Credit Risk –
How the Landscape Changed

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Outline

• Introductory Remarks
• How the Stage was Set for a Credit Crisis
• Why Canadian Banks Performed Relatively Well
• How Scotiabank Managed Through the Crisis
• Current Risk Outlook
• Key Lessons Learned
• Concluding Remarks
Introductory Remarks

Holy Trinity of Credit: Trust, Judgment & Discipline

• Trust:
  – “Credit” comes from Latin: “to trust or believe”
  – Fundamentally, credit markets are built on trust

• Judgment:
  – Regardless of models and/or financial analysis, good credit decisions are based on sound judgment
  – Market forces (i.e., greed, pressure for growth etc.) can interfere with judgment

• Discipline:
  – Credit markets are cyclical – like all other investments, credit decisions require discipline through the cycle

How the Stage was Set for a Credit Crisis
An Insatiable Demand for More Yield

A dangerous & steady increase in risk appetite

• Low interest environment rate post 9-11 drove investors to:
  – Alternative investments in search of yield
  – Leveraged loans, away from traditional bonds
  – Un/under-regulated “shadow banking” system

• Unusually low default rates post-2002 provided historically low Probability of Default in portfolio models

• Disintermediation led to deals being structured directly between institutional investors & corporate borrowers:
  – High yield bonds
  – Term loan B

Too Much Liquidity…

Massive demand re-wrote market practices

• At their peak in 2006-07, CDO’s/CLO’s were absorbing more than $10 bn. per month

• Re-investment pressure and “easy institutional money” created supply/demand imbalances and drove lax credit practices:
  – 6x-8x multiples for LBO’s
  – Second lien debt (even silent seconds!)
  – Payment-in-Kind toggle subordinated debt
  – Covenant lite, with equity cures
Lax Regulation Drove Fundamental Changes

U.S. banks dramatically changed their approach

- Traditional, built-in disciplines of the commercial lending, agent-bank model were abandoned:
  - From “buy & hold” to “originate & distribute”
  - Up-front fees often exceeded final hold levels
  - US gorillas set the tone (BofA, JP Morgan Chase and Citi accounted for more than 50% of deal flow…)

- Most egregious examples occurred in US sub-prime:
  - White hot demand driven by housing bubble
  - Massive disintermediation through mortgage brokers
  - Compounded through securitizations & 3rd party-ratings
  - Total breakdown in underwriting, at it’s worst: NINJA’s!

Tell-Tale Signs of an Impending Credit Crisis

We should’ve known we were in trouble when…

- Portfolio models calculated PD as “nominal”!
- “Innovative” structuring created AAA tranches from single B credits!
- Rating agencies stopped asking tough questions on structured deals!
- Mortgage brokers were earning Wall St. bonuses!
- Investors stopped doing their own due diligence!
- A migrant strawberry picker in California got 100% financing to buy a $750k home!
Definitive Signs of the Credit Crisis

We knew we were in trouble when...

- US monetary policy moved +400 bps from 2004 - 2006
- Losses on US sub-prime skyrocketed (estimates in July 2007 ranged from $100 bn - $300 bn)
- Rating agencies and institutional investors realized that their highly-rated securitizations were not, in fact, default-proof
- “Cash is king” trumped the more traditional “flight to quality”
- Visibility on underlying assets became extremely limited – in Canada, this triggered the ABCP crisis

Impact on Widely Held Corporate Loans

<table>
<thead>
<tr>
<th>Avg. Bid (% of par)</th>
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<tbody>
<tr>
<td>102</td>
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<tr>
<td>98</td>
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<td>94</td>
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<td>90</td>
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<td>70</td>
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<td>66</td>
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<tr>
<td>62</td>
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<td>58</td>
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</table>

Source: LSTA/LPC Mark-to-Market Pricing, Reuters LPC
Casualties of the Credit Crisis

Some of the many dominos that began to fall…

• 2007:
  – Northern Rock
  – Fannie Mae & Freddie Mac
• 2008:
  – Countrywide
  – Bear Stearns
  – Lehman Brothers
  – AIG
  – Washington Mutual
  – Wachovia
  – Merrill Lynch

Why Canadian Banks Performed Relatively Well
Why Canadian Banks Performed Well

Widespread regard for Canada’s banks

• Key endorsements of Canada’s banks
  – World Economic Forum
  – International Monetary Fund
  – Moody’s + S&P
  – G20

