Famine, Inequality, and Conflict

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Journal of the European Economic Association

Introduction

- Famines have caused great human suffering and societal turmoil (Sen 1981, Ó'Gráda 2009).
- Over the 20th century, more than 100 million people perished from famines.
- However, we know relatively little about the persistent marks that famines leave on societies.
- **This paper:** What are the long-term consequences of famines on the distribution of prosperity and power?

This Paper

- We study the consequences of a famine on inequality, elite power, and conflict (and the interplay between these three).

- Our focus is on the historically contingent, long-term effects of the *great hunger years* of 1866-1868.
  - This was the last major famine with natural causes in Western Europe.
  - Around 8% of the Finnish population died during the famine years.

- We document that the famine contributed to both the rise and fall of (local) inequality in Finland.

Lessons from New (Old) Data

- We focus on the following chain of events:

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Famine

1866-1868

Lessons from New (Old) Data

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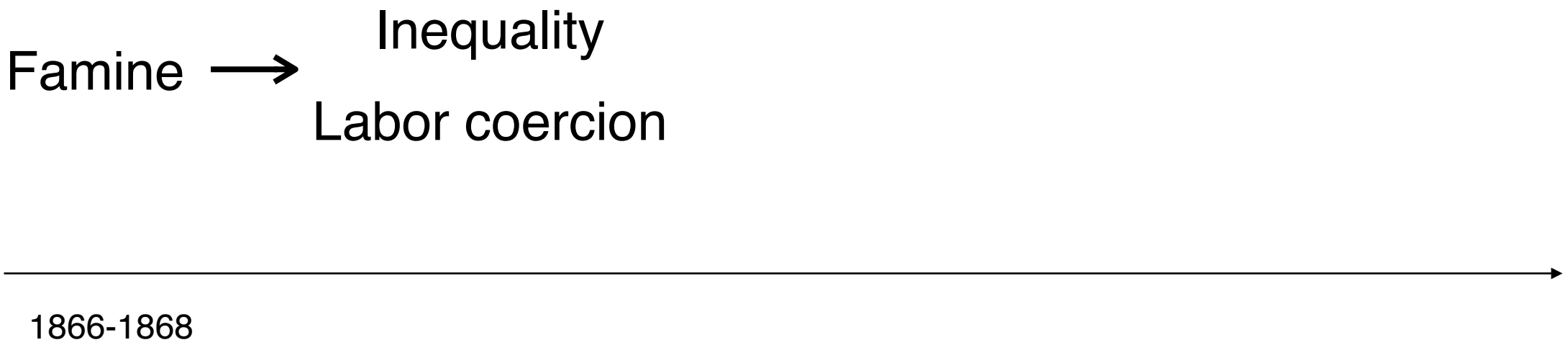

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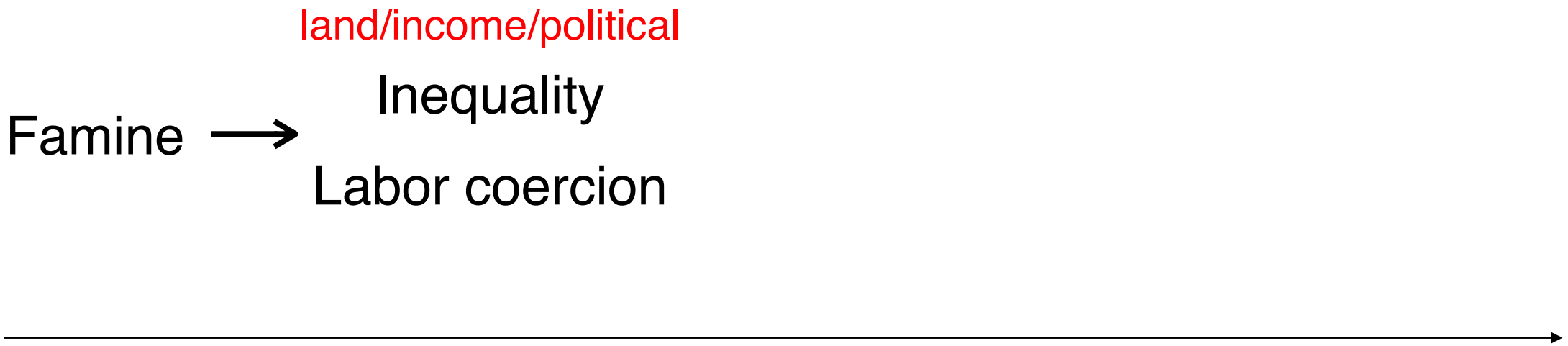

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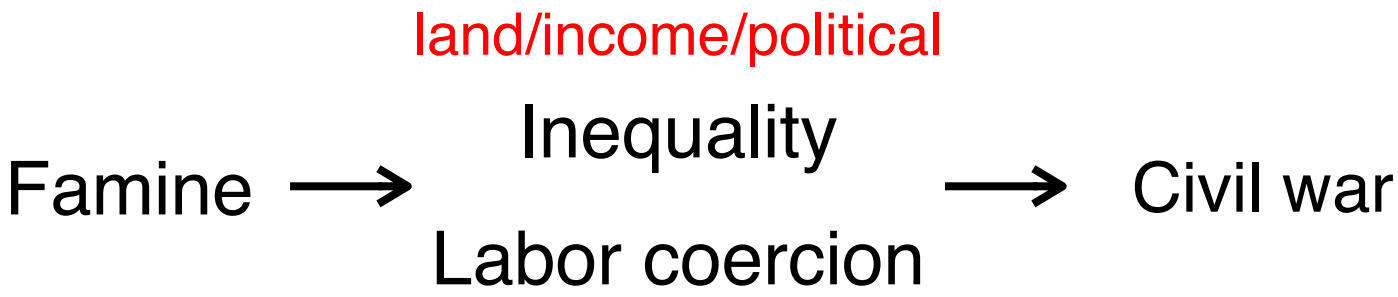

