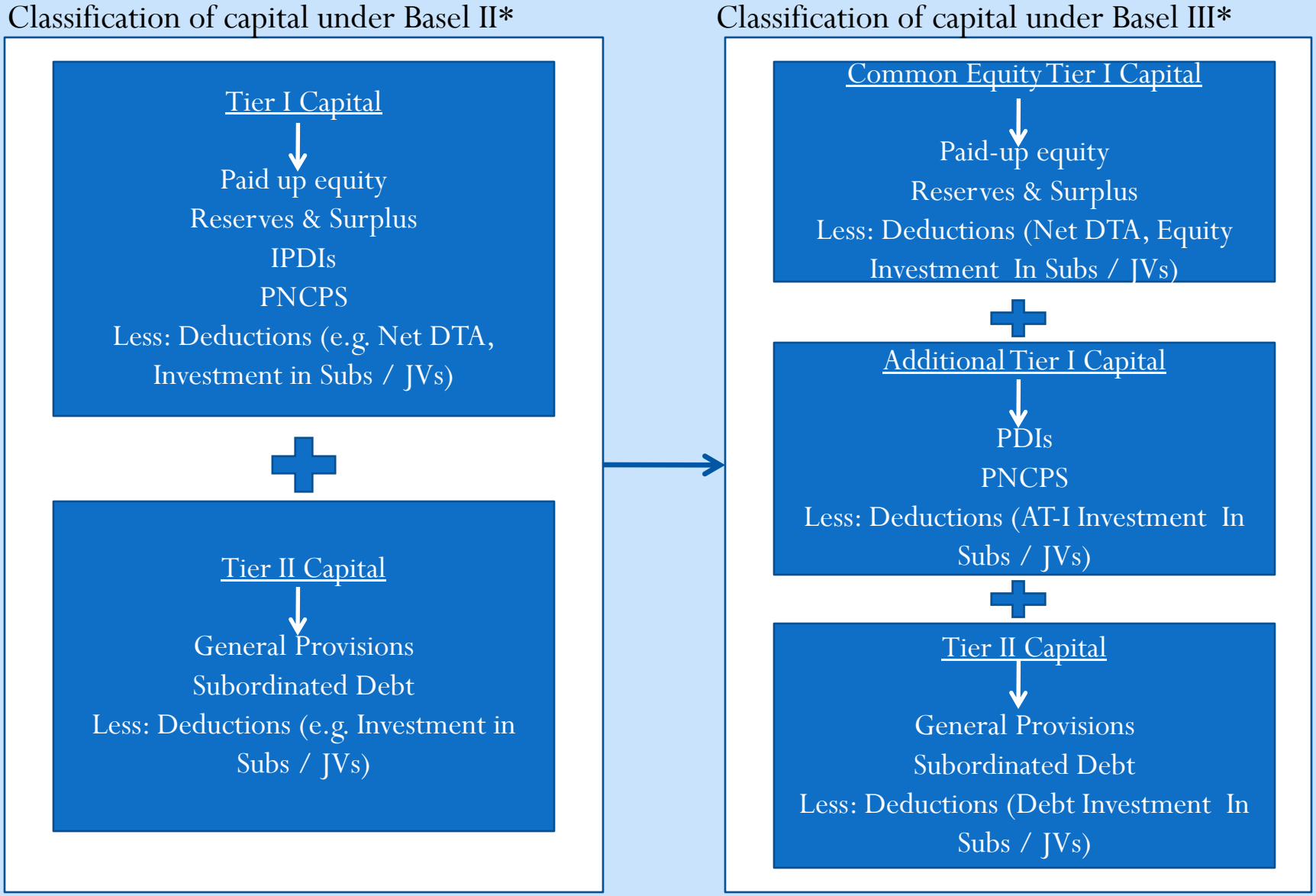
- As part of the ICAAP, the management of a bank shall
  - ✓ Conduct relevant stress tests periodically, in order to evaluate the potential vulnerability of the bank to some unlikely but plausible events or movements in the market conditions that could have an adverse impact on the bank, and
  - ✓ Use its stress testing framework to gain a better understanding of the bank's likely exposure in extreme circumstances.

