

Land and Inequality in Canada *1870-1930*

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INTRO

- 1870 to 1930 a period of economic growth for the Canadian economy.
- Economic growth accompanied by rising inequality
- Evolution of wealth inequality in Canada over the period 1870 to 1930 examined using probated estates from: Eastern Judicial District, Manitoba and Wentworth, County, Ontario.



Economic Growth, Wealth and Inequality

- Economic growth, industrialization and inequality correlated in 19th and early 20th centuries.
- Kuznets – inverted U-hypothesis between inequality and growth
- Evidence on Kuznets Relationship:
 - Williamson, Lindert, Higgins,
 - For Canada: Alan Green, Inwood & Irwin



Factors Affecting Inequality

- Growth in income and wealth
- Population characteristics – age, cohort size
- Technology
- Globalization
- Education supply and demand for skills



Two additional ingredients in inequality

- Link between inequality and the manner in which assets are held which influences returns and subsequent distribution of wealth.
- Effect of individual windfalls in wealth as a result of natural resource rents and particularly land endowments acquired during settlement phases.



Land Policies in New World

- United States, Canada and the rest of the Americas as well as Australia and New Zealand are regions of recent European settlement and new settlers often were the recipients of grants of either free or heavily subsidized land.



Examples of Land Policies

- United States, there were 497,083 homestead entries between 1881 and 1890 while from 1901 to 1910 homestead entries rose dramatically to 832,140.
- In Australia, the British Crown made grants of land to released convicts in New South Wales starting from 1788 though the practice ended in the 1830s.



Canada

- In Upper Canada, there were land settlement grants during the early nineteenth century that were accompanied by a massive expansion of population and economic activity.
- Canadian West: The Dominion government had a land grants policy that provided title to 160 acres of land to any settler over 18 years of age after three years of residence subject to minimum use of the land and a ten-dollar fee



Examining Inequality, Wealth and Land

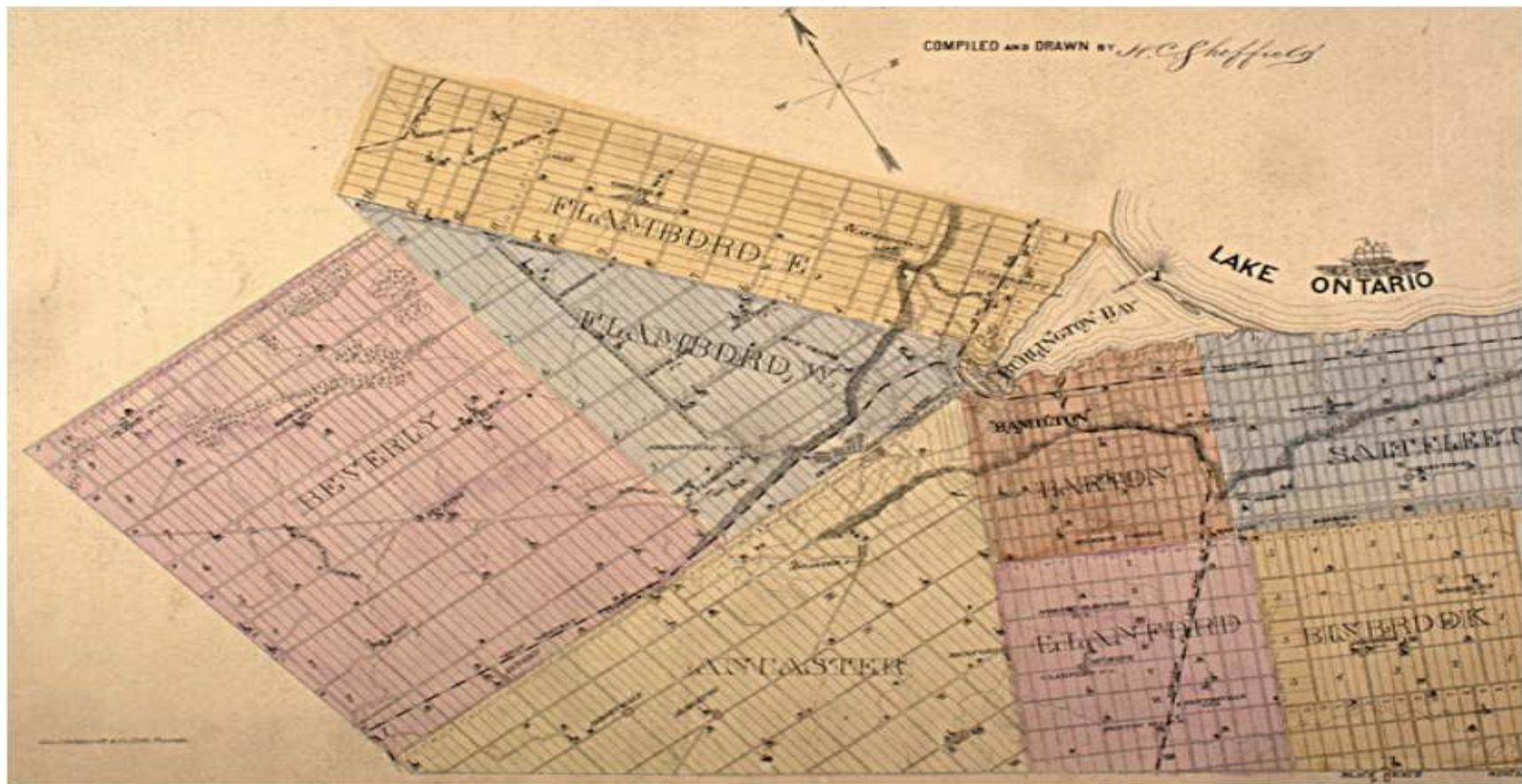
- Probate wealth data for Manitoba in the west and Ontario in the east over the period 1870 to 1930 provides an opportunity for comparing wealth distributions.
- Both regions are rooted in agricultural settlement with a key difference being the timing of European settlement.
- For Ontario, the Upper Canadian Settlement boom, which includes Wentworth County occurs prior to 1851. By 1870, southern Ontario and Wentworth County are long established regions.
- For Manitoba, the settlement boom occurs after 1870 and therefore its wealth distribution over the period 1870 to 1930 should be more closely tied to the distribution of land and employment in farming.



