Sovereign Asset and Liability Management

The Canadian Strategy

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Bank of Canada
Outline

- Funds Management Objectives and Governance
- Issuance strategy
- Debt stock and structure
- Government’s financial assets
- Combining the two: ALM strategies
Funds Management Objectives and Governance
Funds Management Objectives

- Funds management activities encompass issuance of debt, management of liquidity and investment of financial assets
- Two key functions:
  - Financial Asset and Liability Management
  - Risk Management
- Guided by key principles:
  - Efficiency and effectiveness; transparency and accountability; risk management; and fiscal prudence
Funds Management Governance

- Ultimate authority for funds management policy rests with the Minister of Finance
- Bank of Canada is the government’s fiscal agent, responsible for:
  - Collaborating with Finance to develop policies and strategies
  - Banking and treasury management services
  - Operation implementation of borrowing and investment programs
  - Risk management and oversight
- Work is coordinated through key governance committees
Domestic Debt Issuance Strategy
**Debt Management Objectives and Trade-Offs**

**Stable, low-cost funding**

**Trade-offs:**
- **Cost/Risks:** a shorter-term debt structure will on average be less costly but exposes the Government to more volatility in debt cost and refinancing risk, while a longer-term debt structure can reduce these risks but have a higher cost.
- **Cost/Contingency:** issuance in longer-term debt, while more costly, helps preserve funding capacity in key sectors in case of a stress event.

**Maintain a well-functioning market**

**Trade-off:**
- **Cost-Risks/Well-functioning markets:** maintaining regular issuance across a wide range of maturity sectors supports well-functioning government securities and broader capital markets and diversifies access to funding, but could divert us from optimal debt structure in terms of cost and risks.
The Canadian Debt Strategy Model

- Provides a comprehensive framework to quantify the cost and risks trade-off between issuing shorter-term and long-term debt based on a wide range of interest rate and economic scenarios
- This allows the decision makers to apply their risk preference to determine the optimal structure to target in the long-run
- The results from the Canadian Debt Strategy Model serve as the basis for the annual debt management strategy
The Canadian Debt Strategy Model

**Step 1:** Produces a long-run range of economic scenarios

**Step 2:** Evaluates a set of representative strategies under these scenarios

**Step 3:** Finds the group of efficient debt targets over a wide range of risk levels, and represents that with an Efficient Frontier
Current Debt Program
## Composition of Market Debt

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Marketable Bonds</td>
<td>469</td>
<td>474</td>
<td>488</td>
<td>503</td>
<td>544</td>
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<tr>
<td>Treasury Bills</td>
<td>181</td>
<td>153</td>
<td>136</td>
<td>136</td>
<td>134</td>
</tr>
<tr>
<td>Foreign Debt</td>
<td>11</td>
<td>16</td>
<td>20</td>
<td>24</td>
<td>24</td>
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<tr>
<td>Retail Debt</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>5</td>
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<tr>
<td>Total Market Debt</td>
<td>668</td>
<td>649</td>
<td>649</td>
<td>669</td>
<td>706</td>
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</tbody>
</table>
# Bond Program

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Gross Bond Issuance</td>
<td>96</td>
<td>88</td>
<td>99</td>
<td>92</td>
<td>133</td>
</tr>
<tr>
<td>Buybacks</td>
<td>-1.1</td>
<td>-1</td>
<td>-0.5</td>
<td>-0.7</td>
<td>-0.8</td>
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<tr>
<td>Net Issuance</td>
<td>94</td>
<td>86</td>
<td>98</td>
<td>92</td>
<td>132</td>
</tr>
<tr>
<td>Maturing Bonds and Adjustments</td>
<td>-74</td>
<td>-82</td>
<td>-84</td>
<td>-76</td>
<td>-92</td>
</tr>
<tr>
<td>Change in bond stock</td>
<td>21</td>
<td>4</td>
<td>15</td>
<td>16</td>
<td>41</td>
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</table>
Financial Assets
## Official International Reserves

<table>
<thead>
<tr>
<th>Description</th>
<th>August 31 2016</th>
</tr>
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<tbody>
<tr>
<td>Securities</td>
<td>67,748</td>
</tr>
<tr>
<td>Deposits</td>
<td>5,840</td>
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<tr>
<td>Total securities and deposits (liquid reserves)</td>
<td>73,588</td>
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<tr>
<td>Gold</td>
<td>0</td>
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<tr>
<td>SDRs</td>
<td>7,855</td>
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<tr>
<td>Total EFA</td>
<td>81,443</td>
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<tr>
<td>IMF reserve position</td>
<td>2,313</td>
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<tr>
<td>Total official international reserves</td>
<td>83,756</td>
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</tbody>
</table>
## Official International Reserves – Currency Composition

<table>
<thead>
<tr>
<th>August 31 2016</th>
<th>Millions of USD</th>
<th>% of Liquid Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>US dollars</td>
<td>51,766</td>
<td>70.3</td>
</tr>
<tr>
<td>Euro</td>
<td>15,285</td>
<td>20.8</td>
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<tr>
<td>Pound Sterling</td>
<td>5,910</td>
<td>8.0</td>
</tr>
<tr>
<td>Yen</td>
<td>627</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73,588</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
An ALM Strategy
Asset/Liability Management

- The national balance sheet has CAD670 billion in debt and about CAD95 billion in liquid financial assets (denominated in foreign currency).
- This mismatch between the currency and term-to-maturity of the assets and liabilities raises financial risks.
- Joint management of the assets and liabilities can reduce fiscal volatility.
Asset/ Liability Management

- Canada manages its reserve assets on an ALM basis
  - Reserves assets have an associated liability
  - Align assets and liabilities as closely as possible in terms of currency and duration to effectively eliminate currency and interest rate risks
  - Explicitly transform the funding of the reserves into foreign currency liabilities
    - Direct foreign currency issuance
    - Cross-currency swaps of domestic debt
Benefits of ALM

- Effectively mitigates adverse impacts from changes in interest rates and foreign exchange rates
- In the case of Canada, the FX and interest rate risk of the EFA is minimal — VaR of < 0.05% of the value of the liquid reserves
- ALM enhances transparency of funding cost and investment return
- Funding costs are equal to the spread between the return on reserve assets and the yield on the matched liability.
Challenges

- Credit risk is not hedged in the ALM framework
  - Can be significant basis risk between the assets and liabilities
- Intervention opens unhedged FX position; not suited to a country with an active intervention policy
- Typically relatively expensive
  - Countries have a comparative advantage in borrowing in their domestic currency
  - Direct foreign currency funding can be expensive
  - Liquid CCS markets may not exist
Canada’s Experience

- ALM strategy has served Canada extremely well
- There are a number of factors that explain this:
  - Floating exchange rate with very infrequent intervention. Reserves stay hedged.
- High credit quality and well-developed capital markets means Canada can borrow relatively cheaply, both directly and synthetically
  - Lowest cost SSA borrower. Direct issuance at <10 bps over US Treasuries.
  - Synthetic borrowing (CCS) at rates substantially below reference issuers.
- Allows Canada to meet its objectives (liquidity and capital preservation) at a positive net return and materially reduces financial risk (fiscal volatility)
Questions?