Measuring Impact of Canadian Pension Funds

October 2015
Executive Summary

Top Ten – 10 largest public pension funds\(^1\) in Canada, each with $15B+ in AuM – represent a unique aspect of the Canadian retirement landscape

Top Ten include some of the world’s largest pension funds, had >$1.0T in pension AuM in 2014 and a growth primarily driven by significant investment returns

- From 2003 to 2014, pension AuM tripled: net flows to the Top Ten funds from pension plans totaled ~$150B, while investment returns drove an increase of ~$600B
- In 2014, 8 funds are in the top 100, 3 in the top 20 globally

Top Ten have a specific investment model: invest in alternative assets, manage internally at low cost

- Top Ten have ~32% of assets invested in alternative classes (e.g. infrastructure, PE, real estate) vs. <10% for most other pension funds, <5% for retail investors; this allows for greater diversification and alignment with long-term payout profile
- A large proportion of assets managed internally which is generally much more cost effective than externally

In addition to supporting the retirement needs of members, Top Ten have a broader impact on the economy

- ~$600B gross investments in Canada, strong contributors to corporate governance practices in Canada and elsewhere
- Stable source of employment, with ~11,000 professionals, including the real estate divisions
- Well-known Canadian "brand" globally in the investment world, participating in some of the largest deals in recent years

\(^{1}\) Pension fund managers
Snapshot of the Top Ten Pension Funds

Manage >$1.1T of assets
For 49 underlying pension plans, and many more insurance plans & other depositors

Generated ~$600B in net investment returns from 03-14
Enough to provide ~$60,000/year for ~20 years to ~500,000 people

Hold ~32% of investments in alternative asset classes
Asset mix more diverse than "typical" retail options

Are prominent, global players in the alternative asset mgmt industry
7 of top 30 global infrastructure investors, 5 of top 30 real estate investors

Represent some of the world’s largest pension funds
8 funds in the top 100, 3 in the top 20

Invest +$600B across various asset classes in Canada
Investors behind several Canadian landmark assets and flagship companies

Manage ~75% of assets internally
Developed in-house expertise to invest in less liquid asset classes like private equities and infrastructure

Employ ~11K individuals

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1. Pension fund managers 2. Including Real Estate subsidiaries that account for ~5,000 jobs
Source: StatsCan, annual reports, fund data, BCG analysis.
## Overview of the Top Ten pension funds

<table>
<thead>
<tr>
<th>Fund</th>
<th>Description</th>
<th>2014 Net AuM: pension ($B)</th>
<th>2014 Net AuM: total ($B)</th>
<th># of underlying pension plans</th>
<th># of plan members (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPP</td>
<td>Asset manager for Canada Pension Plan</td>
<td>265</td>
<td>265</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>CAQ</td>
<td>Asset manager with 33 public and parapublic sector funds</td>
<td>192</td>
<td>226</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td>OTO</td>
<td>Asset manager &amp; plan administrator for Ontario teachers</td>
<td>154</td>
<td>154</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>PSP</td>
<td>Asset manager for multiple Federal pension plans</td>
<td>112</td>
<td>112</td>
<td>4</td>
<td>0.8</td>
</tr>
<tr>
<td>BCI</td>
<td>Asset manager for BC pension plans, insurance funds, and other public sector clients</td>
<td>104</td>
<td>124</td>
<td>11</td>
<td>0.5</td>
</tr>
<tr>
<td>OMS</td>
<td>Asset manager &amp; plan administrator for pensions of Ontario municipal employees</td>
<td>73</td>
<td>73</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>HOOP</td>
<td>Asset manager &amp; plan administrator for Ontario healthcare employees</td>
<td>61</td>
<td>61</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>AIMC</td>
<td>Asset manager for multiple Alberta pensions, endowment &amp; government funds</td>
<td>50</td>
<td>84</td>
<td>8</td>
<td>0.3</td>
</tr>
<tr>
<td>OPB</td>
<td>Asset manager &amp; administrator for Ontario Public Service Pension</td>
<td>22</td>
<td>22</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>OPTrust</td>
<td>Asset manager &amp; administrator of OPSEU Pension Plan</td>
<td>18</td>
<td>18</td>
<td>1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

| | | 1,049 | 1,137 | 49 |

1. Pension fund managers
   
   Note: December 31st 2014 for all funds except for CPPIB, bCIMC and PSP Investments (March 31st 2015)
   