The Data

- Wentworth County, Ontario
 - 2,516 probated decedents from 1872-1927
- Eastern Judicial District of Manitoba
 - 500 probated decedents from 1875 to 1927

Wentworth County (Source: Canadian County Atlas Digital Project- circa 1880s)



Manitoba (Source: Department of the Interior, Canada, 1919)



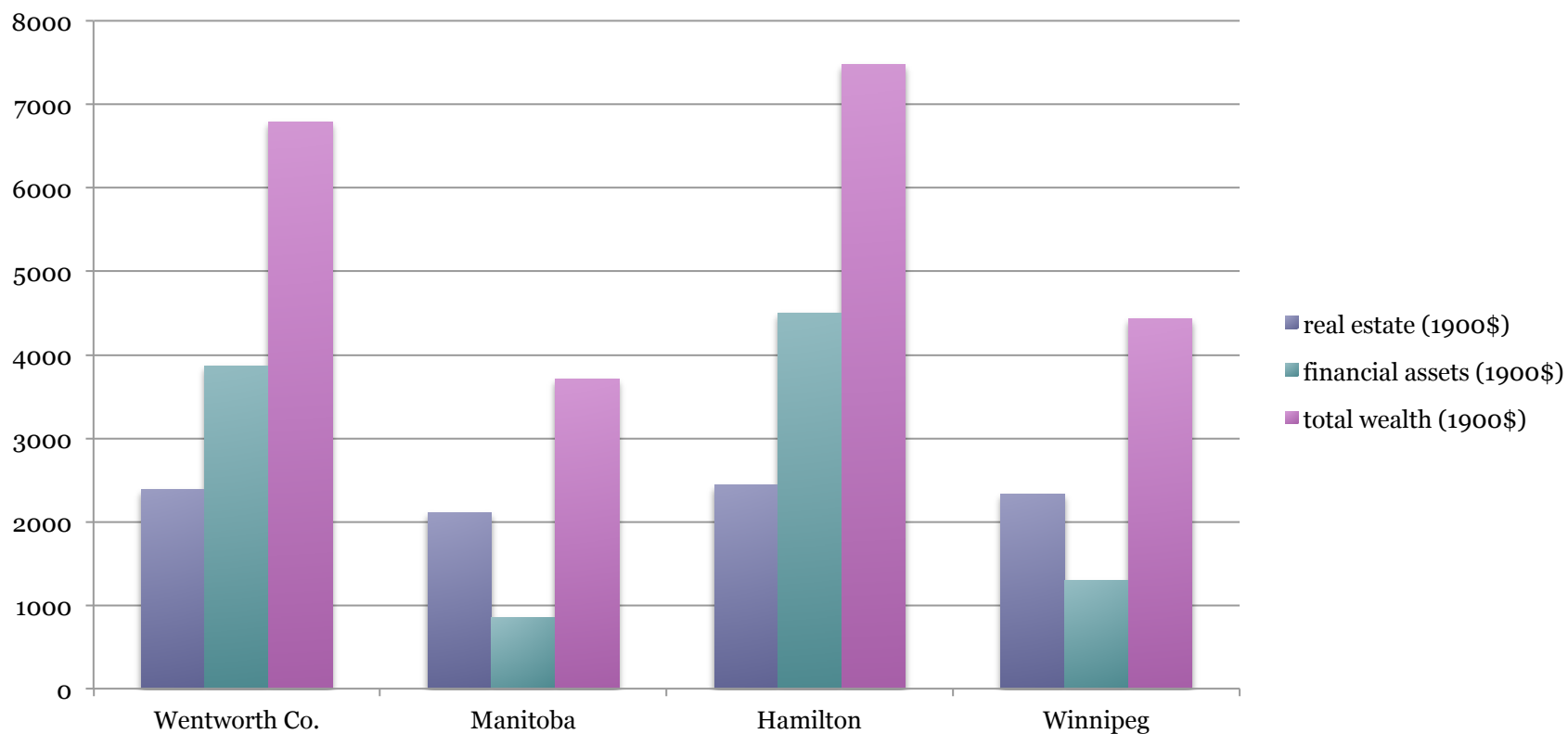


Analysis

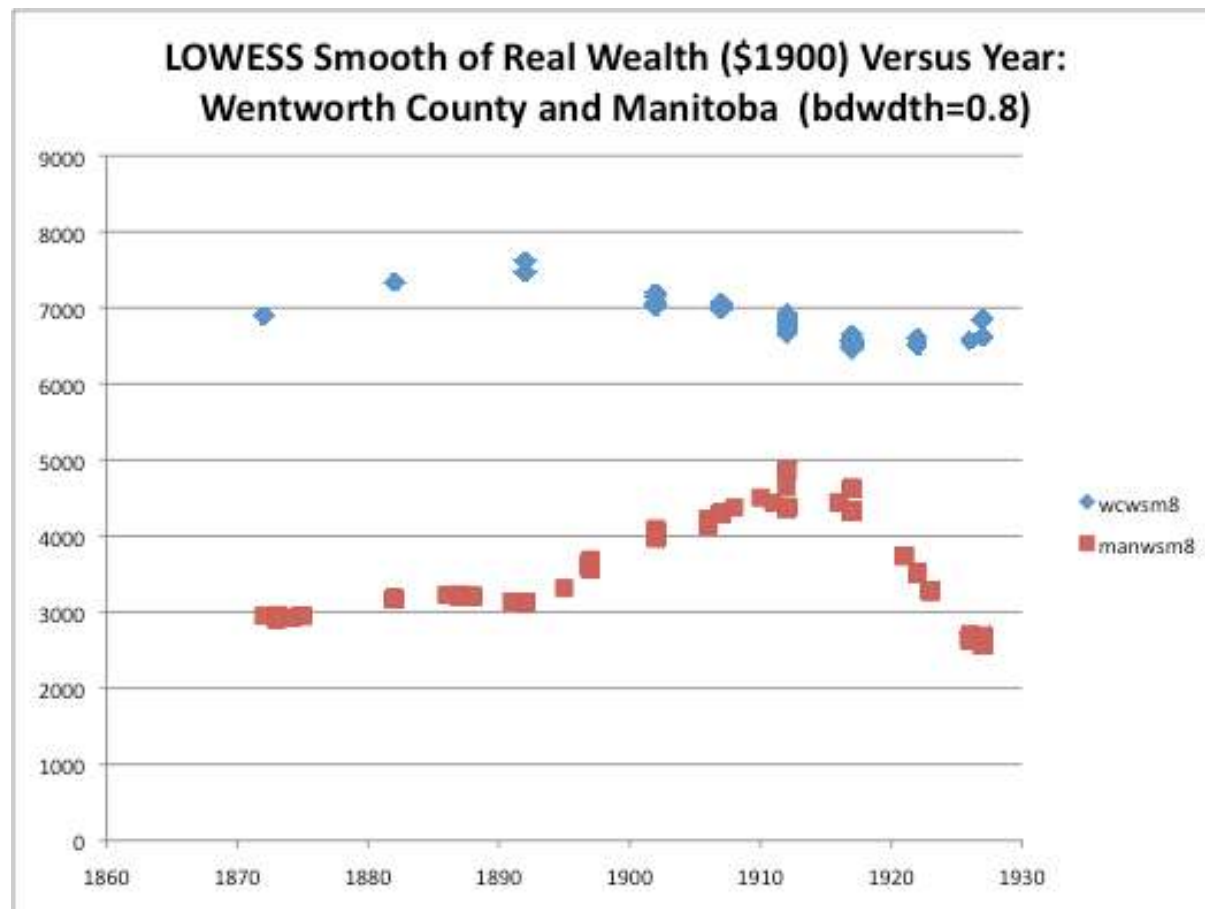
- Inequality measures constructed
 - Decile shares
 - Gini Coefficient
 - Theil Coefficient
 - Coefficient of Variation