Use of Capital Models for ICAAP

A bank adopting a model-based approach to its ICAAP shall be able to, *inter alia, demonstrate the following:*

- ✓ Well documented model specifications, including the methodology / mechanics and the assumptions underpinning the working of the model;
- ✓ The extent of reliance on the historical data in the model and the system of back testing to be carried out to assess the validity of the outputs of the model vis-à-vis the actual outcomes;
- ✓ A robust system for independent validation of the model inputs and outputs;
- ✓ A system of stress testing the model to establish that the model remains valid even under extreme conditions / assumptions;
- ✓ The level of confidence assigned to the model outputs and its linkage to the bank's business strategy;
- ✓ The adequacy of the requisite skills and resources within the banks to operate, maintain and develop the model.

COMPOSITION OF CAPITAL UNDER BASEL II & BASEL III



Only major components of capital have been mentioned.

PNCPS - Perpetual Non-Cumulative Preference Shares
IPDI – Innovative Perpetual Debt Instrument
PDI – Perpetual Debt Instrument

CAPITAL ALLOCATION

Importance of Capital

- Capital is the most expensive form of resources.
- For creating shareholder value, bank managements are responsible for returns on capital.
- Therefore, allocation of capital proportional to the risks of the activity being evaluated is critical to determining the value is created by the activity
- The Risk Management departments of banks, therefore, need to evolve a mechanism to charge business lines a capital charge for the capital they use. This alone can help to ensure that
  - ✓ Business line managers economize on capital
  - ✓ They make investment decisions with considerations for cost of capital
  - ✓ Shareholder value creation is, therefore, maximized

Fundamental considerations prior to allocating capital

- Capital allocation normally depends on:
  - ✓ Risk based capital requirement and
  - ✓ Risk adjusted return on capital employed.

- For this purpose:
  - ✓ “Total risk” must be defined.
  - ✓ Any allocation of capital must be based on the Risk Adjusted Performance Measurement (RAPM).

- One of the most popular RAPM methods is the Risk Adjusted Return On Capital (RAROC)

- RAROC enables valuation of the economic return per unit of economic capital used by the bank,
  - ✓ At the whole bank level and
  - ✓ At the business group level

Risk Adjusted Return On Capital (RAROC)

$$\text{RAROC} = \frac{\text{Risk Adjusted Return}}{\text{Economic Capital}}$$

- Risk Adjusted Return = (Gross Income) – (Costs) + (Return on required Economic Capital) – (Expected losses)
- Economic risk capital is the composite of credit, market and operational risk and represents the sufficient amount of capital required by the Bank against adverse losses i.e. unexpected losses.
- It is the business unit's contribution to the value at risk of the bank as a whole and is relevant in guiding shareholder value creation.

Regulatory Method of capital allocation

- Credit and securities analysts typically allocate capital based on the regulatory rules. Global standards have started emerging in the form of the recommendations of Basel Committee on Banking Supervision (BCBS)

- These have been (almost) uniformly adopted by most Banking sector regulators and facilitate global inter – bank comparisons.

- Until capital allocation methods are standardized,
  - ✓ Regulatory method of capital allocation can be the most effective relative comparison of return on capital of financial institutions,
  - ✓ It provides a consistent and comparable basis for cross – bank performance measurement.

- This method allocates capital within the bank based on its risk weighted assets mandated by the regulator.

- To illustrate the regulatory method, we may consider the following simplified model for the Corporate Lending Unit of a bank.

Capital Allocation

		Standardized Approach		
Rating	Exposure (Rs. in Crores)	Risk Weight %	RWAs (Exposure * RW)	RWA * 9%
AAA	0	20%	0	0.00
AA	50	30%	15	1.35
A	65	50%	32.5	2.93
BBB	110	100%	110	9.90
BB	178	150%	267	24.03
B	116	150%	174	15.66
<B	85.5	150%	128.25	11.54
Unrated	95	100%	95	8.55
Total	**699.5**		**821.75**	**73.96**
Capital / Exposure				**10.57%**

- ✓ We assume that all interest rate and foreign exchange risk in the portfolio has been transferred to the treasury unit of the bank for management.
- ✓ Consequently, there is no charge in this lending unit for market risk, which is a hedgeable risk.
- ✓ As the table shows, the amount of regulatory capital assigned to the corporate lending unit shall be 10.57% using the Regulatory method of capital allocation.

