Wealth in Canada:
Recent Developments in Micro and Macro Measurement

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Presented and Discussed by Thomas Crossley (Essex and IFS)

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Overview

This paper provides:

- a retrospective on macro household wealth measurement in Canada
- a retrospective on micro household wealth measurement in Canada
- a description of efforts on micro-macro linkage, and particularly new distributional tables
- some illustrative results.
Motivation

Household wealth is a key policy concern in Canada

- adequacy of the pension system
- effects of real estate bubbles
- sustainability of rising consumer debt.
The Household Sector in the National Balance Sheet Accounts

Statistics Canada has had a long program of developing household sector balance sheets:

- 1997 integrated sector accounts
- 2000s improved frequency, valuation of some tradeable securities
- 2010 pension satellite account (covers entire retirement system)
- 2011 new financial indicators (household debt to GDP, debt service ratio, more)
- 2012-15 alignment with SNA 2008
  - 2012 remaining assets moved to market valuation
  - 2012 NPISH broken out
  - 2015 Actuarial valuation of pensions
The Household Sector in the National Balance Sheet Accounts

Future plans include:

▶ From-whom-to-whom detail in FA
  ▶ richer understaning of exposure

▶ 2000s improved frequency, valuation of some tradeable securities

▶ Interest and Dividends Matrix
  ▶ coherence
Micro data on household wealth

Occasional asset and debt modules in the Survey of Consumer Finance, 1957-1984

Survey of Financial Security

- varying sample size (9,000-23,000)
- wealthy areas over-sampled
- detail on pension and pension wealth (npv) gave more comprehensive picture
- response rate around % 70

Permanent funding secured in 2015 for a triennial survey, starting with 2016
Household distribution tables

Work under way to develop annual household wealth distribution tables, linked to NA (NBSA).

Part of a larger macro-micro linkage project to estimate distribution of NA income, consumption and saving of household sector

- addresses Stiglitz, Sen, Fitoussi recommendations
Estimation of distributional information

Figure 1. A step-by-step approach for the estimation of distributional information

1. Adjust national accounts totals
2. Determine relevant variables from micro data sources in relation to the national accounts variables
3. Impute for missing elements and scale the micro data to the adjusted national accounts totals
4. Clustering households
5. Derive relevant indicators for the household groups
SFS aligns well with NBSA

<table>
<thead>
<tr>
<th></th>
<th>SFS 2012</th>
<th>NBSA 2012Q3 pre-revision</th>
<th>NBSA 2012Q3 post-revision</th>
<th>Coverage Pre-Revision (SFS/NBSA)</th>
<th>Coverage Post-Revision (SFS/NBSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assets</td>
<td>9,368</td>
<td>8,632</td>
<td>9,327</td>
<td>108.5%</td>
<td>100.4%</td>
</tr>
<tr>
<td>Total Financial Assets</td>
<td>4,666</td>
<td>4,589</td>
<td>4,778</td>
<td>101.7%</td>
<td>97.7%</td>
</tr>
<tr>
<td>Life Ins. &amp; Pensions</td>
<td>1,871</td>
<td>1,614</td>
<td>1,878</td>
<td>115.9%</td>
<td>99.6%</td>
</tr>
<tr>
<td>Other Financial Assets</td>
<td>2,795</td>
<td>2,975</td>
<td>2,900</td>
<td>93.9%</td>
<td>96.4%</td>
</tr>
<tr>
<td>Total Non-Financial Assets</td>
<td>4,701</td>
<td>4,042</td>
<td>4,549</td>
<td>116.3%</td>
<td>103.4%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>4,186</td>
<td>3,490</td>
<td>3,980</td>
<td>119.9%</td>
<td>105.2%</td>
</tr>
<tr>
<td>Other Non-Fin. Assets</td>
<td>515</td>
<td>552</td>
<td>569</td>
<td>93.4%</td>
<td>90.6%</td>
</tr>
<tr>
<td>Total Debt</td>
<td>1,337</td>
<td>1,681</td>
<td>1,688</td>
<td>79.5%</td>
<td>79.2%</td>
</tr>
<tr>
<td>Mortgage Debt</td>
<td>1,030</td>
<td>1,063</td>
<td>1,063</td>
<td>96.9%</td>
<td>96.9%</td>
</tr>
<tr>
<td>Other Debt</td>
<td>307</td>
<td>618</td>
<td>626</td>
<td>49.7%</td>
<td>49.1%</td>
</tr>
<tr>
<td>Net Worth</td>
<td>8,030</td>
<td>6,951</td>
<td>7,639</td>
<td>115.5%</td>
<td>105.1%</td>
</tr>
</tbody>
</table>
Social Policy Simulation Database and Model (SPSD/M)