Summary Wealth Characteristics

Average Per Person Probated Wealth: 1872-1927

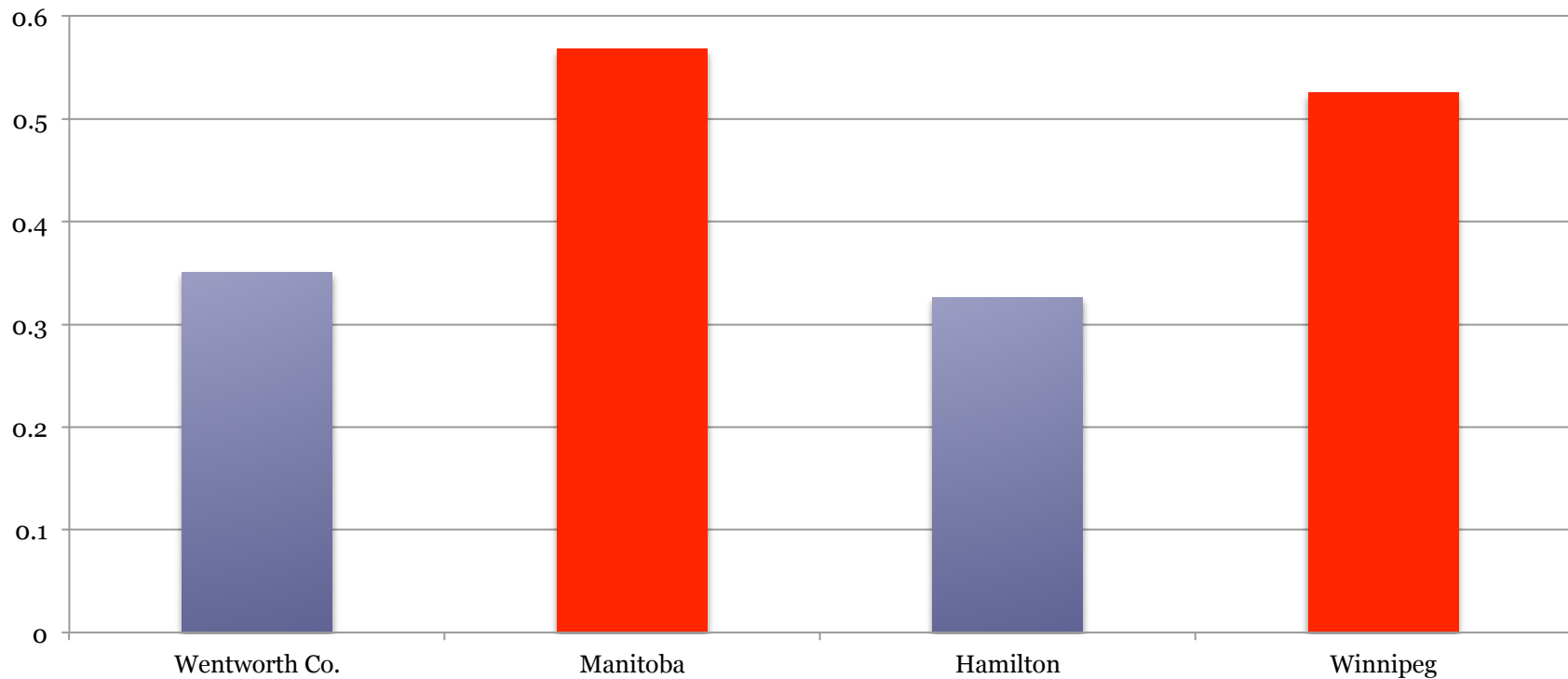


Per Person Wealth Trends Over time



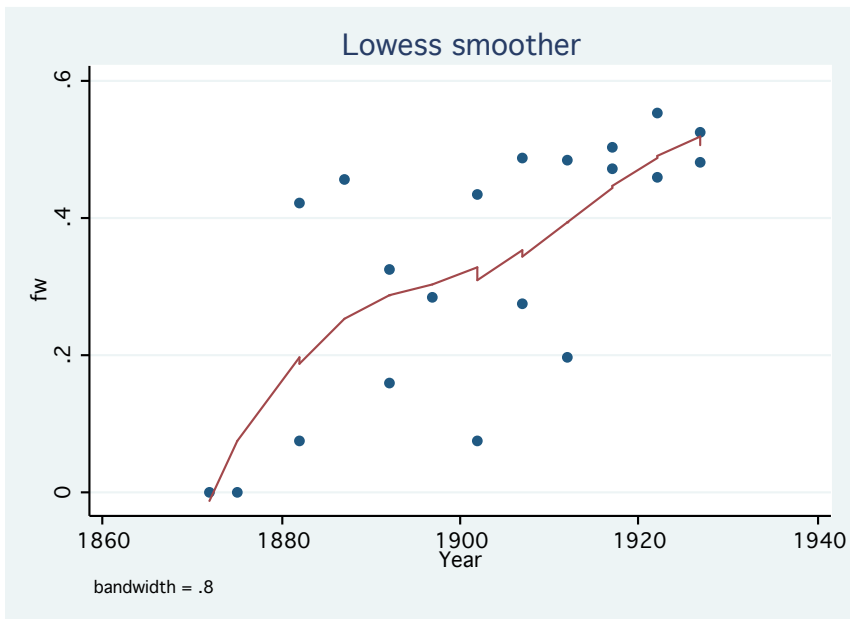
Real Estate Portfolios

