New Evidence on Wealth Inequality in Canada

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- Wealth inequality is an important issue
- Research is constrained by the availability & reliability of data
- Particularly true in Canada
- New methods of wealth measurement have been developed and used in other countries

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Research Question: What do these new methods tell us about wealth inequality in Canada?

Prior Research in Canada

- Primary source of data on wealth: Survey of Financial Security (SFS)
  - Wealthiest 1% held 13.7% of all wealth in 2016
  - Davies, Fortin & Lemieux (2017): Decompose (lack of) change in wealth b/w '99 and '12

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- Limitations of the SFS for wealth inequality
  - Small sample: around 12,000 households in 2016
  - Poor coverage at the top: wealthiest person has $27 million in 2016; top-coded
  - Inconsistent trend: only 5 years since 1984 ('99, '05*, '12, '16, '19)

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  - Inconsistent trend: only 5 years since 1984 ('99, '05*, '12, '16, '19)
- Efforts to improve raw SFS for measuring wealth inequality
  - Brzozowski (2010): non-top-coded SFS for 1999
  - Davies and Di Matteo (2021): Pareto-interpolation method with billionaire wealth
  - ... but these methods still depend on the SFS

This Paper

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  - Method adapted from Saez & Zucman (2016)
- Capitalizes income flows from administrative tax data (LAD) using information from the national accounts (NBSAs) for the years 1990-2018
- Computes measures of wealth inequality and explores the role played by savings and capital gains

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- Provides some new facts about the evolution of the wealth distribution in Canada

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Marketable Wealth or Net Worth

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- From international standards of "System of National Accounts" (SNA)
- Includes: housing, equities, bank deposits, bonds, pension plans, unincorporated business
- Excludes: consumer durables (vehicles and TVs), artwork, future retirement benefits (CPP) and human capital

Data

- National Balance Sheet Accounts (NBSAs)
  - NBSAs have information on *aggregate* household net worth from 1990-2018
  - Total net worth grew from \$2.5T to \$10.3T between 1990 and 2018
  - K/Y ratio from 300% to over 700%, average net worth from \$200K to \$600K

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  Net Worth Stats Net Worth By Asset
- Longitudinal Administrative Databank (LAD)
  - Data on income by type from tax returns
  - 20% sample of the annual T1 Family File (T1FF) - over 5.6M obs. in 2018

Capitalization Method

- Intuition: if we can estimate the rate of return of different assets, we can convert capital income flows in administrative data into wealth
- Stems from the following identity:

$$r_j^i W_j^i = I_j^i \implies W_j^i = \frac{1}{r_j^i} I_j^i$$

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- Estimate a consistent rate of return within an asset class, $r_j^i = r_j \; \forall \; i$ Asset Categories
- Examples in 2018
  - Combined r_j for dividends and capital gains: 13.8%
  - Combined r_j for interest income: 1%

Capitalization Method

- Heterogeneous returns
  - Significant debate over the role of heterogeneous returns within asset classes
  - Follow approach of Saez & Zucman (2020) and multiply rate of return for those at the top by 1.4 after 2008
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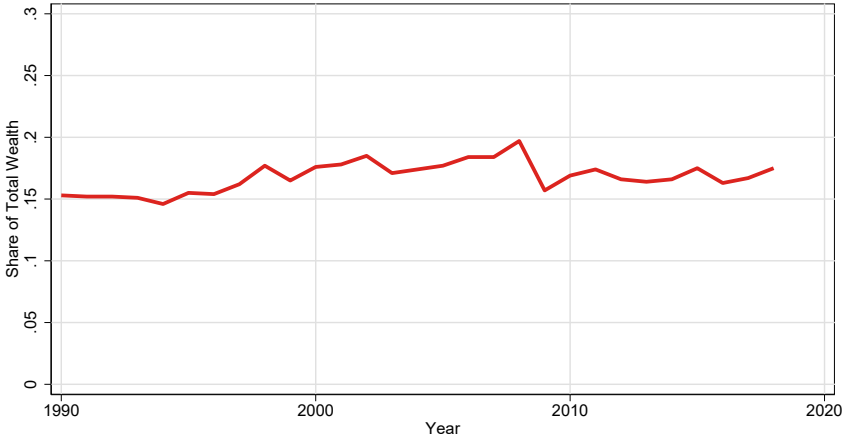
- Assets with no capital income
  - Impute values of housing and pensions using *distribution regression* techniques (Chernozhukov *et al.*, 2020)
  - Use of SFS less concerning because not held by those at the top
  - Find it does a decent job of replicating the SFS concentration Test