• Driven, in part, by a strong regulatory framework
  – More conservative leverage & capital ratios
  – Oversight by a single regulator for banks & investment banks
  – Bank-owned investment dealers for 20+ years
  – More prudent approach (i.e., insured mortgage program)

Underlying Differences

Cultural & business model differences

• Prudent risk management

• Effective risk governance

• Relatively more conservative risk appetite:
  – Bias in favour of relationship lending vs. transactions
  – Significantly less use of securitization

• More balanced business model: mix of banking vs. trading
Mortgages Differences: A “Prime” Example

<table>
<thead>
<tr>
<th>In Canada:</th>
<th>In the US:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major banks have 60%+ market share</td>
<td>Brokers generate 70%+ of mortgages</td>
</tr>
<tr>
<td>Assets are primarily on Balance Sheet</td>
<td>Significantly higher rate of securitization</td>
</tr>
<tr>
<td>Insurance (LTV &gt;80%) stays for term</td>
<td>Insurance stops once LTV ≤80%</td>
</tr>
<tr>
<td>Minimal sub-prime lending by banks</td>
<td>Sub-prime hit 20% in 2006</td>
</tr>
<tr>
<td>Mortgage interest is not deductible</td>
<td>Mortgage interest is deductible</td>
</tr>
<tr>
<td>Borrowers are generally less leveraged</td>
<td>Borrowers are generally more leveraged</td>
</tr>
</tbody>
</table>

How Scotiabank Managed Through the Crisis
Scotiabank’s Approach to Managing Risk

Overview

• Context
• Effective risk governance
• Strong risk management culture
• Effective diversification
• Anticipating/responding to the Credit Crisis
• Recent enhancements

Context: Primarily a Credit Risk Bank

Regulatory capital at Oct. 31, 2009

- Credit Risk 85%
- Market Risk 5%
- Operational Risk 10%
Risk Governance Does Matter

Board & Senior Executive

- Executive & Risk Committee

Risk-Related Senior Executive Committees

<table>
<thead>
<tr>
<th>Risk Policy</th>
<th>Liability Committee</th>
<th>Market Risk</th>
<th>Senior Credit (5)</th>
<th>Reputational Risk</th>
<th>Operational Risk</th>
<th>Human Investment</th>
<th>Strategic Transaction Investment</th>
</tr>
</thead>
</table>

Business Lines
- Canadian Banking
- International Banking
- Scotia Capital

Global Risk Management & Group Treasury

Internal Stakeholders
- Finance
- Internal Audit
- Technology
- Global Transaction Banking
- Mid & Back Office
- Compliance

External Stakeholders
- Regulators
- Auditors
- Rating Agencies & Analysts
- Investors

Strong Risk Management Culture

“Robust & pervasive”

- Critically important and a top priority at Scotiabank
- Core principles:
  - Business units are primarily responsible for risk
  - Large, independent, central risk group
  - Centralized policies, limit-setting and key approvals
  - Enterprise-wide view of risk
- Other distinguishing characteristics:
  - Risk function reports directly to President & CEO
  - Significant influence within Executive Management
  - Active involvement by Board & Senior Management
Effective Diversification

Loans & acceptances - 2009

By Geography

- Canada: 64%
- Residential: 36%
- Financial & Government: 8%
- Latin America: 8%
- Caribbean: 6%
- Europe: 8%
- Mexico: 4%
- U.S.: 8%
- Other: 5%

By Borrower

- Business: 34%
- Residential: 36%
- Personal: 22%

Anticipating the Credit Crisis

Specific changes made after 2001-2002:

- We started preparing for the current downturn in 2001-2002
- Specific changes we made included:
  - Revising best practices based on 25 largest loan losses
  - Developing more robust industry reviews and limits
  - Tightening & refining single name exposure limits
  - Beefing up due diligence procedures
  - Increasing early warning monitoring based on market data and company-specific results
  - Adding the discipline of Loan Portfolio Management to look at all-Bank/multi-product return vs. hurdle rate
Anticipating the Credit Crisis

Broad business model adjustments

- Refined business model to better reflect our risk appetite
- Affirmed our commitment to “buy & hold” (vs. “pump & dump”)
- Focused on higher quality, multi-product corporate relationships
- Pulled back from leveraged loan market due to imbalanced risk/reward
- Significantly increased overall lending mix in favour of retail, where loss rates are much lower

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Anticipating the Credit Crisis