CAPITAL REQUIREMENTS

Base III Capital Adequacy Ratio: SBI Solo

As on March 2018

	Regulatory capital (% to RWAs)	RBI guidelines	SBI : As approved by Central Board on 20/12/2012	Recommended	Capital Ratios as suggested by Lead Arrangers				
					Std & Chartered	UBS	CITI	Barclays	BofAML
(i)	Min. Common Equity Tier I ratio	5.50	9.00	5.50	5.50	5.50	5.50	5.50	5.50
(ii)	Capital Conservation Buffer (comprising of common equity)	2.50	---	2.50	2.50	2.50	2.50	2.50	2.50
(iii)	D-SIB requirement (comprising of common equity)	---	---	1.50	2.50	---	---	---	2.00
(iv)	Supervisory review requirement	---	---	1.00	1.50	---	---	2.00	---
(v)	Pillar – II related risks requirement	---	---	1.00	---	---	---	---	---
(vi)	**Min Common Equity Tier I ratio plus buffers (i+ii+iii+iv+v)**	**8.00**	**9.00**	**11.50**	**12.00**	**8.00**	**8.00**	**10.00**	**10.00**
(vii)	Additional Tier I	1.50	---	1.50	1.50	1.50	1.50	1.50	1.50
(viii)	Tier II capital	2.00	---	2.00	2.00	2.00	2.00	2.00	2.00
(ix)	**Min. Total Capital Ratio**	**11.50**	**12.00**	**15.00**	**15.50**	**11.50**	**11.50**	**13.50**	**13.50**
(a)	**Min.Tier I capital ratio (i+vii)**	**7.00**	**9.00**	**7.00**	**7.00**	**7.00**	**7.00**	**7.00**	**7.00**
(b)	**Min.Total Capital Ratio (i+vii+viii)**	**9.00**	**12.00**	**9.00**	**9.00**	**9.00**	**9.00**	**9.00**	**9.00**

Transitional Arrangements : RBI BASEL III Guidelines: Capital Ratios

% of RWAs

Minimum capital ratios	1st Jan, 2013	31st Mar, 2014	31st Mar, 2015	31st Mar, 2016	31st Mar, 2017	31st Mar, 2018
CET-I	**4.5**	**5.0**	**5.5**	**5.5**	**5.5**	**5.5**
CCB	-----	-----	0.625	1.25	1.875	2.5
D - SIB	------	------	0.375	0.75	1.125	1.50
Supervisory review	-----	-----	0.250	0.50	0.750	1.00
Pillar – II risks	---	----	0.250	0.50	0.750	1.00
CET I + All buffers	4.5	5.0	7.00	8.50	10.00	11.50
Minimum Tier I capital	**6.0**	**6.5**	**7.0**	**7.0**	**7.0**	**7.0**
Minimum Total Capital	**9.0**	**9.0**	**9.0**	**9.0**	**9.0**	**9.0**
Minimum Total Capital + All buffers	9.0	9.0	10.50	12.00	13.50	15.00

Capital requirements of SBI Solo (Projected): RBI Transitional Arrangements & Additional Buffers

Rs. in Crores

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total (FY:14-FY:18)
Total RWAs	**10,05,640**	**12,06,768**	**14,48,121**	**17,37,746**	**20,85,295**	**25,02,354**	
CET 1	3,004	0	0	0	0	0	0
CCB	0	0	0	0	0	0	0
D – SIB		0	0	1,847	13,374	7,550	22,771
Sup review		0	0	8,689	15,640	25,024	49,353
Pillar – II		0	0	8,689	15,640	25,024	49,353
CET incl. all buffers		0	0	19,225	44,654	57,598	1,21,477
AT 1 Capital	----	0	5,150	11,700	6,130	10,300	33,280
T II Capital	----	0	5,150	11,700	6,130	10,300	33,280
Total Capital	3,004	0	10,300	42,625	56,914	78,198	1,88,037

Capital requirements of SBI Solo(Projected): CET-I at 9% & Overall CAR at 12%

Rs. in Crores

	2012-13* (Actual)	2013-14	2014-15	2015-16	2016-17	2017-18	Total (FY:14-FY:18)
Total RWAs	**10,05,640**	**12,06,768**	**14,48,121**	**17,37,746**	**20,85,295**	**25,02,354**	
CET 1	3,004	7,240	8,940	11,700	15,110	15,893	58,883
AT 1 Capital	----	3,825	4,100	4,600	5,250	9,250	27,025
T II Capital	----	3,825	4,100	4,600	5,250	9,250	27,025
Total Capital	3,004	14,890	17,140	20,900	25,610	34,393	112,933

