The Evolution of The Canadian Derivatives Market

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Head of Derivatives Research
Focus

- Introduction
- Trends in global derivatives markets
- Characteristics of Canada
- Future opportunities
- Key takeaways
Trends in global derivatives markets
Global futures volumes are slowly recovering after hitting a record peak in 2011…

Key Drivers
- Shifting global monetary policy
- Increased fixed income market volatility
- Rising interest in index strategies
- International investment flows and flight to quality

Source: WFE, TABB Group
…yet options volumes remain on a downtrend, primarily a result of anemic volatility in underlying equity markets.

Key Drivers
- Anemic volatility
- Lack of high volume strategies
- Especially prop, quant & dispersion
- Global bank capital rules
- Note: Kospi 200 notional reverse split in ‘12: 210MM monthly avg vs 52MM avg

Source: WFE, TABB Group
US futures markets are on a tear, no surprise given fixed income product liquidity

Source: FIA, TABB Group
US options trading continues to increase; 2014 volume on pace to reach the second highest level on record

**Annual US Options Trading Volume 2000 to 2014**

- **CAGR: 14%**

**Billions of contracts**

- 2000: 0.7
- 2002: 0.8
- 2004: 0.9
- 2006: 1.2
- 2008: 1.5
- 2010: 2.0
- 2012: 2.9
- 2014: 3.6
- 2014 (estimated): 6.1

**Key Drivers**

- Demand for index and ETF products
- Strong growth in weeklies
- Return of the retail investor
- Insatiable demand for volatility exposure

**Volume by type of option 2014:H1**

- Single Stock: 56%
- ETF: 35%
- Index: 10%

*Source: OCC, TABB Group estimates*
Characteristics of Canada
Although Canada’s markets are often overshadowed by the US, its equity markets rank seventh in terms of market cap.

<table>
<thead>
<tr>
<th>Exchange</th>
<th>Market Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYSE</td>
<td>19.2</td>
</tr>
<tr>
<td>NASDAQ OMX</td>
<td>6.7</td>
</tr>
<tr>
<td>Japan Exchange Group</td>
<td>4.6</td>
</tr>
<tr>
<td>Euronext</td>
<td>3.8</td>
</tr>
<tr>
<td>Hong Kong Exchanges</td>
<td>3.1</td>
</tr>
<tr>
<td>Shanghai SE</td>
<td>2.4</td>
</tr>
<tr>
<td>TMX Group</td>
<td>2.3</td>
</tr>
<tr>
<td>Deutsche Börse</td>
<td>1.9</td>
</tr>
<tr>
<td>SIX Swiss Exchange</td>
<td>1.6</td>
</tr>
<tr>
<td>Shenzhen SE</td>
<td>1.5</td>
</tr>
<tr>
<td>BSE India</td>
<td>1.5</td>
</tr>
<tr>
<td>National Stock Exchange India</td>
<td>1.5</td>
</tr>
<tr>
<td>Australian SE</td>
<td>1.5</td>
</tr>
<tr>
<td>Korea Exchange</td>
<td>1.3</td>
</tr>
<tr>
<td>NASDAQ OMX Nordic Exchange</td>
<td>1.3</td>
</tr>
<tr>
<td>BME Spanish Exchanges</td>
<td>1.2</td>
</tr>
<tr>
<td>BM&amp;FBOVESPA</td>
<td>1.1</td>
</tr>
<tr>
<td>Johannesburg SE</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Concentration in finance, energy and natural resource sectors provides benefits and challenges.

Source: WFE, TMX, TABB Group
Canadian capital markets benefit from a substantial domestic institutional investor base.

Total Assets under Management $3.2 Trillion

- Pension funds $1,300.0
- Mutual funds $1,100.0
- Insurance companies $645.0
- Exchange Traded Funds $70.0
- Hedge funds $55.0

Source: CLHIA, IFIC, Statistics Canada, ETFInsights, TABB Group estimates
International investment flows have been consistent, with significant flows coming from both the US and Europe.

Countries with AAA Rating

- Australia
- Canada
- Denmark
- Germany
- Luxembourg
- Norway
- Singapore
- Sweden
- Switzerland

Source: Statistics Canada
Futures markets in Canada have benefited from many of the same trends impacting global markets.