Broad portfolio adjustments

- Increased proportion of secured lending
- Increased emphasis on mortgage lending
- Reduced exposure to US lending
- Reduced involvement in leveraged lending
- Reduced corporate & commercial share of total portfolio
- Increased proportion of investment-grade loans
- Made industry-sector adjustments (i.e., forestry, real estate & automotive)

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More Diversified & Secured Portfolio

<table>
<thead>
<tr>
<th>RETAIL</th>
<th>1990</th>
<th>2009</th>
<th>Improvement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Total Portfolio</td>
<td>37%</td>
<td>58%</td>
<td>✓</td>
</tr>
<tr>
<td>Mortgages (%)</td>
<td>54%</td>
<td>74%</td>
<td>✓</td>
</tr>
<tr>
<td>Secured (%)</td>
<td>83%</td>
<td>92%</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHOLESALE</th>
<th>1999</th>
<th>2009</th>
<th>Improvement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Total Portfolio</td>
<td>56%</td>
<td>42%</td>
<td>✓</td>
</tr>
<tr>
<td>United States (%)</td>
<td>16%</td>
<td>7%</td>
<td>✓</td>
</tr>
<tr>
<td>Corporate Loans: % Investment Grade</td>
<td>50%</td>
<td>71%</td>
<td>✓</td>
</tr>
</tbody>
</table>

Some Evolving Best Practices…

Stress testing

- We developed more robust & extensive stress testing for a range of business and risk issues
- We enhanced several key areas, including:
  - Liquidity risk
  - Ad hoc/targeted scenarios
  - Enterprise-wide stress testing
- We leverage enterprise-wide stress testing to:
  - Engage senior management and Board of Directors
  - Align key processes: budgeting, capital management, liquidity planning & corporate strategy
Some Evolving Best Practices…

Risk appetite

• Scotiabank’s risk appetite was already well-defined:
  – Well-understood at Board & Executive Management
  – Supported by robust & pervasive risk culture
  – Mature & comprehensive framework for limits, measuring & monitoring key risks

• Recently, we broadened our “Risk Appetite Framework”:
  – Added key qualitative considerations to quantitative metrics
  – Now incorporates Risk Principles, Governing Financial Objectives & Strategic Principles

Some Evolving Best Practices…

Liquidity & funding

• Liquidity has been a key focus of various “best practices” studies

• New global standards for liquidity requirements are imminent

• Scotiabank bolstered our already strong liquidity position

• In addition, we took a more proactive and diversified approach to funding
Current Risk Outlook

“Partly cloudy with chance of thunderstorms”

• Global economies are recovering – albeit growth is slower and more fragile than had been hoped for
• De-leveraging (↑ savings) is here for the foreseeable future
• Risk premiums are shrinking as some players return to the game
• Regulatory uncertainty will continue – until new rules for capital, liquidity & compensation are codified
• New regulatory roles & responsibilities will emerge over time (systemic risk, macro-prudential regulation, College of Supervisors etc.)
Implications for Financial Institutions

Adapting to the “new normal”

• Loan losses will be elevated for the next 1-2 quarters due to high unemployment & commercial restructurings
• Slower asset growth
• Lower interest rates for the foreseeable future
• Impact of new capital regimes on ROE (i.e., higher capital ratios, less off-balance sheet)

Key Lessons Learned

Back to basics for assessing credit

• Do your own due diligence & financial analysis
• Don’t rely fully on external ratings or models
• Do robust stress testing on companies, industries & portfolios
• Generally avoid “structuring” (usually a sign of less transparency)
• Trust the time-honoured “5 C’s of Credit”: Character, Capacity, Capital, Collateral & Conditions
Key Lessons Learned

Back to basics for risk management generally

• Don’t finance long term assets with short term funding

• Make sure you can manage, measure and monitor the risks you are taking

• Be clear on your risk appetite and operate within it

• Resist short-term profitability pressure – manage shareholder interests over the long term

Concluding Remarks

• Was this once-in-a-lifetime perfect storm or the financial equivalent of global warming?

• New macro-challenges (global inter-connectedness, super-power imbalances, financial innovation) are here to stay

• Some differing views:
  – “That which does not kill us makes us stronger” (Nietzsche)
  – “Those who do not learn from history are doomed to repeat it” (Santayana)
  – “History is merely a list of surprises – it can only prepare us to be surprised again” (Vonnegut)
  – “Now more than ever, you need prudent risk management and sound credit fundamentals” (Hart)