**For 2012-13, capital requirement is as per Basel II guidelines to maintain Tier I of 9% and overall CAR of 12%. Rs 3004 crores CET 1 infusion received in FY:2012-13*

INSTRUMENTS FOR RAISING CAPITAL

Equity Capital Raising Alternatives

	Rights	QIP	Follow On Offering	GDR	ADR
Description	• Offering of common stock to existing shareholders, based on a certain ratio for every share held	• QIP: Issuance of equity shares to institutional investors	• Primary issue of equity shares to institutional and public shareholders	• Receipt issued by an international bank to evidence ordinary share of a foreign company deposited with it	• A certificate which represents an ownership interest in an existing outstanding share of a non-US company
Pricing	• Discount to spot price	• At par or slight discount to spot price • Subject to SEBI floor	• Discount to spot price	• Premium to spot	• Premium to spot price, correlated to price in local currency of home country
Benefits	• No shareholder dilution	• Diversify institutional shareholder base • Enhance visibility and profile internationally among investors • Quicker & most efficient execution	• Significant diversification in shareholder base	• Diversify international investor base • Enhance visibility, and profile internationally among investors • Improves liquidity of existing GDR program	• Diversify US investor base (Will aid future capital raise) • Positive impact on longer term valuation • Enhance visibility, and profile internationally among investors
Consideration	• Marginal shareholder diversification • Significant outlay for Government of India	• Maximum allotment to 49 investors	• Wider discount compared to QIP given retail participation • Dilution in government stake	• GDR: LSE / LSXE listing requirements • Maintain overall FII holding limit (20%)	• Maintain overall FII holding limit (20%)
Timing/ Documentation	• SBI qualifies for fast track review, 4 – 6 weeks for process completion	• 6 – 8 weeks, File OC with stock exchanges, no SEBI review required	• SBI qualifies for fast track review, 4 – 6 weeks for process completion	• GDR: 10 – 12 weeks, Domestic regulatory filing, Local GAAP, IFRS	• 16 – 18 weeks, file F-1 / confidential registration statement, 20-F and F-6 with SEC

Why Non - Equity Capital

- CET 1 is the predominant form of capital under Basel III
- Various capital buffers will be additive and largely by way of CET 1
- Expensive to fund the entire capital through Common Equity
- AT 1 and Tier 2 ,being cost effective, should be used to free up Common Equity
- Ideally capital raising should include both equity and non-equity issuance to maximize positive impact on:
  - EPS
  - Future share prices
  - Total Shareholder return

Non - Equity Capital: AT 1 Vs Tier 2

	AT 1	Tier 2
Maturity	Perpetual	Minimum 10 years, with amortization in remaining 5 years.
Call Option	Issuer only: Min.10 years •with regulatory approval •Replacement, unless capital is above min. requirements	Issuer only: Min. 5 years •with regulatory approval •Replacement, unless capital is above min. requirements
Ranking	Subordinated to Tier 2,senior only to equity	Subordinated to senior creditors and depositors
Ongoing Loss Absorption	Must have principal loss absorption clause: •Conversion to Equity •Write down	No
PONV - Loss Absorption	At point of non-viability: •Conversion •Temporary/permanent write off	At point of non-viability: •Conversion •Temporary/permanent write off
Pricing	With a lower tenor, the Tier 2 instruments shall be priced much lower than the AT 1 Instruments. It would be advisable to explore raising these instruments overseas as the Indian market is presently undeveloped.	

Some Basel III Compliant AT1 Instruments Issuances

Name of Bank	Amount Mobilized	Coupon	Issue Date
Macquarie Bank Ltd (London Branch)	US $ 250 Mn	10.25%	21st March 2012
Rabo bank, Nederland	US $ 2Bn	8.4%	2nd November 2011
VTB, Russia	US $ 1 Bn	9.5%	26th July 2012
Banco Do Brasil	US $ 1.75 Bn	9.25%	12th January 2012

Precedent Tier 2 Capital Transactions with PONV features

Name of Bank	Amount Mobilized	Coupon	Issue Date
ICBC	CNY 1.5 Bn	6.00%	20th October 2011
Nomura	¥ 154 Bn	2.24%	9th December 2011
Credit Suisse	US $ 2Bn	7.875%	17th February 2011
UBS	US $ 2Bn	7.25%	15th February 2012

THANK YOU