### Most Actively Trade Contracts
**Jan-14 to Oct-14**

<table>
<thead>
<tr>
<th>Contract</th>
<th>Millions of Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three-Month Canadian Bankers' Acceptance Futures (BAX)</td>
<td>20.9</td>
</tr>
<tr>
<td>Ten-Year Government of Canada Bond Futures (CGB)</td>
<td>12.2</td>
</tr>
<tr>
<td>S&amp;P/TSX 60 Index Standard Futures (SXF)</td>
<td>3.5</td>
</tr>
</tbody>
</table>

### Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>7.3</td>
</tr>
<tr>
<td>2002</td>
<td>8.1</td>
</tr>
<tr>
<td>2003</td>
<td>10.7</td>
</tr>
<tr>
<td>2004</td>
<td>12.9</td>
</tr>
<tr>
<td>2005</td>
<td>18.2</td>
</tr>
<tr>
<td>2006</td>
<td>27.6</td>
</tr>
<tr>
<td>2007</td>
<td>28.5</td>
</tr>
<tr>
<td>2008</td>
<td>22.1</td>
</tr>
<tr>
<td>2009</td>
<td>17.2</td>
</tr>
<tr>
<td>2010</td>
<td>24.2</td>
</tr>
<tr>
<td>2011</td>
<td>33.1</td>
</tr>
<tr>
<td>2012</td>
<td>34.9</td>
</tr>
<tr>
<td>2013</td>
<td>40.9</td>
</tr>
<tr>
<td>2014-Oct</td>
<td>36.9</td>
</tr>
</tbody>
</table>

**Source:** Montreal Exchange
Options markets have seen declining volumes, lack of volatility and weakness in natural resource sector are impacting demand.

**Most Actively Traded Contracts Jan-14 to Oct-14**

- Individual Equities: 16.9%
- Options on ETFs: 3.0%
- S&P Canada 60 Index: 0.4%

**CBOE Volatility Index**

Source: Montreal Exchange, CBOE
Future opportunities
How will you derivatives activity change in the next 12 months?

Factors driving increased adoption:

- Grow / Protect Assets
- Lower Trading Costs
- Update Trading Platforms
- Innovative Alpha Technology
- New Capabilities
- Comply with New Rules
- Streamline Operations

Source: TABB Group, “US Equity Index Derivatives: The Next Phase of Institutional Discovery”
Strategies are evolving as need to generate alpha, regulation and capital scarcity impact investment goals

How do you use futures in your trading strategies?

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Exposure to Asset Class</th>
<th>Alpha</th>
<th>Risk Mgmt/Hedging</th>
<th>Cash Flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-only 2014</td>
<td>19%</td>
<td>25%</td>
<td>19%</td>
<td>37%</td>
</tr>
<tr>
<td>Long-only 2012</td>
<td>18%</td>
<td>8%</td>
<td>19%</td>
<td>55%</td>
</tr>
<tr>
<td>Hedge Fund 2014</td>
<td>1%</td>
<td>54%</td>
<td>41%</td>
<td>4%</td>
</tr>
<tr>
<td>Hedge Fund 2012</td>
<td>9%</td>
<td>62%</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>CTA 2014</td>
<td>12%</td>
<td>82%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>CTA 2012</td>
<td>6%</td>
<td>90%</td>
<td></td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: TABB Group, “US Equity Index Derivatives: The Next Phase of Institutional Discovery”
Global regulatory initiatives will eventually impact the types of derivatives used by the buy side

Will you change the derivatives products you use as a result of regulatory change?

- **No**: 61%
- **Evaluating**: 33%
- **Yes**: 6%

Most regulatory initiatives have focused on interest rate products
- Credit default swaps
- Interest rate swaps

Trading is slowly moving to exchanges and organized trading facilities
- Transparency is a primary goal
- Surveillance and oversight

Stricter capital rules will shift equity OTC markets to listed products over time
- Basel III will force brokers to ration capital
- Mitigating systemic risk is a key goal

Buy side needs to manage and hedge exposures
- Brokers will proactively monitor client exposures
- Portfolio margining rules will attract greater attention

*Source: TABB Group, “US Equity Index Derivatives: The Next Phase of Institutional Discovery”*
One area of promise is swap futures as a replacement for OTC swaps but the process will take time…