**Ratio of Average Real Estate to Average Wealth:
1872-1927**

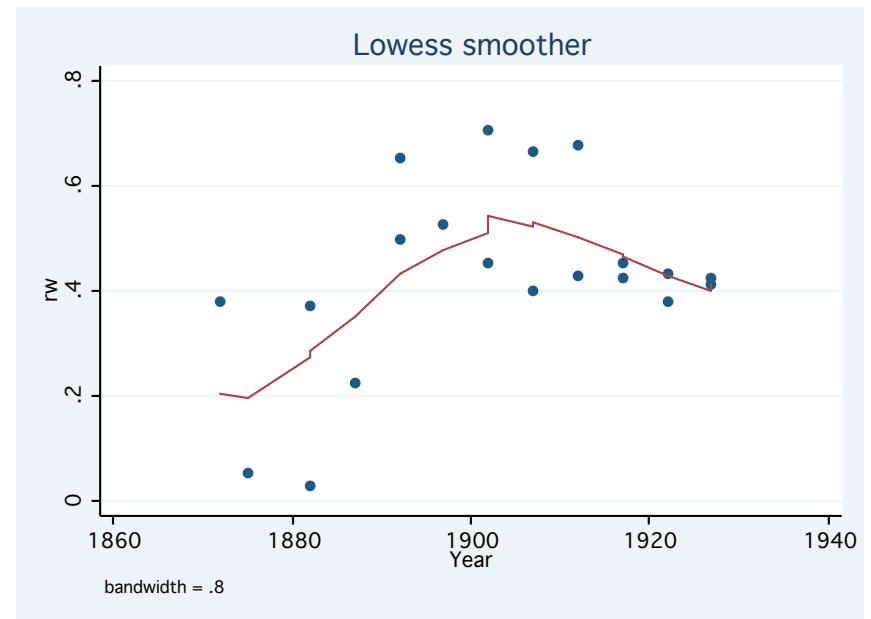


Portfolio Shares Over Time

Financial Assets/Wealth

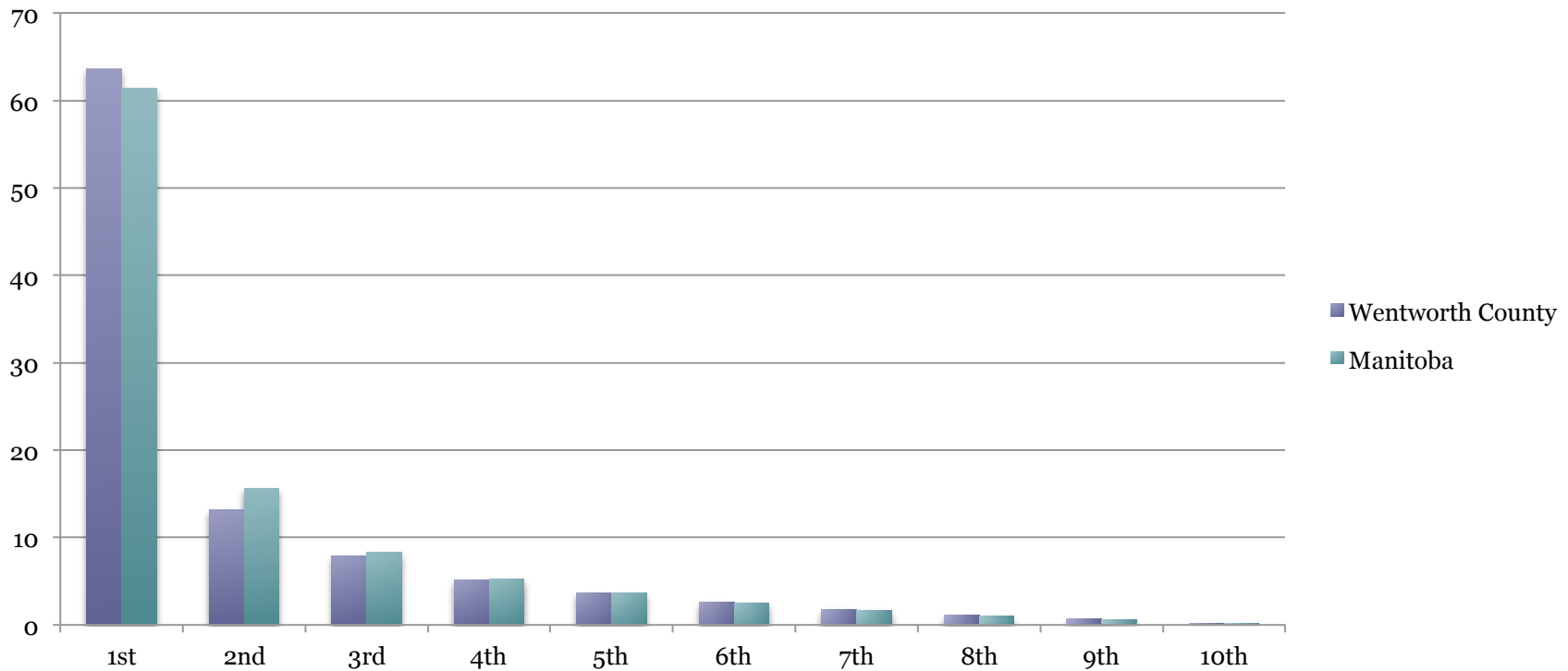


Real Estate /Wealth



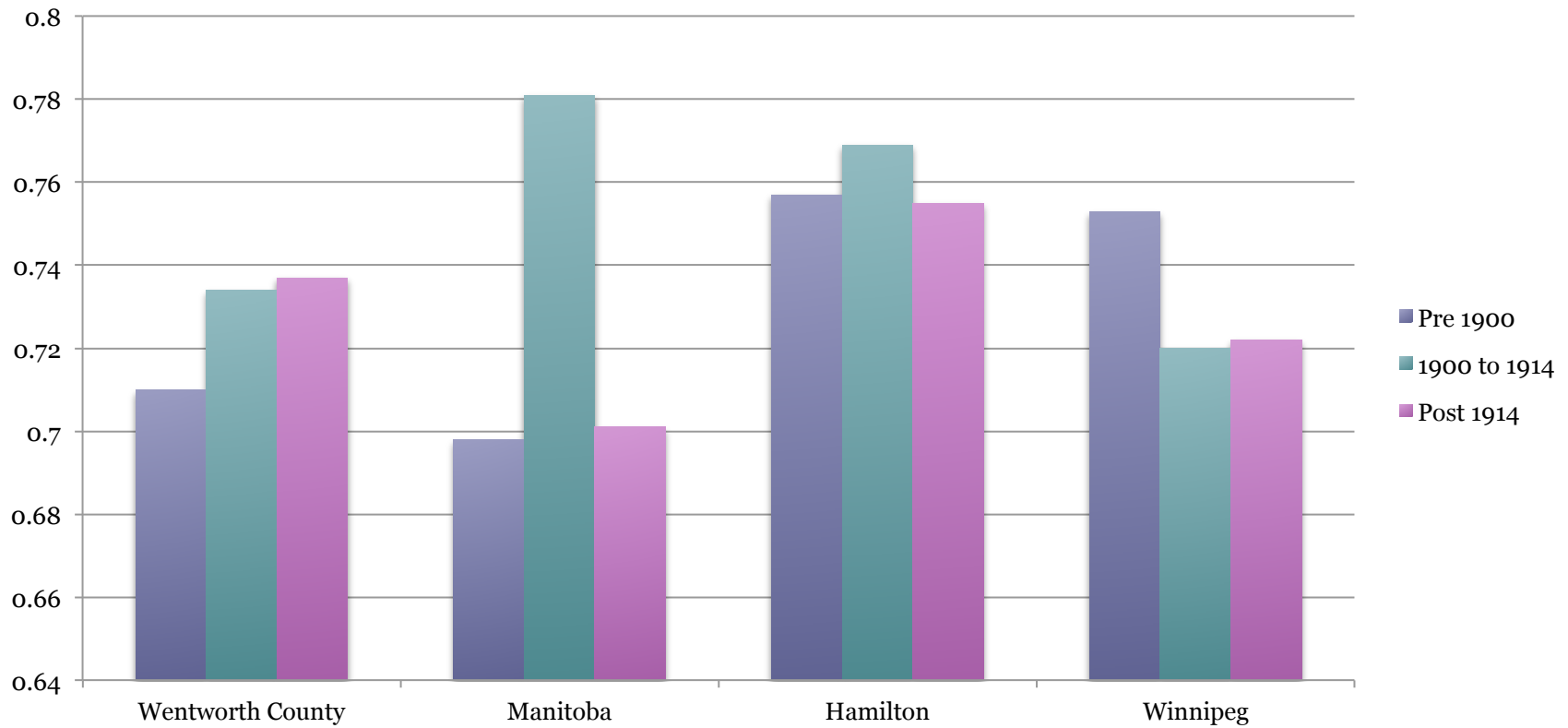