   Source: Annual reports, fund data, internet research, BCG analysis
### Top Ten among largest pension funds¹ in Canada and globally

<table>
<thead>
<tr>
<th>Pension fund¹</th>
<th>Rank Canada</th>
<th>Rank Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPP Investment Board</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>PSP</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>OMERS</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>HOOPP</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>AIMCo</td>
<td>5</td>
<td>35</td>
</tr>
<tr>
<td>OPB</td>
<td>6</td>
<td>56</td>
</tr>
<tr>
<td>BC Postes &amp; Télécommunications</td>
<td>7</td>
<td>69</td>
</tr>
<tr>
<td>Hydro Québec</td>
<td>8</td>
<td>84</td>
</tr>
<tr>
<td>Bell</td>
<td>9</td>
<td>192</td>
</tr>
<tr>
<td>Canada Post</td>
<td>10</td>
<td>205</td>
</tr>
<tr>
<td>Post Canada</td>
<td>11</td>
<td>208</td>
</tr>
<tr>
<td>Air Canada</td>
<td>12</td>
<td>220</td>
</tr>
<tr>
<td>CN</td>
<td>13</td>
<td>240</td>
</tr>
<tr>
<td>OPTrust</td>
<td>14</td>
<td>250</td>
</tr>
<tr>
<td>Air Canada</td>
<td>15</td>
<td>265</td>
</tr>
</tbody>
</table>

¹. Pension fund managers  
Note: Original ranking compared size of top 300 pension plans based on pension AuM, to compare funds Canadian plans administered by the same manager were grouped – rankings were adjusted accordingly.  
Source: Pensions & Investments / Towers Watson 300 analysis - September 2014; Preqin database, internet research, BCG analysis
Funds among top infrastructure investors

Top global infrastructure investors, by infrastructure net AuM (US$B)

Note: Ranking of 2,307 investors (excluding individual investors); some amounts were adjusted to account for liabilities to ensure consistent methodology across funds; USD/CAD = 1.31487 (August 2015 avg.)

Source: Prequin 2015, Fund data, internet research, BCG analysis
...and among top real estate investors globally

Top global real estate investors, by real estate net AuM (US$B)

Note: Ranking of 2,989 investors (excluding individual investors); some amounts were adjusted to account for liabilities to ensure consistent methodology across funds; CDPQ AuM were adjusted to include non-Ivanhoé Cambridge AuM (as provided by fund); USD/CAD = 1.31487 (August 2015 avg.)
Source: Prequin 2015, BCG analysis
AuM of Top Ten have tripled since 2003
Investment returns driving ~80% of increase

Net pension AuM ($B)

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>385</td>
<td>473</td>
<td>552</td>
<td>536</td>
<td>509</td>
<td>664</td>
</tr>
<tr>
<td>2004</td>
<td>403</td>
<td>552</td>
<td>582</td>
<td>646</td>
<td>712</td>
<td>798</td>
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<tr>
<td>2005</td>
<td>536</td>
<td>582</td>
<td>664</td>
<td>798</td>
<td>838</td>
<td>909</td>
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<tr>
<td>2006</td>
<td>552</td>
<td>664</td>
<td>712</td>
<td>798</td>
<td>838</td>
<td>909</td>
</tr>
<tr>
<td>2007</td>
<td>536</td>
<td>582</td>
<td>664</td>
<td>712</td>
<td>798</td>
<td>909</td>
</tr>
<tr>
<td>2008</td>
<td>552</td>
<td>582</td>
<td>664</td>
<td>712</td>
<td>798</td>
<td>909</td>
</tr>
<tr>
<td>2009</td>
<td>536</td>
<td>582</td>
<td>664</td>
<td>712</td>
<td>798</td>
<td>909</td>
</tr>
<tr>
<td>2010</td>
<td>552</td>
<td>582</td>
<td>664</td>
<td>712</td>
<td>798</td>
<td>909</td>
</tr>
<tr>
<td>2011</td>
<td>536</td>
<td>582</td>
<td>664</td>
<td>712</td>
<td>798</td>
<td>909</td>
</tr>
<tr>
<td>2012</td>
<td>552</td>
<td>582</td>
<td>664</td>
<td>712</td>
<td>798</td>
<td>909</td>
</tr>
<tr>
<td>2013</td>
<td>536</td>
<td>582</td>
<td>664</td>
<td>712</td>
<td>798</td>
<td>909</td>
</tr>
<tr>
<td>2014</td>
<td>552</td>
<td>582</td>
<td>664</td>
<td>712</td>
<td>798</td>
<td>909</td>
</tr>
</tbody>
</table>

Note: Sum of fiscal years, e.g. year-ended March 31, 2015 = 2014. For CPPIB, bcIMC, PSP Investments and AIMCo ends on March 31
Source: Annual reports, BCG analysis.