**Will you trade swap futures instead of swaps?**

<table>
<thead>
<tr>
<th>Year</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>8%</td>
<td>92%</td>
</tr>
<tr>
<td>2013</td>
<td>17%</td>
<td>83%</td>
</tr>
<tr>
<td>2014</td>
<td>29%</td>
<td>71%</td>
</tr>
</tbody>
</table>

**Contributing Factors**

- As existing OTC swap portfolios turnover, the decision to use swaps or futures will include alternative products that allow users to reduce clearing costs, especially as mandated clearing for swaps is implemented.
- Liquidity in swap futures as evidenced by open interest and trading volumes has increased steadily; volume growth around quarterly rolls is evidence of continued adoption.

*Source: TABB Group, CME Group, Eris Exchange*
...as global OTC derivatives markets continue to expand; especially in foreign exchange and interest rate instruments

Notional amount outstanding by underlying product type ($ trillions)

Source: BIS, TABB Group
The Canadian dollar swap market represents a future source of demand for listed derivative products.

Notional amount outstanding of Canadian dollar swaps

Total Outstanding
$8.9 trillion

- Interest rates: 6,971
- Overnight interest rate: 1,323
- Basis: 202
- Zero coupon: 244

All amounts in billions of dollars

Source: SwapClear
Attracting trading interest in new products is an intricate process, with building liquidity a key determinant of success.

**Drivers of Product Demand**

- Liquidity is always the biggest factor dictating success; getting out of a trade is even more critical.
- The decision to trade at a specific venue is driven by a range of factors:
  - Innovative product design
  - Low trading costs
  - Comprehensive technology capabilities
  - Ease of access
  - Exchange support
- Capital requirements are becoming more important:
  - Margin requirements
  - Comprehensive clearing infrastructure
  - Low fees

**What would be the most important incentive to trade a new product on an exchange?**

- Liquidity: 54%
- Product-driven: 46%
- Cost: 24%
- Fungibility: 19%
- Technology: 14%
- Operational Efficiency: 5%
- Brand: 3%

*Source: TABB Group, “US Equity Index Derivatives: The Next Phase of Institutional Discovery”*
Renewed volatility will also have a measurable impact; recent VIX spikes are providing renewed impetus to trade.

Source: Chicago Board Options Exchange
Monetary policy intended to keep interest rates low (ZIRP) are suppressing volatility, what happens when QE3 stops?

Federal Funds Rate
2001-2014

ZIRP: Latest guidance suggests rate increases to begin in 2015

Source: Federal Reserve
Canada represents an attractive investment target for global investors
  - Importance of natural resource sector both a benefit and a challenge
  - Dependent on global economic recovery; long term prospects positive

Fiscal conservatism and strength of financial sector are prime attractions
  - Canada is 1 of 9 countries with a AAA rating from 3 major credit agencies
  - Prudent fiscal policy allowed it to emerge from 2008 crisis with little financial fallout

Global economic recovery will result in renewed investor demand
  - Recovery in commodity and energy sectors will attract investor inflows
  - Shifts in global monetary policy will drive demand for interest rate products

Derivatives markets have significant room for growth
  - Regulatory pressures to shift trading to central clearing and exchange traded products
  - Higher volatility will incent aggressive trading strategies, especially in listed options
  - Organic growth from domestic investor base exploring the use of derivatives
For more detailed information and a copy of the report, please look out for a post-conference email...

Canadian Derivatives Markets:
Co-Existing in the Shadow of a Giant

The US and Canada are indelibly intertwined. Sharing a 5,525 mile border, acting as primary trading partners and having symbiotic economies that ebb and flow in tandem has resulted in two distinct yet highly correlated capital markets that are actively traded by investors around the world. Although Canadian securities markets operate in the shadow of the world’s largest capital market, distinct differences in Canada’s marketplace appeal to both domestic and international investors.

Canadian derivatives markets hold special appeal to investors. A thriving domestic investor base is increasingly participating in the listed futures and options markets, even as international regulators seek to move over-the-counter derivatives into central clearing mechanisms and onto organized exchanges around the world. This slow moving but ongoing shift, along with the eventual recovery of global economies, will drive continued growth in Canada’s exchange-traded derivatives markets.

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