Top 1% Share of Wealth in Canada

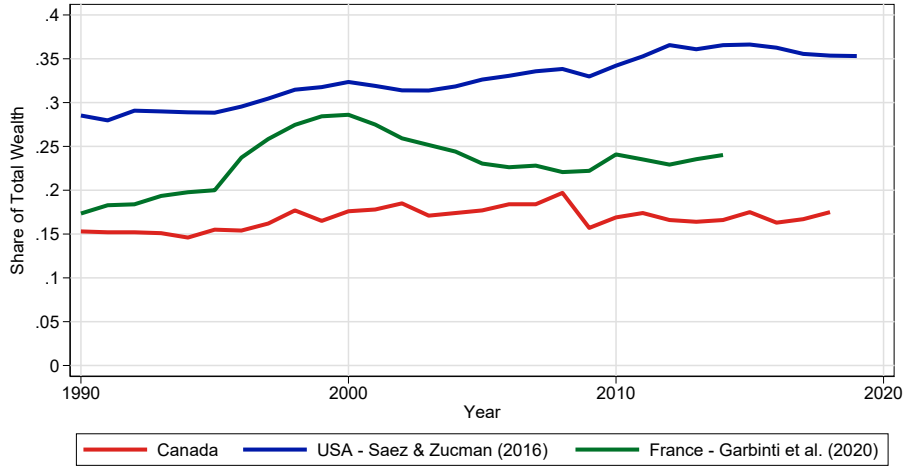


Other Measures of Wealth Inequality

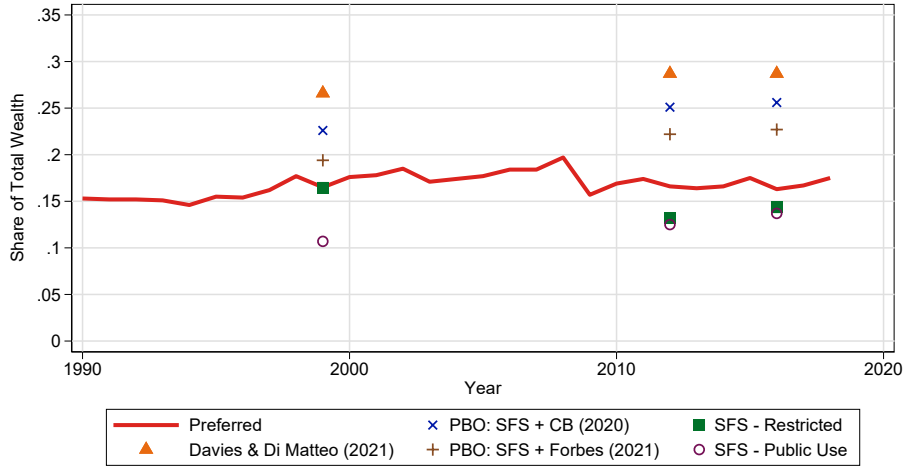
	Years				
	1990	1997	2004	2011	2018
On Aggregate					
Gini Coefficient	0.711	0.710	0.701	0.698	0.699
90/50 Ratio	7.9	7.3	6.5	6.3	6.1
Median Wealth	72,117	104,012	137,692	183,351	239,000
N	11,498,655	12,920,130	13,853,690	15,310,120	16,911,500
Top 0.1%					
Wealth %	4.5	5.2	6.3	6.3	6.4
Threshold	5,216,488	7,396,588	9,995,430	13,486,392	16,779,000
Mean	9,855,151	15,400,636	22,821,814	29,898,696	38,958,240