Decline Shares of Total Nominal Wealth

Wealth Shares by Deciles: Wentworth County & Eastern Judicial District, Manitoba, 1872-1927



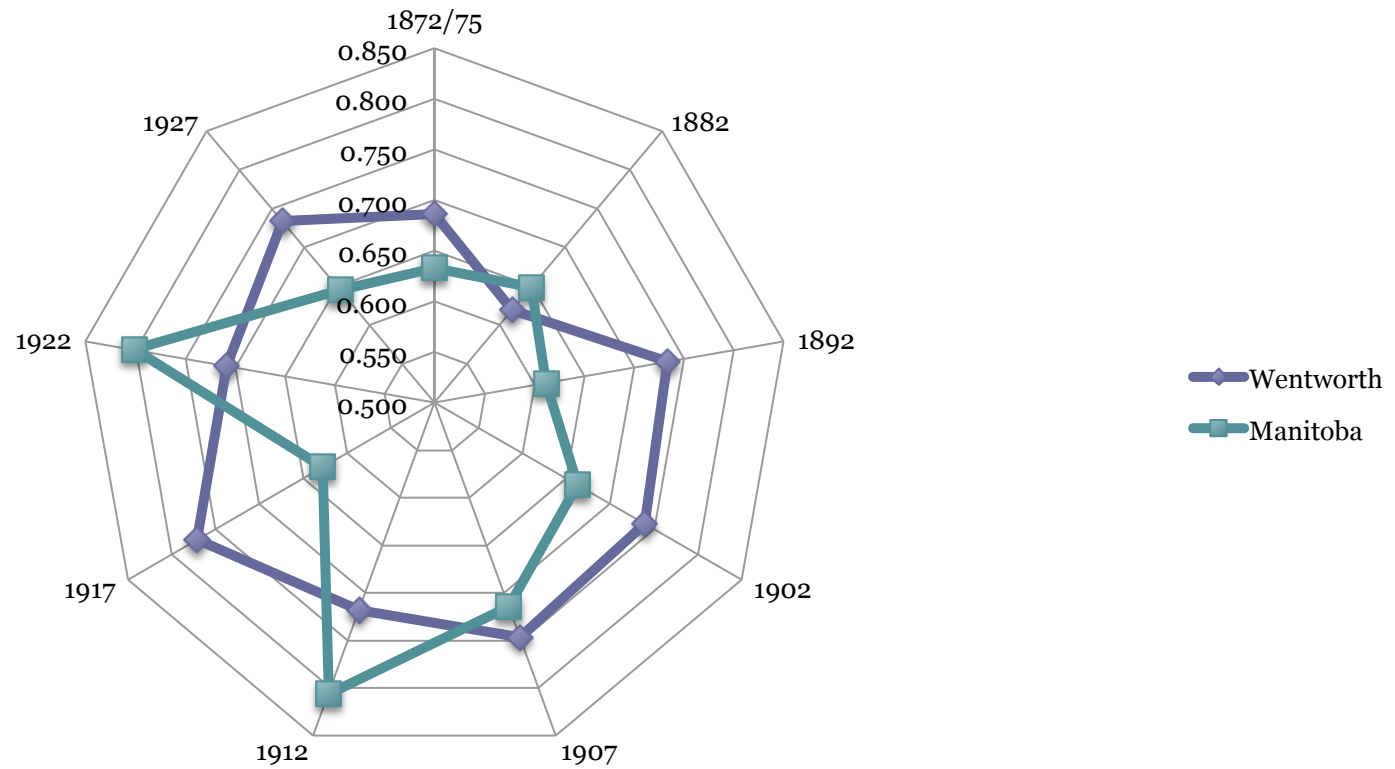
Gini

Gini Coefficients for Wealth



Inequality Over time

Gini Wealth Inequality Coefficients: 1872-1927





Empirical Analysis

- Construct annualized data for inequality and inequality determinants for the period 1872-1927 for Wentworth Co. & Manitoba
- Estimate a regression to see what variables affect inequality