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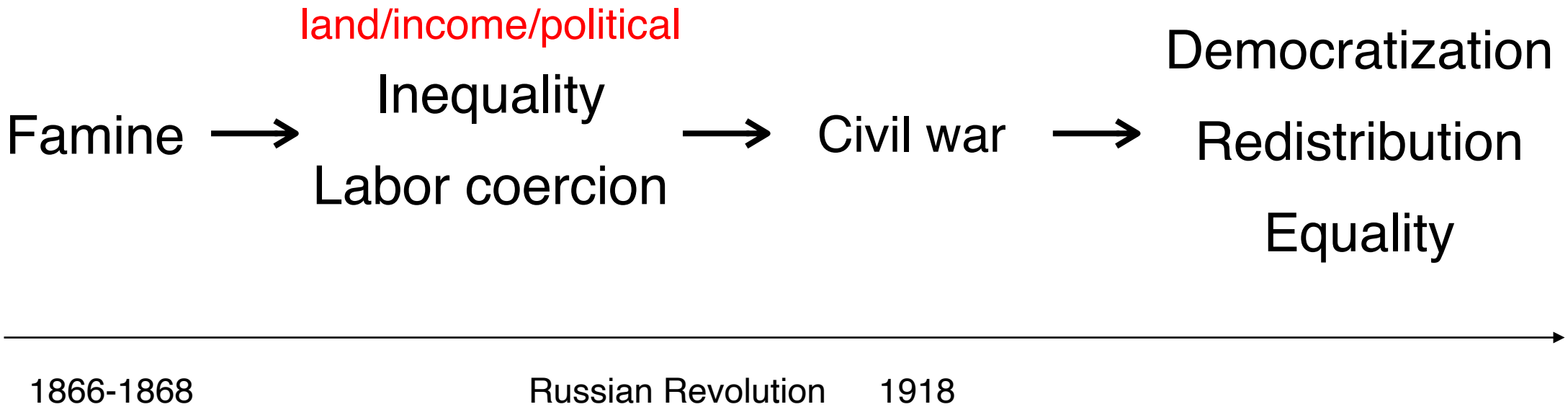
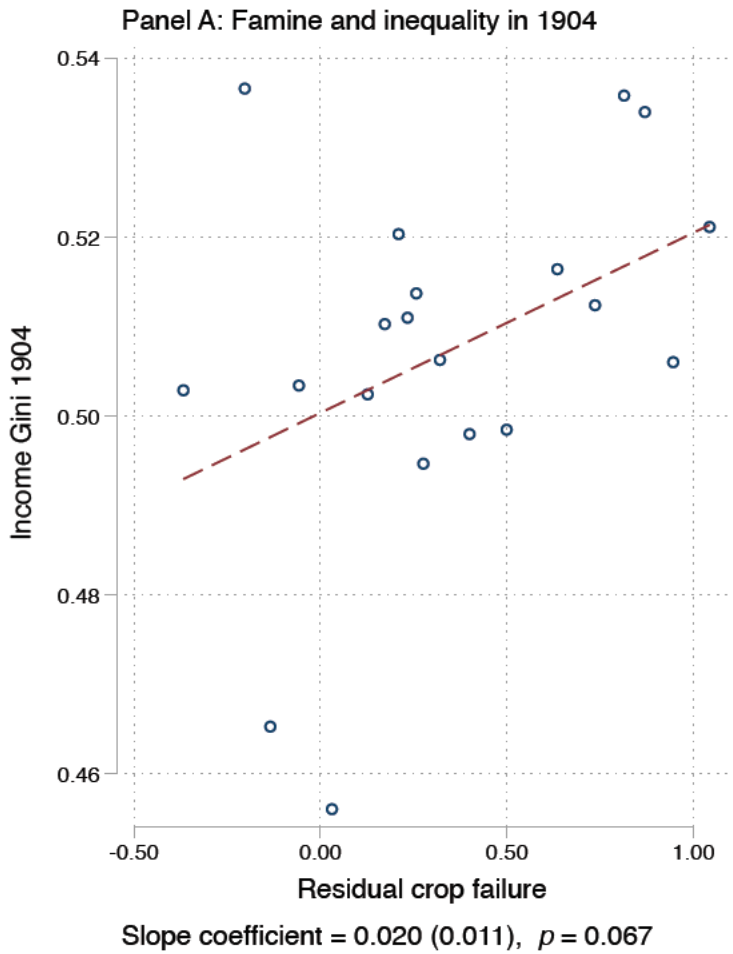
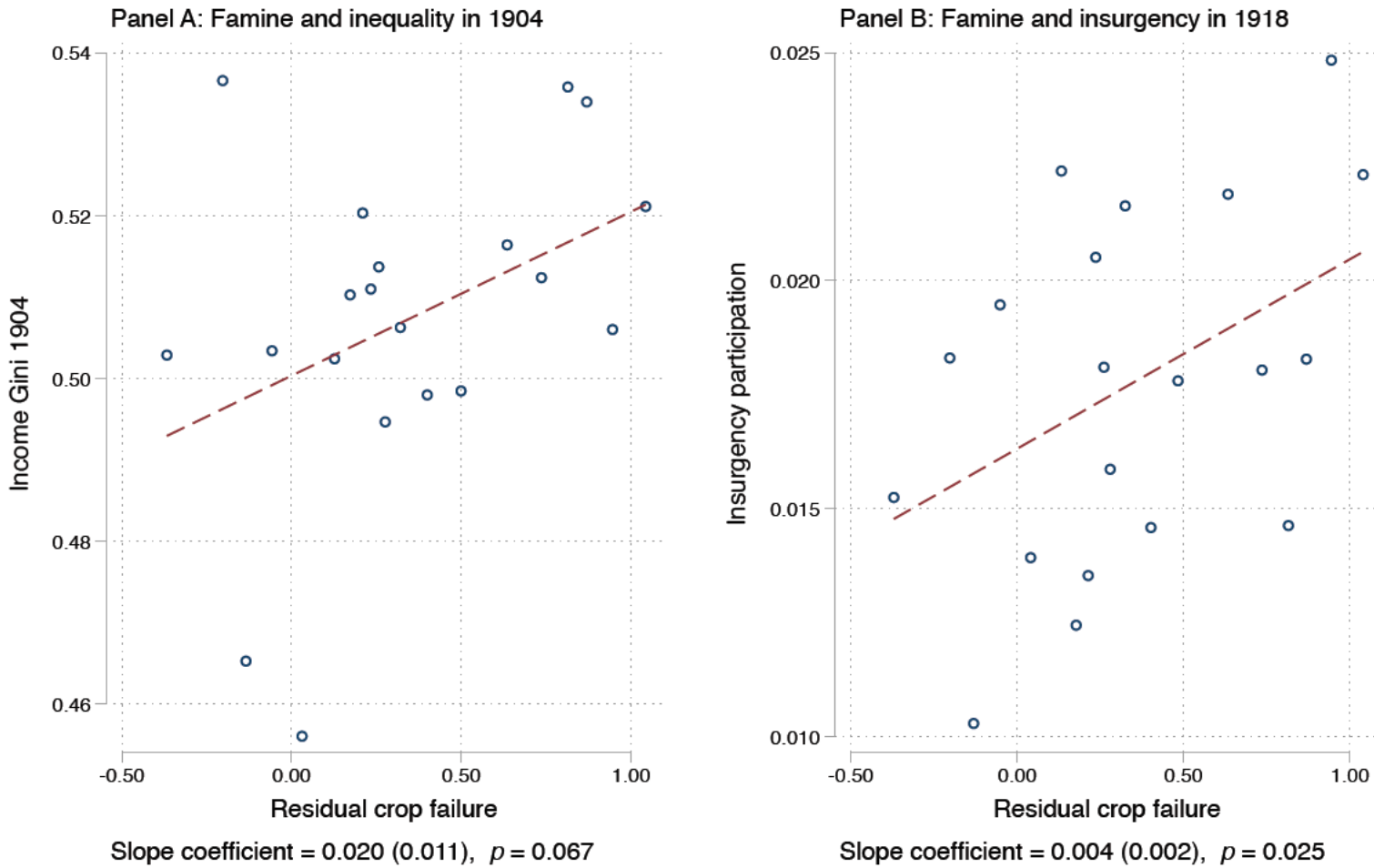