Dollar variables expressed in 2018 CAD

Comparing Canada to Other Countries



Comparing Results to Other Canadian Estimates



Summary of Results

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- Other measures of inequality
  - ↓ Gini coefficient, ↓ 90/50 ratio, ↑ median wealth
  - ↑ Top 0.1% share from 4.5% in 1990 to 6.4% in 2018

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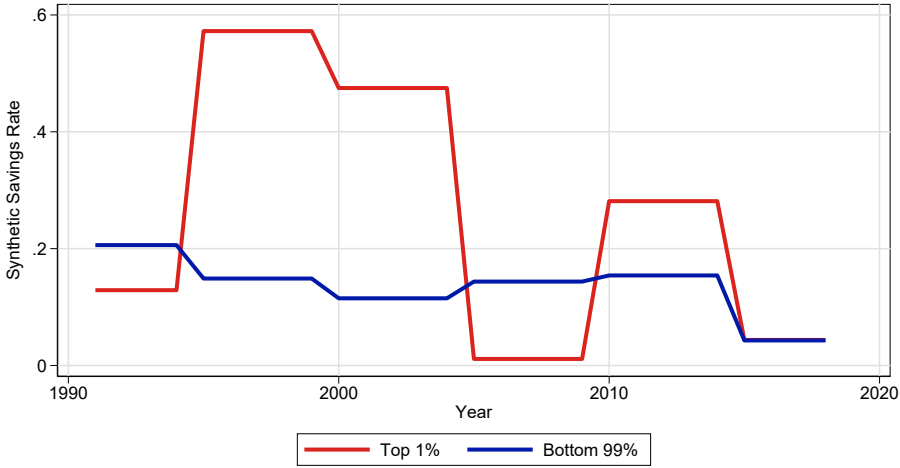
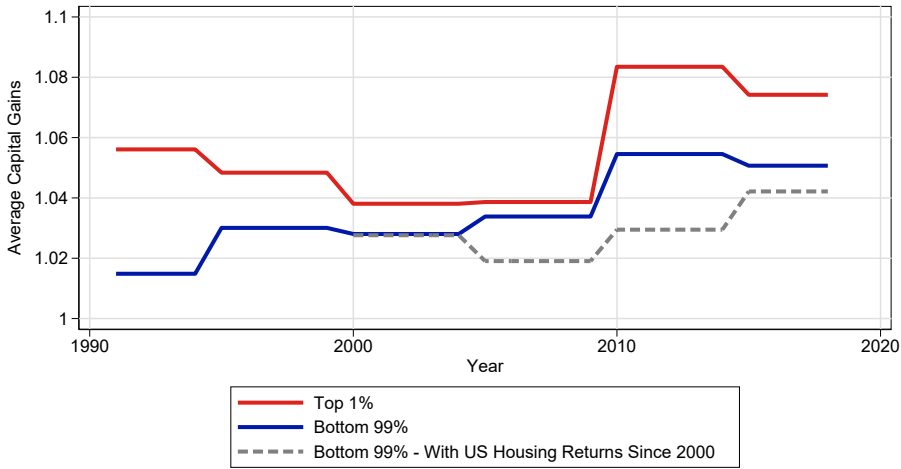
- Wealth share of top 1% will ↑ if investment or capital gains are ↑ than remaining 99%
- Estimate savings using capitalized wealth data broken down by asset and NBSA financial flows data
  - Compute average capital gains by asset and apply to wealth group portfolios
  - Residual of wealth in the next period is the group's savings

Synthetic Savings in Canada, 1990-2018



Capital Gains in Canada by Wealth Group, 1990-2018



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- Approach yields a number of important observations
  - Upward trend in the top 1% share changed in 2008 and flattened out
  - Top 1% share is $\downarrow$ than in other countries & trend is flatter
  - Pattern may be driven in part by lower savings rates among the top 1% since 2008
- Estimates can be useful inputs for further study of wealth inequality both in Canada and for cross-country comparisons