Statistics Canada’s microsimulation tool

- data base combines tax return data, UE claimant histories, survey data on income, consumption
- 300,000 ”composite” individuals (100,000 households),
- non-condential, statistically representative
- data base available as a pubic-use microdata file
- static accounting model computes taxes and transfers

Key idea: SPSD/M database ideal starting point for integrated distributions of macro income, consumption, saving, wealth.
Strategy

Figure 2

General Estimation Strategy for the Annual Household Distribution Tables

Benchmark Period

Social Policy Simulation Database/Model
100,000 composite households
Micro concepts of income, and consumption, household characteristics
Canadian Income Survey, Personal Income Tax Returns, EI Claimant History, Survey of Household Spending, etc.
Public use micro file

Integrate Survey of Financial Security (SFS)
Estimate SNA concepts (imputed rent, FISIM, STIK, employer contributions)
Scale to macro totals

National Accounts Micro-Foundations Database
100,000 composite households
Macro concepts of income, consumption, saving and wealth, household characteristics
SPSD/M sources and SFS
Public use micro file
Annual Household Distribution Tables for official release
Illustrative Findings (1)

<table>
<thead>
<tr>
<th>Income Quintile</th>
<th>Net Worth</th>
<th>1999</th>
<th>% of Total</th>
<th>2012</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td></td>
<td>7%</td>
<td>6%</td>
<td></td>
<td></td>
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<tr>
<td>Q2</td>
<td></td>
<td>12%</td>
<td>13%</td>
<td></td>
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<tr>
<td>Q3</td>
<td></td>
<td>17%</td>
<td>17%</td>
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<td></td>
</tr>
<tr>
<td>Q4</td>
<td></td>
<td>24%</td>
<td>24%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q5</td>
<td></td>
<td>40%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3.1 NBSA Net Worth ($ millions) by Age Group of Head of Household, 1999 & 2012

<table>
<thead>
<tr>
<th>Age Group</th>
<th>1999 Net Worth</th>
<th>1999 # of HH</th>
<th>2012 Net Worth</th>
<th>2012 # of HH</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;35</td>
<td>7%</td>
<td>22%</td>
<td>5%</td>
<td>20%</td>
</tr>
<tr>
<td>35-44</td>
<td>18%</td>
<td>25%</td>
<td>13%</td>
<td>18%</td>
</tr>
<tr>
<td>45-54</td>
<td>26%</td>
<td>20%</td>
<td>25%</td>
<td>21%</td>
</tr>
<tr>
<td>55-64</td>
<td>24%</td>
<td>13%</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>65+</td>
<td>25%</td>
<td>20%</td>
<td>28%</td>
<td>22%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Conclusions

Stay tuned. (Public release: end of 2017)
Comments and Questions

Canadian record on wealth measurement impressive (especially macro)
  ▶ SFS funding is excellent news
  ▶ micro-macro linkage plans too

Net worth share of top quintile looks low (Table 1.1)?

How does the SFS do so well (response rate, coverage)?
  ▶ how does it do on the tail? (Vermuelen type analysis?)

Scaling micro-data to macro-totals
  ▶ how much?
  ▶ why? (understanding matters)

It would be nice to know more about the matching/imputation in the SPSD/M
  ▶ for some things you might do with microdata, it really matters.
Imputation concerns