Panel A: Famine and inequality in 1904
Income Gini 1904
0.54
0.52
0.50
0.48
0.46
-0.50
0.00
0.50
1.00
Residual crop failure
Slope coefficient = 0.020 (0.011), $p = 0.067$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0.00
0.50
1.00
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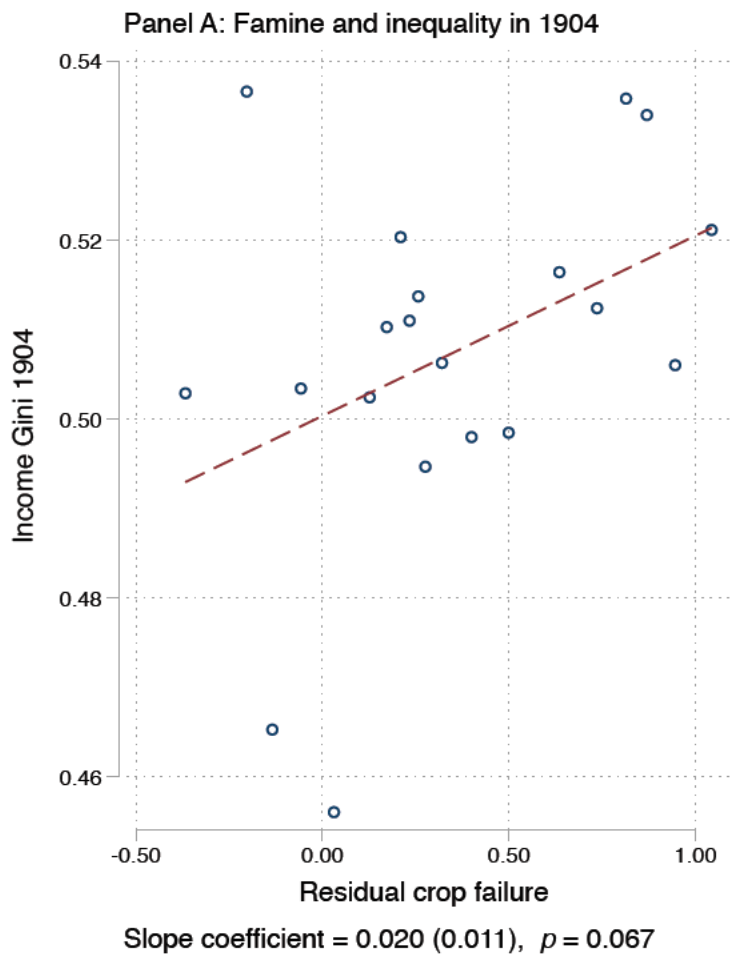
Slope coefficient = 0.020 (0.011), $p = 0.067$
Panel B: Famine and insurgency in 1918
Insurgency participation
0.025
0.020
0.015
0.010
-0.50
0.00
0.50
1.00
Residual crop failure
Slope coefficient = 0.004 (0.002), $p = 0.025$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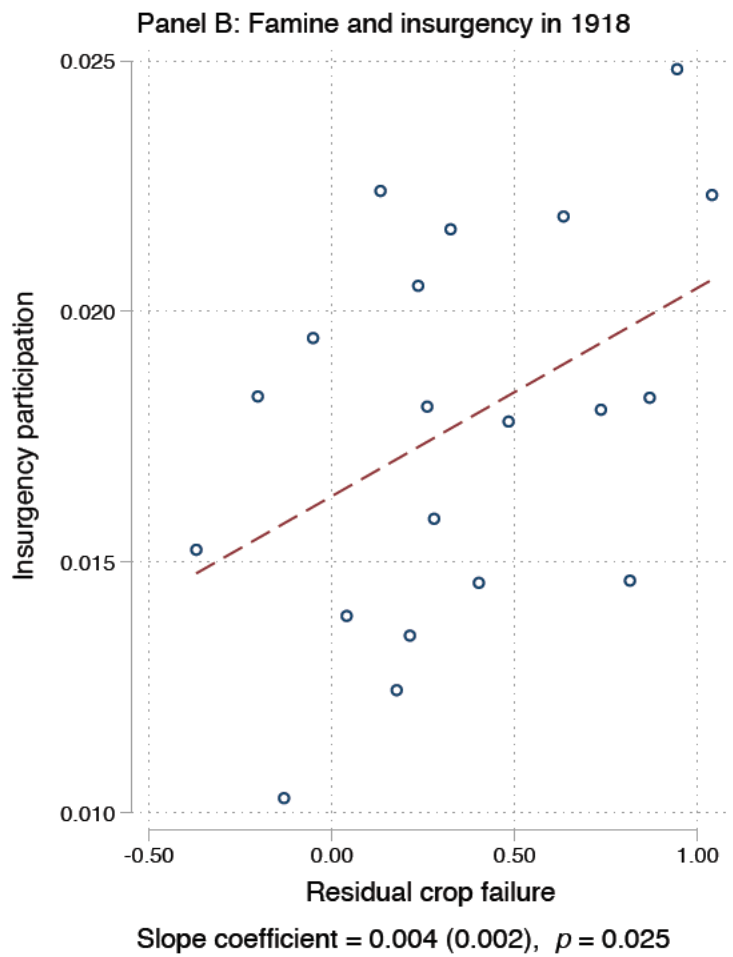
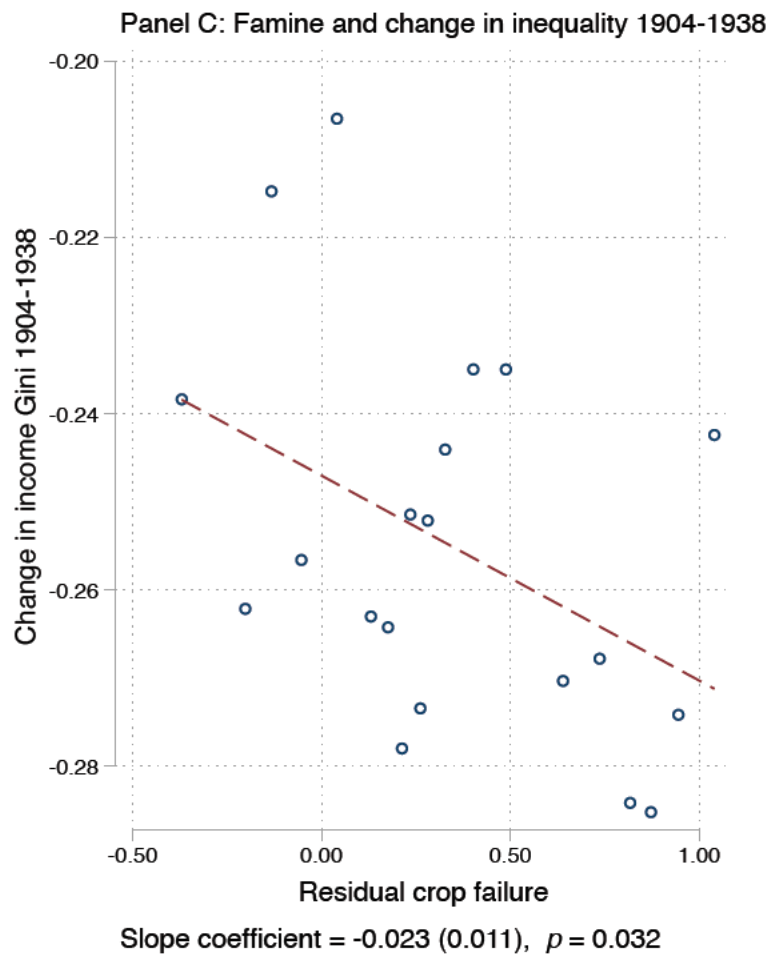
Residual crop failure
Slope coefficient = 0.020 (0.011), p = 0.067


Panel B: Famine and insurgency in 1918
Insurgency participation
0.025
0.020
0.015
0.010
-0.50
0.00
0.50
1.00
Residual crop failure
Slope coefficient = 0.004 (0.002), p = 0.025


Panel C: Famine and change in inequality 1904-1938
Change in income Gini 1904-1938
-0.20
-0.22
-0.24
-0.26
-0.28
-0.50
0.00
0.50
1.00
Residual crop failure
Slope coefficient = -0.023 (0.011), p = 0.032

Contributions

- We present new evidence on short- and long-run effects of famines (Ó'Gráda 1995; Meng et al. 2015; Scheidel 2018).
  - In the short and medium run, we find support for Brenner's (1976) prominent thesis on labor shortages and coercion.
  - By studying historically contingent effects of the Finnish famine of 1866-1868, we contribute to the literature on persistence in economic (and political) development (Cantoni and Yuchtman 2021; Arroyo and Maurer 2021; Cirone and Pepinsky 2022).

- Our long-run results to the literature on the causes of civil wars (e.g., Blattman and Miguel 2010) by identifying pre-conflict inequality—that at least partially stemmed from the famine—as a driver of civil war participation.
  - The existing evidence is mixed, and much of it comes from analyses of cross-country data (Muller and Seligson 1987; Collier and Hoeffler 1998, 2004; Fearon and Laitin 2003).

- We document new evidence on the origins of the Nordic welfare states (Baldwin 1990; Arts and Gelissen 1990; Bengtsson 2019; Rasmussen and Knutsen 2020).
  - Equality and consensus politics have not been historical fundamentals.
  - They are instead an outcome of institutional changes sparked by unrest and revolutionary forces (c.f. Acemoglu and Robinson 2000; Wood 2003; Aidt and Franck 2015; Scheidel 2018).
  - Our evidence favors the assertion that institutions are fundamental in shaping long-run outcomes of countries (North 1990; Acemoglu, Robinson, and Johnson 2005; Dell 2010).