Regression Variables

Variable	Description
year	Year estates probated
Wentworth	1 if Wentworth County, 0 otherwise.
Manitoba	1 if Manitoba, 0 otherwise.
Number	Number of decedents probated in observation year.
GINI	Value of GINI inequality coefficient
THEIL	Value of THEIL inequality coefficient.
Male	Proportion male.
Children	Average number of children.
Wealth	Average nominal wealth (\$).
Rwealth	Average real wealth (\$1900 dollars)
Realest	Average nominal real estate.
Rrealest	Average real real estate (\$1900 dollars).
Propmajorurb	Proportion of decedents residing in the major urban center (Hamilton or Winnipeg).
Married	Proportion married.
Marspd	Proportion with deceased spouse.
Single	Proportion single.
farmer	Proportion of decedents employed as farmers.
realestp	Proportion of decedents reporting real estate ownership.
rw	Average ratio of real estate to total wealth.
fw	Average ratio of financial asset value to total wealth.

Summary Statistics for Regression Variables

Variable	Obs	Mean	Std. Dev.
year	20	1902.65	17.19937
wentworth	20	0.45	0.5104178
manitoba	20	0.55	0.5104178
number	20	146.45	153.9116
gini	20	0.708088	0.06821
theil	20	1.099069	0.3029026
male	20	0.7262454	0.1046084
children	20	2.209416	0.5054622
wealth	20	7193.475	3710.416
rwealth	20	5263.133	2275.602
realest	20	3071.841	1999.905
rrealest	20	2400.054	1633.863
hamilton	20	0.2942876	0.3428359
winnipeg	20	0.276119	0.3044606
married	20	0.5594484	0.1127996
marspd	20	0.2479733	0.0990072
single	20	0.2300581	0.1295844
farmer	20	0.1934525	0.10666
realestp	20	0.6051559	0.2215737
rw	20	0.4295466	0.1789578
fw	20	0.3325514	0.1864472

Regression Results (Bold denotes significant at 5% level)

Variable	GINI		THEIL		LGINI		LTHEIL	
	Coefficient	T-statistic	Coefficient	T-statistic	Coefficient	T-statistic	Coefficient	T-statistic
year	0.000211	0.24	0.008105	1.23	0.000547	0.42	0.008147	1.41
propmajorurb	-0.152937	-1.56	-0.911817	-1.26	-0.244805	-1.70	-1.031040	-1.62
wentworth	-0.044013	-1.00	0.103967	0.32	-0.038556	-0.60	0.237749	0.83
male	0.104938	0.56	0.988975	0.72	0.231696	0.84	1.558716	1.28
children	-0.002867	-0.17	0.041954	0.34	-0.004348	-0.18	0.033176	0.30
rwealth	0.000028	5.41	0.000101	2.61	0.000038	4.92	0.000082	2.41
married	-0.361171	-3.27	-0.930258	-1.14	-0.471846	-2.91	-0.891267	-1.24
marspd	-0.405807	-4.14	-1.635775	-2.26	-0.525829	-3.65	-1.332802	-2.09
farmer	-0.488920	-2.98	-2.391503	-1.97	-0.756219	-3.13	-2.704437	-2.53
rw	-0.470636	-3.03	-1.140654	-1.00	-0.596296	-2.62	-0.717871	-0.71
realestp	0.292006	2.41	0.610900	0.68	0.377191	2.12	0.462963	0.59
_cons	0.616356	0.35	-13.683340	-1.06	-1.023093	-0.40	-15.220270	-1.34
F (11, 8)	20.10		6.81		18.08		8.02	
Adj R-squared	0.92		0.77		0.91		0.80	



Conclusions

- Wealth inequality less pronounced in the frontier region of Manitoba relative to Ontario.
- Higher portfolio shares of land ownership in the west as well as lower wealth levels and greater farm employment, were key factors in this difference in inequality.
- Farm economy of pre World War One Canada was associated with greater wealth equality. Canadian industrialization and economic development saw rise in wealth inequality that process of western settlement helped mitigate.