Total increase: 752 $B

Top Ten pension funds with different return objectives across, delivered ~$600B overall in net investment returns

Net investment returns represent >50% of total Top Ten net assets
Scale of funds supports broader diversification

Scale enables higher alternative assets allocations

Alternative\(^1\) investments asset allocation (%)

<table>
<thead>
<tr>
<th>Plan asset range</th>
<th>&lt; 25M</th>
<th>25 - 250M</th>
<th>250M - 10B</th>
<th>&gt; 10B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio</td>
<td>1</td>
<td>4</td>
<td>11</td>
<td>27</td>
</tr>
</tbody>
</table>

Asset mix of Top Ten more diverse than "typical" retail options

Asset class mix (%)

<table>
<thead>
<tr>
<th>Asset class</th>
<th>Conservative</th>
<th>Balanced</th>
<th>Growth</th>
<th>Top Ten(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>3</td>
<td>9</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>Private Equity</td>
<td>6</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td>14</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real Estate</td>
<td></td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Equity</td>
<td></td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US equity</td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cdn Equity</td>
<td></td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US Bonds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cdn Bonds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sample low-cost ETF retail portfolios\(^2\)

Ability to create well diversified portfolios, and to invest in assets aligned with long-term payout profiles

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1. Includes infrastructure, real estate, hedge funds, private equity; includes top 1000 pension funds only. 2. Based on sample of 76 ETFs in BMO, Horizon and iShares ETF Model Portfolios 3. Sum of Top Ten AuM

Source: Canadian Institutional Investment Network - Chronicle: An Overview of Pension Plans in Canada 2014 (top 1000 pension plans collected from March 1 to October 31 2014), annual reports, internet research, BCG analysis
Top Ten directly employ ~11,000 individuals

Overall contribution to the financial services sector in Canada

Serve as financial services anchors for creating talent clusters in multiple Canadian cities
- Able to attract home Canadian talent currently working abroad
- Able to "export" Canadian talent to gain global experience

Offer unique and global experience to investment professionals
- Asset management in public markets often with greater, more global scope
- Exposure to infrastructure, real estate, PE that few other asset managers in Canada can offer

Source: Fund data, annual reports, BCG analysis.
Top Ten are major long-term investors in Canada

Over $600B invested across various asset classes in Canada

Estimated 2014 Top Ten gross investments by class, country ($B)

- Total Top Ten gross investments: 427
- Public equity: 98
- Bonds: 294
- Private equity: 124
- Real Estate: 184
- Infrastructure: 18
- Foreign: 70
- Canada: 113

Small sample of investments in Canada

Source: Annual reports, StatsCan, Preqin, TMX, Bank of Canada, Fund data, BCG analysis
Top Ten are investors behind several Canadian landmark assets and flagship companies

1. **bcIMC, CDPO – InTransitBC**
   - **Infrastructure**
   - Company responsible for operating the Canada Line with ~40M commuters / year

2. **Teachers – Heritage Royalty**
   - **Natural resources**
   - Portfolio of oil and gas royalties in Western Canada, with ~4.8M acres of fee title lands acquired for $3.3B

3. **PSP Investments – Telesat**
   - **Private equity**
   - Leading global satellite operator with revenues >$900M

4. **CDPQ – Ivanhoé Cambridge**
   - **Real estate**
   - Invests in high-quality properties and companies in select cities globally, Portfolio valued at >$48B

5. **CDPQ – CGI**
   - **Private/public equity**
   - Global leader in IT consulting, systems integration and solutions with revenues >$10B

6. **CPPIB – Henday Industrial Park**
   - **Real estate**
   - CPPIB committed ~$200M (85% interest) to transform a 250 acre industrial site in Edmonton into ~4M sq ft of dist. and logistics warehousing