Road Map

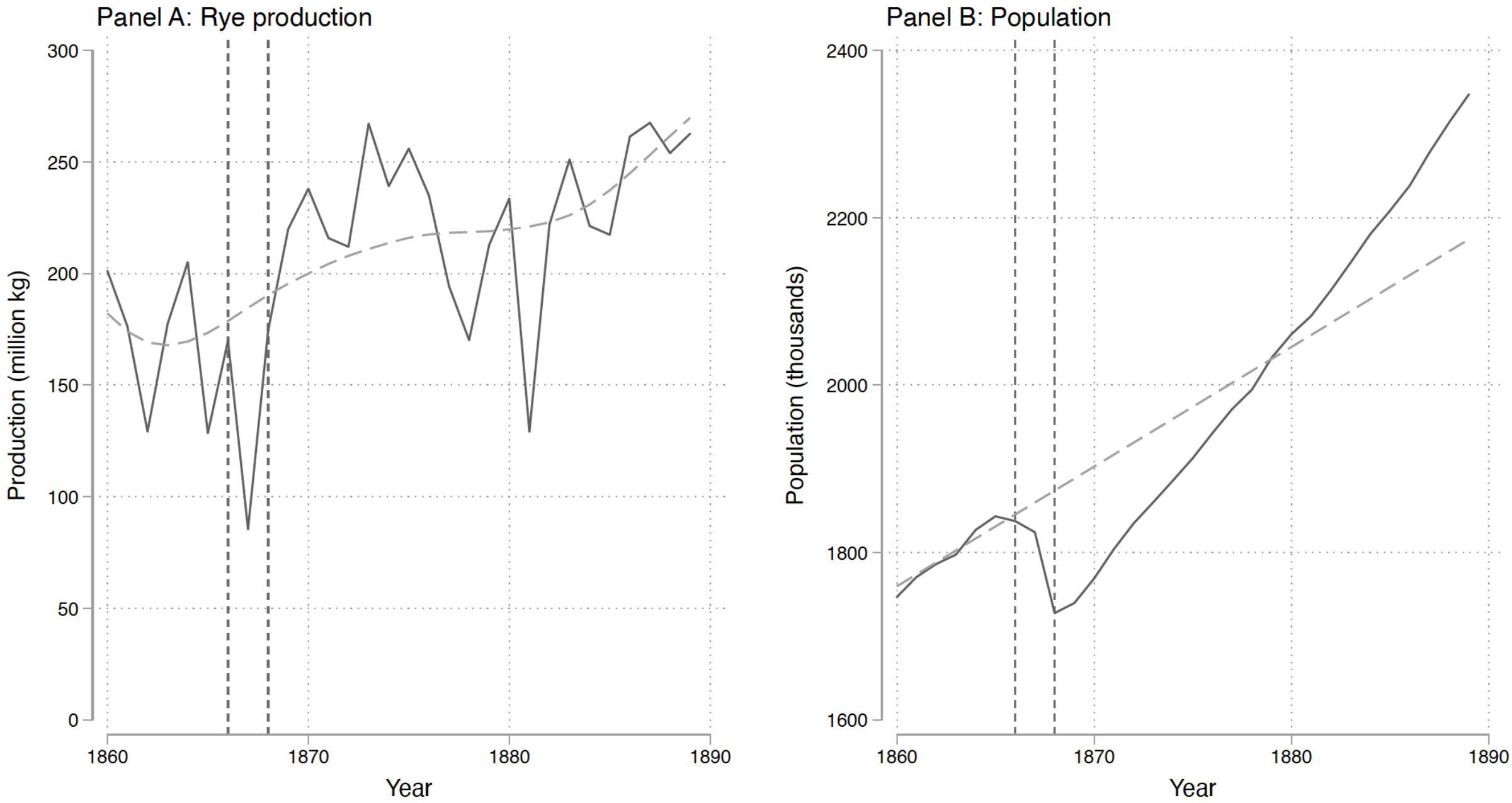
1. ~~Introduction~~
2. Historical Background
3. Empirical Approach
4. Results
5. Concluding Remarks

Historical Background

The Finnish Famine of 1866-1868

- The harvest of 1865 was bad and followed by even poorer weather conditions in 1866 and 1867.

- About 8% of the Finnish population died during the years 1866-1868.
  - Lack of food was severe.
  - Contagious diseases took their toll.


Panel A: Rye production
Production (million kg)
300
250
200
150
100
50
0
1860
1870
1880
1890
Year
Panel B: Population
Population (thousands)
2400
2200
2000
1800
1600
1860
1870
1880
1890
Year

Why Would the Famine Have Affected Inequality?

Wheat was largely bought with debt money. Farms and houses were used as a collateral. When the famine continued, farmers could not pay back their debts. On the contrary, new debt would have been needed. Payments were dunned despite the extreme distress. [...] Hundreds and thousands of houses were foreclosed because of even small debts, unpaid rents, or unpaid taxes. [...] Many farms changed hands, and ownership became more concentrated than before.

—Dr. Edvard Gylling in the *Workers' Almac* (1918)

- In competitive labor markets, workers' bargaining power and wages should go up when the size of labor force decreases.

- This does not necessarily happen if labor market institutions are not inclusive (Domar 1970; Brenner 1976; Acemoglu and Wolitzky 2011).

- In the Finnish case, it was logical for the landowners to use *tenant farmers* instead of wage labor.
  - Landowner could how much work the tenant had to perform to rent land.
  - There seldom was a written contract, and landowners could ask the tenant (and his family) to perform tasks at will.
  - Workers did not have many outside options—geographical mobility was restricted and industrialization was still limited.
  - Coercive tenant farming became more prevalent through the late 1800s. Almost half of all farms were tenant farms in 1912.

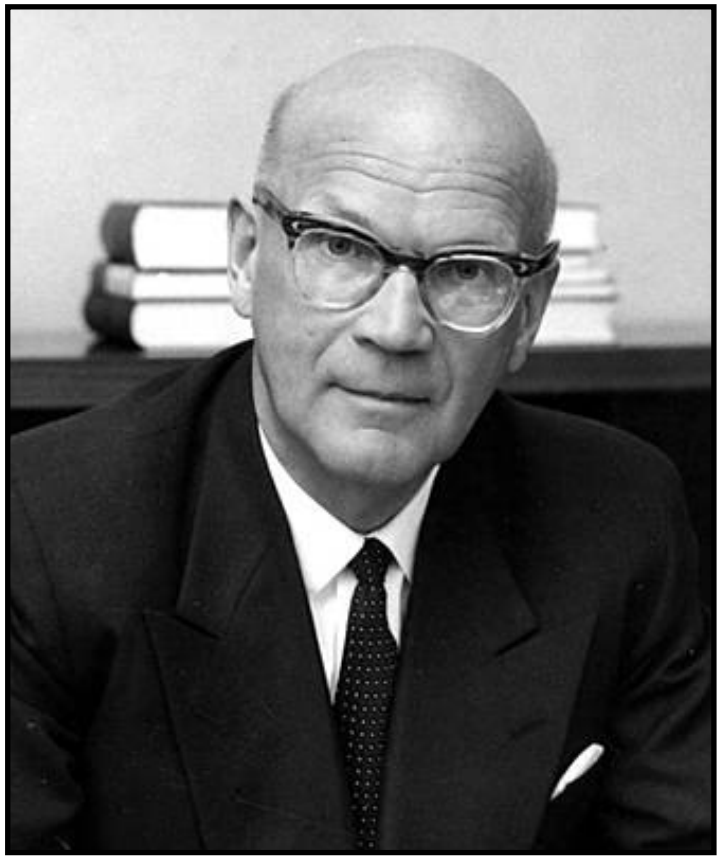
Inequality in the 19-20th Centuries

- In the late 1800s and early 1900s, Finland was among the most unequal Western countries.

- Economic inequality was also closely tied to political inequality.
  - National elections had had universal suffrage since 1906, but voting rights in municipal elections were still tied to income.
  - In most municipalities, a voter would get one vote for every 100 Marks of taxes paid.
  - Some voters with a high income had a major influence on the elections, others could not vote at all.

[…] *only a handful of municipality's wealthiest citizens and it could even be the case that the richest few percent could overrule everyone else in this voting system. Participation in municipal decision-making was the right of merely a few, and working and middle class members in the countryside and cities had no way of influencing municipal policy-making. The public opinion was strictly against voting rights based on income for a good reason* […]

—President Urho Kekkonen



Inequality and Civil Conflict

- Economic underdevelopment and poverty predict civil conflict (Collier and Hoeffler 1998, 2004; Fearon and Laitin 2003; Miguel, Satyanath, and Sergenti 2004; Blattman and Miguel 2010).

- Economic inequality considered to be among the fundamental economic preconditions of insurgency and revolution (Huntington 1968; Paige 1975; Muller and Seligson 1987).
  - However, there is only mixed empirical support for the link between inequality and insurgency (Muller and Seligson 1987; Collier and Hoeffler 1998, 2004; Nafziger and Auvinen 2002; Fearon and Laitin 2003).

- Political exclusion can also trigger civil conflict (Østby 2008; Buhaug, Cederman, and Rød 2008; Wimmer, Cederman, and Min 2009).

- It is likely that these things alone were not enough to trigger a civil war in Finland. However, the Russian Revolution started in 1917 and eventually led to Finnish independence from the empire. A power vacuum emerged…

The Finnish Civil War of 1918

- In the early 1900s, the social pressure within Finland reached its breaking point that eventually escalated into a full-blown conflict.
- The Finnish Civil War was a conflict for the control of Finland during the country's transition to an independent state from Russia.
- The conflict was an offshoot of the Russian revolution that took almost 40,000 casualties in total.
- It is often characterized as a class war between the ”Reds” (the insurgents) and the ”Whites” (the government side).
- Reds demanded, among other things, universal suffrage in local elections and better conditions for tenant farmers.

- **Reds** were…
  - led by a section of the Social Democratic Party,
  - industrial and agrarian workers, and
  - in control of the cities and industrial centres of southern Finland.