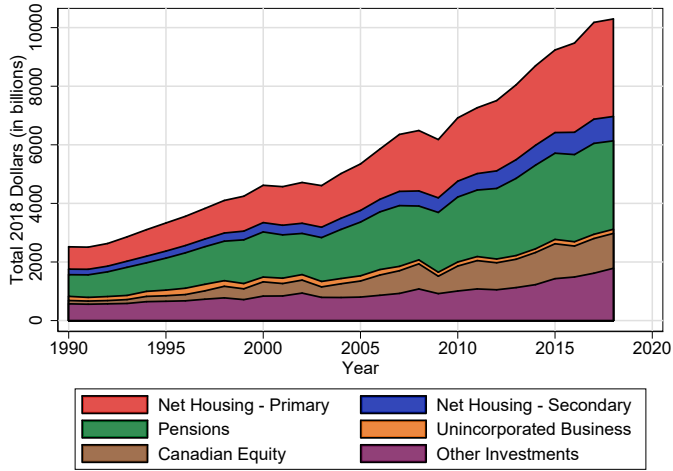
National Balance Sheet Accounts (NBSAs)

	Years				
	1990	1997	2004	2011	2018
Total Net Worth (in Millions)	2,518,539	3,827,947	5,018,988	7,265,858	10,296,541
Average Growth Rate (%)	.	6.21	4.03	5.56	5.14
Capital to Income Ratio	298%	435%	472%	575%	716%
Average Net Worth	219,029	296,278	362,285	474,579	608,848
Average Savings Rate (%)	13.10	10.21	4.29	3.57	3.30
Number Of Families	11,498,655	12,920,130	13,853,690	15,310,115	16,911,505

Dollar variables expressed in 2018 CAD $

Table: Net Worth Summary Statistics Return

National Balance Sheet Accounts (NBSAs)



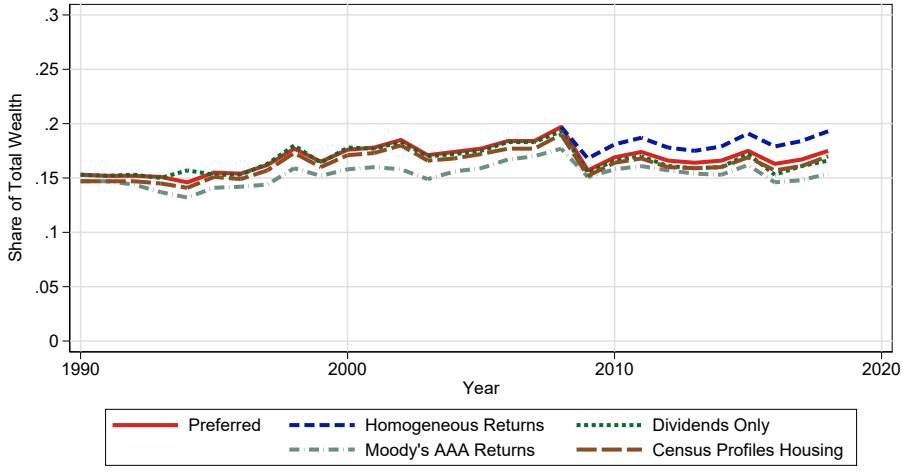
Return

Categorization of Assets

Categories	NBSA Variables	LAD Variables
Canadian Equity	Listed Shares Unlisted Shares	Eligible Canadian Dividends Non-Eligible Canadian Dividends Capital Gains
Other Investments	Currency and Deposits Debt Securities (Bonds) Foreign Equity	Interest and Other Investment Income
Unincorporated Business	Non-Residential Property Machinery Inventories Intellectual Property Other Receivables (Minus) Non-Mortgage Loans	Self-Employment Income
Pensions	Registered Pension Plans Registered Retirement Savings Plans	No Direct Capital Income Flow
Primary Residences	Residential Structures Land	No Direct Capital Income Flow
Other Real Estate	(Minus) Mortgages	Net Rental Income

Return

Robustness Checks



Return

Imputing Values: Test

	Variations		
	Census Profiles	SFS Imputation	SFS Values
1999	2.90	4.80	5.59
2012	2.80	4.50	5.63
2016	3.20	4.80	6.66

Table: Comparing Top 1% Share of Housing Across Imputation Approaches

- First column is housing values from census tracts in the Census
- Does a decent job of replicating SFS top 1% share and better than col. 1
  - Note: I'm using the non-top coded SFS in the RDC so that is not a concern here

Return