7. **OPTrust – dentalcorp**
   - **Private equity**
   - Leading dental practice management company in Canada with ~140 locations and >2,000 team members

8. **OMERS – Oxford Properties**
   - **Real estate**
   - $20B in AuM and 50M sq ft of Canada’s best office, retail, multi-residential, industrial & hotel real estate

9. **PSP Investments & bcIMC – TimberWest**
   - **Natural resources**
   - Western Canada’s largest private timberland company with sales of ~$300M when taken private in 2010

10. **OMERS – Bruce Power**
    - **Infrastructure**
    - Largest operating nuclear-generating facility in the world, producing 6.3k megawatts, or 30% of Ontario’s annual electricity needs

11. **bcIMC – Southcore Financial Centre**
    - **Real estate**
    - Large-scale, mixed-use dev. project with 3 buildings: the PwC Tower, the Delta Toronto Southcore and 120 Bremner

12. **Teachers – Cadillac Fairview**
    - **Real estate**
    - Owns and manages some of Canada’s landmark office and shopping centre developments with a portfolio valued at >$22B

13. **PSP Investments – Reversa**
    - **Real estate**
    - Leading providers of seniors’ accommodation and services with >500 locations in Canada and the US

14. **HOOPP – Brentwood Town Centre**
    - **Real estate**
    - Mixed use transit development with 1.1M sq ft of retail space and 1,200 residential units in two 57 storey towers

15. **CPPIB – Highway 407**
    - **Infrastructure**
    - First all-electronic open-access toll highway in the world connecting the GTA to 7 other large freeways

16. **AIMCo – Yorkdale**
    - **Real estate**
    - Fifth largest shopping mall in Canada with sales over $1B

17. **CPPIB – WSP**
    - **Private equity**
    - Leading global engineering services firm with revenues of >$2.9B

18. **CPPIB, AIMCo, Teachers, CDPQ – TMX**
    - **Public equity**
    - Operates equities, fixed income, derivatives, and energy markets, including the Toronto Stock Exchange

19. **Teachers – Heritage Royalty**
    - **Natural resources**
    - Portfolio of oil and gas royalties in Western Canada, with ~4.8M acres of fee title lands acquired for $3.3B

20. **CPPIB – Henday Industrial Park**
    - **Real estate**
    - CPPIB committed ~$200M (85% interest) to transform a 250 acre industrial site in Edmonton into ~4M sq ft of dist. and logistics warehousing

Source: Fund data, internet research

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Canadian pension funds well known around the world

PSP Investments, bcIMC, CPPIB – Transelec
- Largest electricity transmission company in Chile, operating a network that carries electricity to 98% of the population

Teachers – AndesCan
- Holding company with water and electricity assets providing essential services to >8M people in Chile

OMERS – Oxford Properties
- Purchased 5 Boston-area high rises from Blackstone Group LP for $2.1B

AIMCo – Porterbrook Rail
- 2nd largest owner and lessor of trains in the UK with ~5.9k vehicles

AIMCo – Grupo SAESA
- Chile’s 2nd largest Transmission and Distribution Company

Teachers – Camelot Group
- UK National Lottery operator providing consulting services to lotteries worldwide with revenues of ~$13.5B

OMERS – NET4GAS
- Czech-based gas transmission operator with a network of >3,800 km of high-pressure pipelines

CDPQ - Eurostar
- ~$850M investment for a 30% stake in European high speed rail operator carrying >10M passengers per year

IMCo – Forest Investment Trust
- Natural resources
  - One of the largest private landowners in Australia with >265k hectares of land

PSP Investments - ING Life Korea
- Private equity
  - Fifth-largest life insurance company in Korea with $20B in assets

AIMCo – L&T Infra. Dev. Projects
- Largest toll-road concession portfolio in India, inc. 19 toll roads spanning over 2,200 km

CPPIB – Neiman Marcus Group
- Private equity
  - One of the largest luxury fashion retailers in the world with revenues >$5B

OPTrust – Globalvia
- Real estate
  - Portfolio of 21 toll roads and passenger rail infrastructure assets in Europe and Latin America with revenues of ~$400M

PSP Investments – Kaingaroa Forest
- Natural resources
  - 178k hectare forest estate with one of world’s premier softwood timber plantation

Source: Fund data, internet research
Disclaimer

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