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- **Whites** were…
  - conducted by the conservative-based Senate and the German Imperial Army,
  - farmers, middle- and upper-class, and
  - in control of rural central and northern Finland.

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  - farmers, middle- and upper-class, and
  - in control of rural central and northern Finland.

Post-Civil War Reforms

- The insurgency failed to remove the government and thousands of insurgents were sent to prison camps. However, after the conflict, Finland enacted several reforms designed to uphold peace.

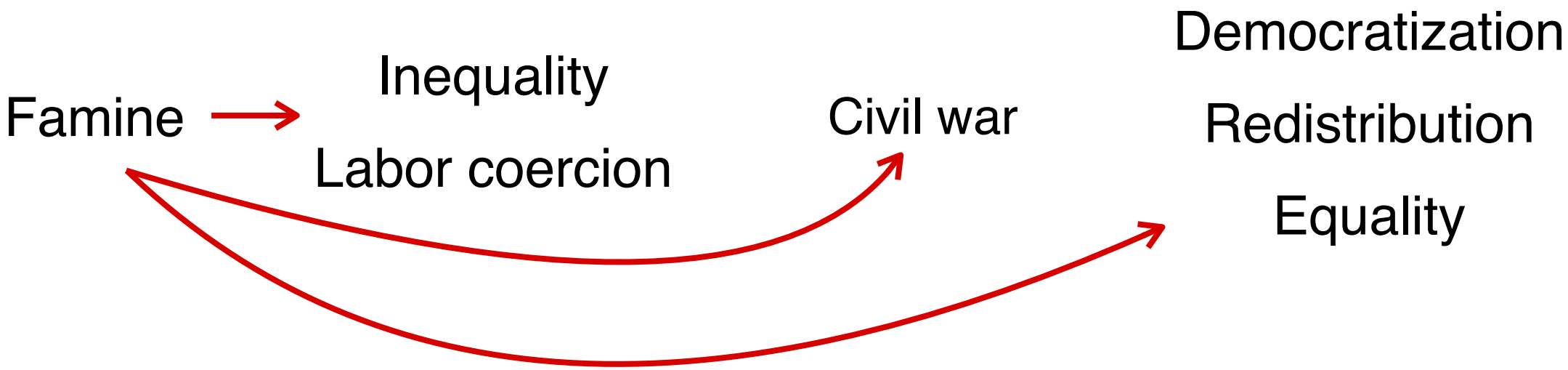
- Perhaps the most important reform to address inequality was the land reform that allowed tenant farmers to buy the farm that they were farming.

- Municipal voting rights were extended to everyone after the Civil War.
  - First democratic municipal elections with universal suffrage held only half a year after the end of the Civil War.
  - Democracy may have equalizing effects (Meltzer and Richard 1981; Acemoglu and Robinson 2006).

- Why would the winning side of the Civil War engage in redistribution and extend the voting rights to the losing side?
  - Civil War already happened, but the risk of further revolt persisted.
  - So-called *threat of revolution hypothesis* suggests that extending the franchise can act as a commitment to future redistribution that prevents social unrest (Acemoglu and Robinson 2000; Aidt and Jensen 2014; Aidt and Franck 2015).

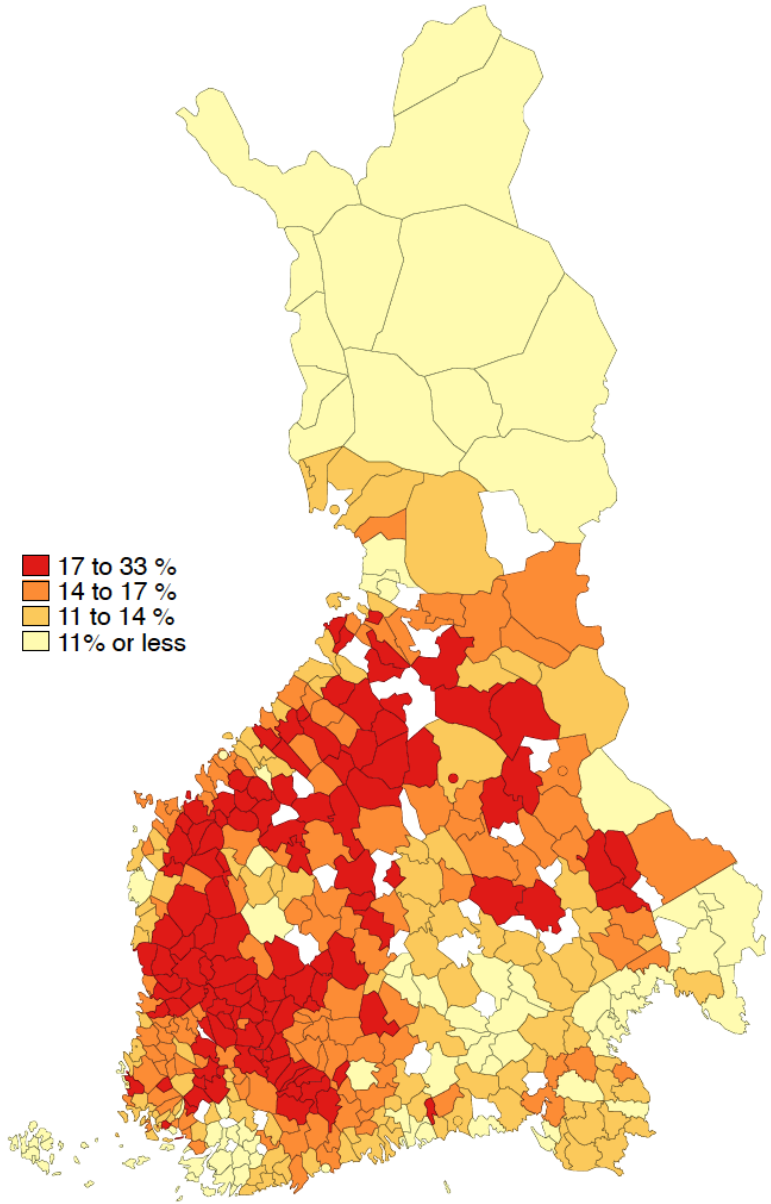
Empirical Approach

Empirical Strategy

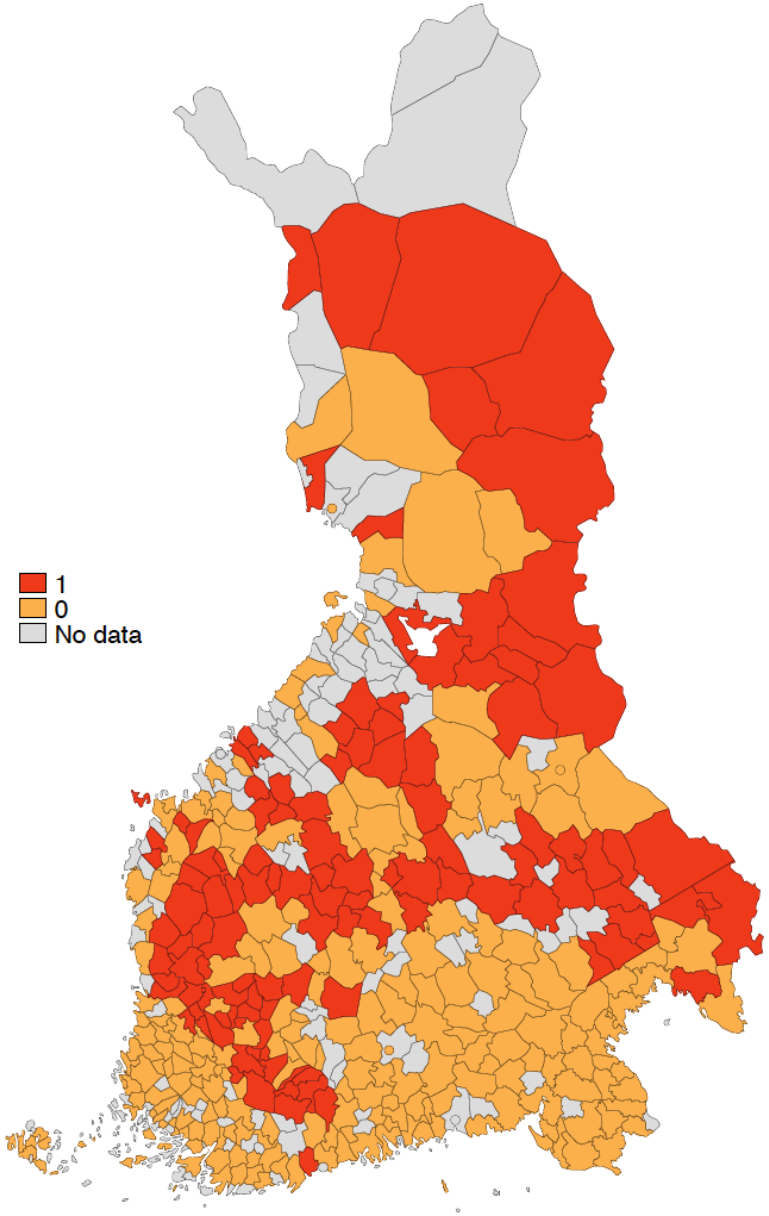


- We use rye crop failure in 1867 as an exogenous driver of inequality. Conditional on rye suitability (covariate balance ✓), we can isolate the causal effect of the famine.

Famine deaths 1866-1868

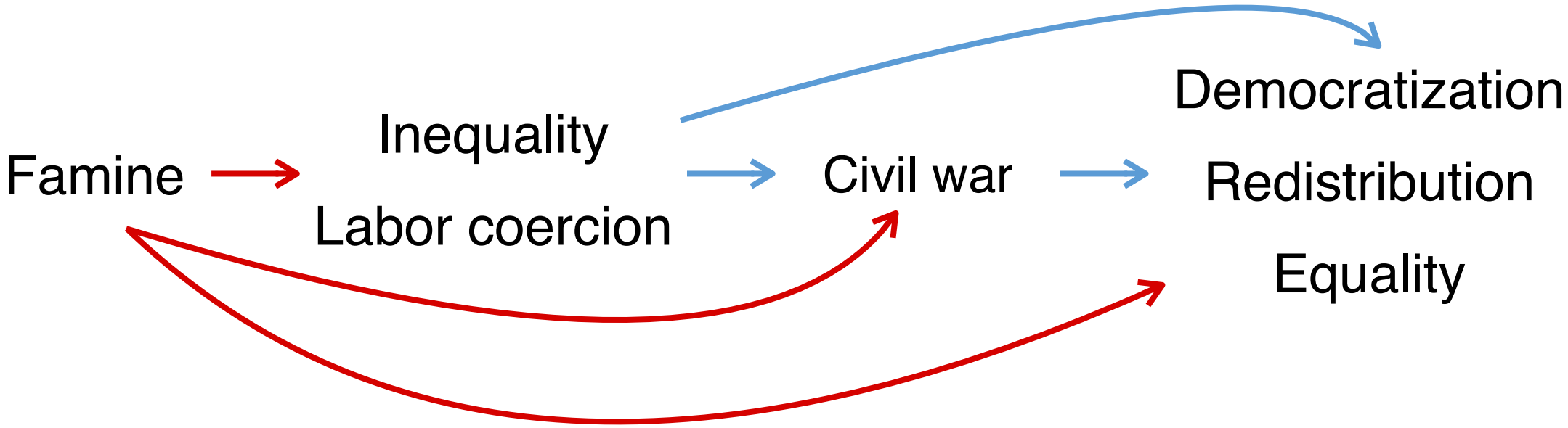


Rye harvest failure 1867



	Mean (1)	$\beta^{Famine\,deaths}$ (2)	No failure (3)	Crop failure (4)	$\beta^{Crop\,failure}$ (5)	Observations (6)
Famine deaths 1866-1868	0.15					409
	[0.05]					
log(Population 1865)	8.06	0.19**				420
	[0.74]	(0.08)				
Pop. density 1865	1.57	0.02				420
	[1.92]	(0.15)				
Rainfall	5.96	-0.09**				451
	[0.42]	(0.05)				
ln(Slope)	9.00	0.01				451
	[0.08]	(0.01)				
Income Gini 1865	0.31	-0.03**				349
	[0.12]	(0.01)				
Mean income 1865	14.40	-2.69**				349
	[6.58]	(1.05)				
ln(Distance to Helsinki)	5.39	0.13**				451
	[0.65]	(0.05)				
ln(Distance to Russia)	5.10	0.40***				451
	[0.97]	(0.09)				
ln(Distance to Turku)	5.26	0.17**				451
	[0.91]	(0.08)				
Latitude	61.98	0.75***				451
	[1.49]	(0.15)				
Longitude	24.80	-0.33				451
	[2.70]	(0.28)				
ln(Barley suitability)	8.23	-0.24***				451
	[0.57]	(0.05)				
ln(Cereal suitability)	7.70	-0.01				450
	[0.31]	(0.03)				
ln(Rye suitability)	6.63	-0.22***				451
	[0.50]	(0.05)				

	Mean (1)	$\beta^{Famine\,deaths}$ (2)	No failure (3)	Crop failure (4)	$\beta^{Crop\,failure}$ (5)	Observations (6)
Famine deaths 1866-1868	0.15		0.14	0.18	0.04***	409
	[0.05]		[0.04]	[0.04]	(0.01)	
log(Population 1865)	8.06	0.19**	8.24	8.17	-0.10	420
	[0.74]	(0.08)	[0.69]	[0.60]	(0.08)	
Pop. density 1865	1.57	0.02	1.73	1.84	0.07	420
	[1.92]	(0.15)	[2.01]	[2.18]	(0.28)	
Rainfall	5.96	-0.09**	6.07	5.92	0.02	451
	[0.42]	(0.05)	[0.38]	[0.34]	(0.04)	
ln(Slope)	9.00	0.01	8.99	8.99	-0.00	451
	[0.08]	(0.01)	[0.08]	[0.08]	(0.01)	
Income Gini 1865	0.31	-0.03**	0.32	0.30	-0.00	349
	[0.12]	(0.01)	[0.11]	[0.10]	(0.01)	
Mean income 1865	14.40	-2.69**	14.26	13.51	-0.22	349
	[6.58]	(1.05)	[5.99]	[4.24]	(0.64)	
ln(Distance to Helsinki)	5.39	0.13**	5.24	5.57	-0.06	451
	[0.65]	(0.05)	[0.65]	[0.57]	(0.06)	
ln(Distance to Russia)	5.10	0.40***	4.87	5.22	0.23**	451
	[0.97]	(0.09)	[1.18]	[0.73]	(0.10)	
ln(Distance to Turku)	5.26	0.17**	5.14	5.56	0.01	451
	[0.91]	(0.08)	[0.94]	[0.57]	(0.07)	
Latitude	61.98	0.75***	61.51	62.53	-0.03	451
	[1.49]	(0.15)	[1.30]	[1.14]	(0.09)	
Longitude	24.80	-0.33	25.01	25.17	-0.09	451
	[2.70]	(0.28)	[2.88]	[2.70]	(0.33)	
ln(Barley suitability)	8.23	-0.24***	8.39	8.00	0.06	451
	[0.57]	(0.05)	[0.61]	[0.40]	(0.07)	
ln(Cereal suitability)	7.70	-0.01	7.77	7.69	0.02	450
	[0.31]	(0.03)	[0.33]	[0.26]	(0.03)	
ln(Rye suitability)	6.63	-0.22***	6.81	6.39		451
	[0.50]	(0.05)	[0.46]	[0.41]		



- We also explore correlational relationship between inequality, insurgency, and post-civil war redistribution (mostly in the paper). These are plausible mechanisms through which the famine could affect the outcomes later in time.

- We rule out alternative mechanisms in the paper (effects of the famine on emigration, industrialization, and voting behavior).

Results #1

Famine and Inequality

Famine → Inequality

Labor coercion

	Income Gini 1904	
	(1)	(2)
Panel A		
Famine deaths per capita	0.305***	0.214**
	(0.088)	(0.088)
Conley SE	0.106	0.111
N	409	409
R^2	0.214	0.287
Outcome mean	0.496	0.496
Panel B		
Crop failure	0.018*	0.020*
	(0.011)	(0.011)
Conley SE	0.012	0.011
N	328	328
R^2	0.147	0.241
Outcome mean	0.507	0.507
Controls	✓	✓
County FE		✓

	Income Gini 1904		Land Gini 1910	
	(1)	(2)	(3)	(4)
Panel A				
Famine deaths per capita	0.305***	0.214**	0.260***	0.253***
	(0.088)	(0.088)	(0.078)	(0.080)
Conley SE	0.106	0.111	0.091	0.082
N	409	409	403	403
R^2	0.214	0.287	0.134	0.233
Outcome mean	0.496	0.496	0.392	0.392
Panel B				
Crop failure	0.018*	0.020*	0.024***	0.021**
	(0.011)	(0.011)	(0.009)	(0.008)
Conley SE	0.012	0.011	0.010	0.009
N	328	328	324	324
R^2	0.147	0.241	0.136	0.223
Outcome mean	0.507	0.507	0.396	0.396
Controls	✓	✓	✓	✓
County FE		✓		✓

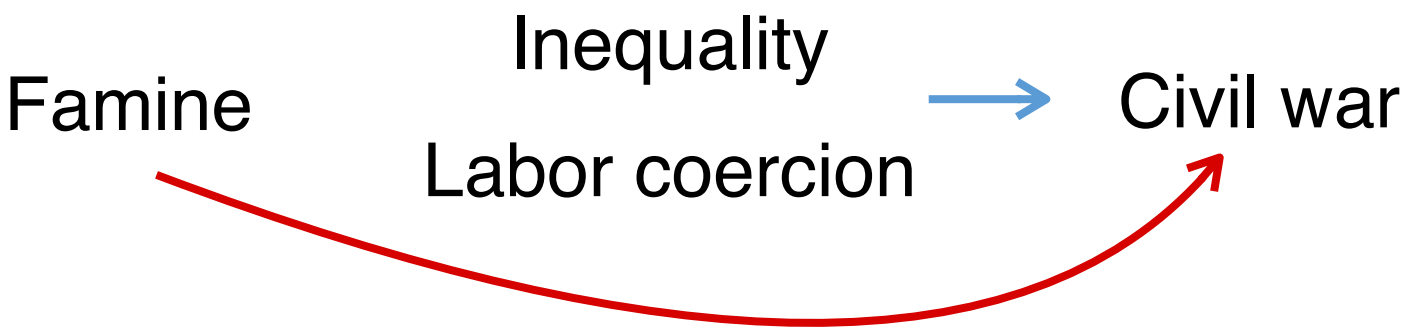
	Tenant farm share	
	(5)	(6)
Panel A		
Famine deaths per capita	1.218***	1.063***
	(0.187)	(0.179)
Conley SE	0.293	0.296
N	403	403
R^2	0.442	0.568
Outcome mean	0.464	0.464
Panel B		
Crop failure	0.065***	0.054**
	(0.023)	(0.022)
Conley SE	0.029	0.024
N	324	324
R^2	0.464	0.599
Outcome mean	0.468	0.468
Controls	✓	✓
County FE		✓

	Tenant farm share		Terminated leases share	
	(5)	(6)	(7)	(8)
Panel A				
Famine deaths per capita	1.218***	1.063***	0.062	0.039
	(0.187)	(0.179)	(0.058)	(0.060)
Conley SE	0.293	0.296	0.065	0.059
N	403	403	390	390
R^2	0.442	0.568	0.274	0.326
Outcome mean	0.464	0.464	0.046	0.046
Panel B				
Crop failure	0.065***	0.054**	0.006	0.002
	(0.023)	(0.022)	(0.007)	(0.007)
Conley SE	0.029	0.024	0.007	0.006
N	324	324	314	314
R^2	0.464	0.599	0.252	0.318
Outcome mean	0.468	0.468	0.048	0.048
Controls	✓	✓	✓	✓
County FE		✓		✓

	Tenant farm share		Terminated leases share		Daily wage	
	(5)	(6)	(7)	(8)	(9)	(10)
Panel A						
Famine deaths per capita	1.218***	1.063***	0.062	0.039	-3.970***	-3.437***
	(0.187)	(0.179)	(0.058)	(0.060)	(0.611)	(0.645)
Conley SE	0.293	0.296	0.065	0.059	0.679	0.622
N	403	403	390	390	382	382
R^2	0.442	0.568	0.274	0.326	0.294	0.390
Outcome mean	0.464	0.464	0.046	0.046	3.076	3.076
Panel B						
Crop failure	0.065***	0.054**	0.006	0.002	-0.178**	-0.078
	(0.023)	(0.022)	(0.007)	(0.007)	(0.078)	(0.073)
Conley SE	0.029	0.024	0.007	0.006	0.085	0.079
N	324	324	314	314	306	306
R^2	0.464	0.599	0.252	0.318	0.164	0.278
Outcome mean	0.468	0.468	0.048	0.048	3.011	3.011
Controls	✓	✓	✓	✓	✓	✓
County FE		✓		✓		✓

Results #2

Participation in the Civil War



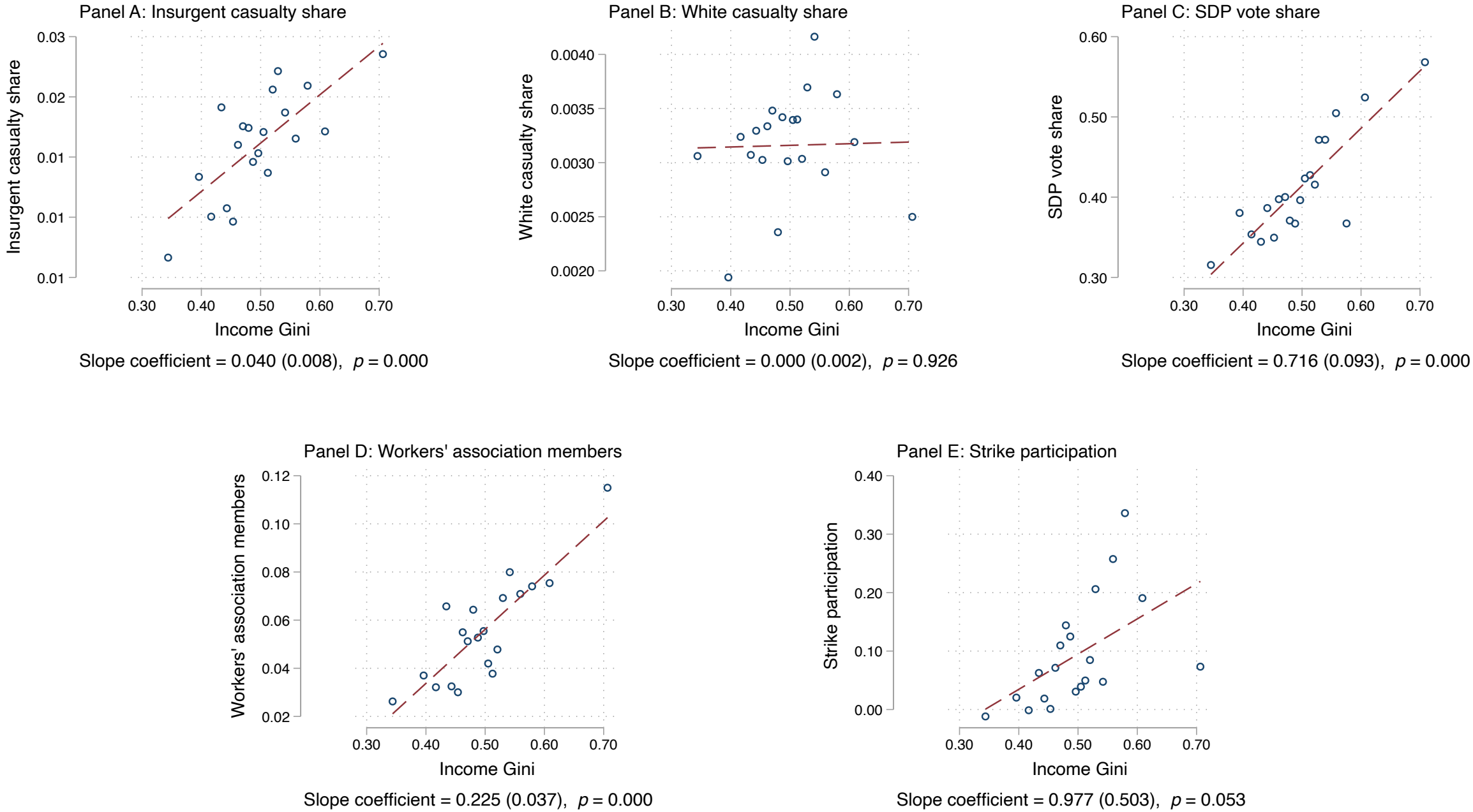
	Insurgent casualty share	
	(1)	(2)
Panel A		
Famine deaths per capita	0.107***	0.079***
	(0.018)	(0.015)
Conley SE	0.035	0.024
N	408	408
R^2	0.451	0.620
Outcome mean	0.016	0.016
Panel B		
Crop failure	0.005**	0.004**
	(0.002)	(0.002)
Conley SE	0.003	0.002
N	327	327
R^2	0.415	0.583
Outcome mean	0.018	0.018
Controls	✓	✓
County FE		✓

	Insurgent casualty share		White casualty share	
	(1)	(2)	(3)	(4)
Panel A				
Famine deaths per capita	0.107***	0.079***	0.008***	0.009***
	(0.018)	(0.015)	(0.003)	(0.003)
Conley SE	0.035	0.024	0.003	0.003
N	408	408	408	408
R^2	0.451	0.620	0.113	0.291
Outcome mean	0.016	0.016	0.003	0.003
Panel B				
Crop failure	0.005**	0.004**	0.001	0.000
	(0.002)	(0.002)	(0.000)	(0.000)
Conley SE	0.003	0.002	0.000	0.000
N	327	327	327	327
R^2	0.415	0.583	0.079	0.229
Outcome mean	0.018	0.018	0.003	0.003
Controls	✓	✓	✓	✓
County FE		✓		✓

	SDP vote share	
	(5)	(6)
Panel A		
Famine deaths per capita	1.258***	0.940***
	(0.203)	(0.196)
Conley SE	0.285	0.267
N	366	366
R^2	0.401	0.496
Outcome mean	0.410	0.410
Panel B		
Crop failure	0.078***	0.054**
	(0.023)	(0.022)
Conley SE	0.030	0.028
N	297	297
R^2	0.284	0.423
Outcome mean	0.443	0.443
Controls	✓	✓
County FE		✓

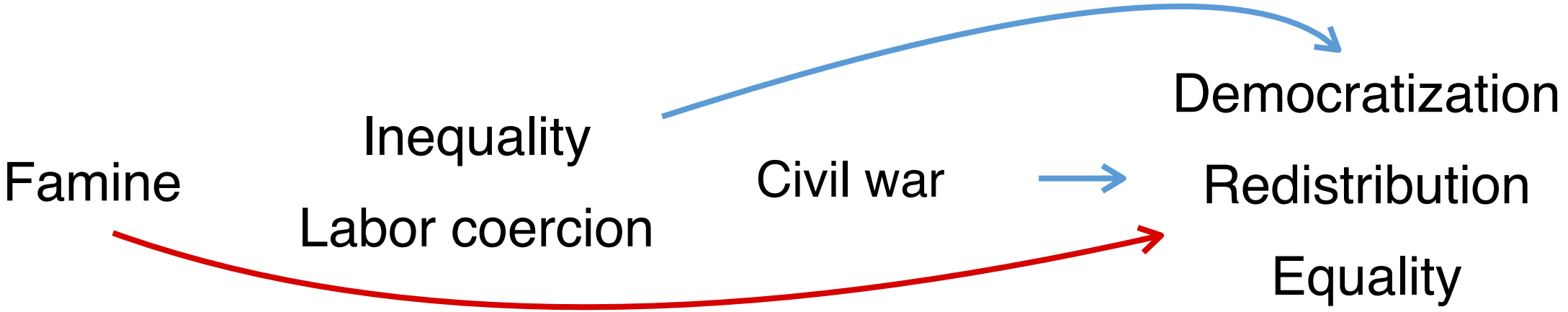
	SDP vote share		Workers' association members	
	(5)	(6)	(7)	(8)
Panel A				
Famine deaths per capita	1.258***	0.940***	0.199***	0.160**
	(0.203)	(0.196)	(0.067)	(0.072)
Conley SE	0.285	0.267	0.088	0.086
N	366	366	404	404
R^2	0.401	0.496	0.178	0.214
Outcome mean	0.410	0.410	0.056	0.056
Panel B				
Crop failure	0.078***	0.054**	0.017**	0.015*
	(0.023)	(0.022)	(0.008)	(0.009)
Conley SE	0.030	0.028	0.008	0.009
N	297	297	324	324
R^2	0.284	0.423	0.174	0.203
Outcome mean	0.443	0.443	0.060	0.060
Controls	✓	✓	✓	✓
County FE		✓		✓

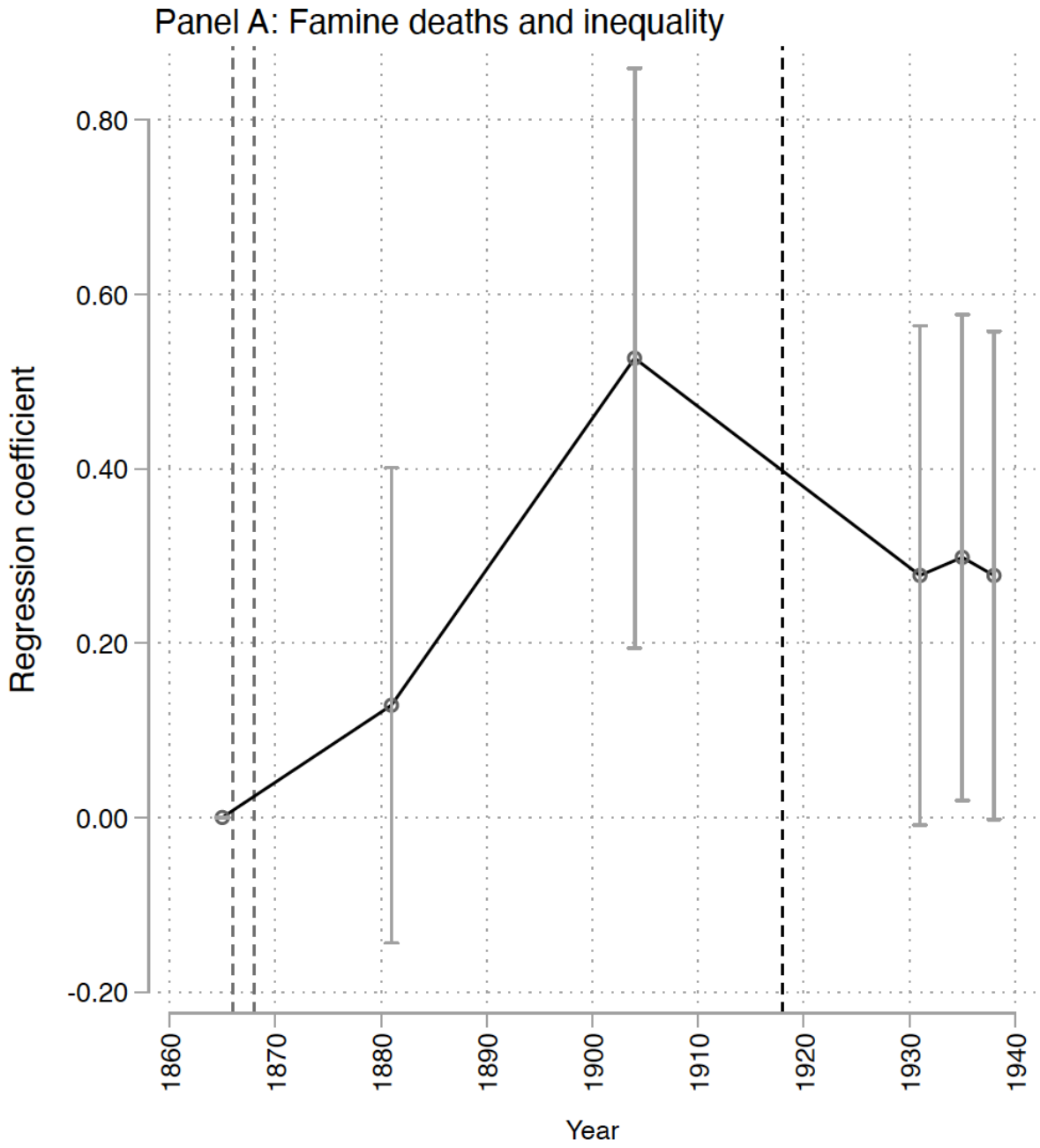
	SDP vote share		Workers' association members		Strike participation	
	(5)	(6)	(7)	(8)	(9)	(10)
Panel A						
Famine deaths per capita	1.258***	0.940***	0.199***	0.160**	1.752	1.438
	(0.203)	(0.196)	(0.067)	(0.072)	(1.160)	(1.222)
Conley SE	0.285	0.267	0.088	0.086	0.845	1.105
N	366	366	404	404	409	409
R^2	0.401	0.496	0.178	0.214	0.015	0.028
Outcome mean	0.410	0.410	0.056	0.056	0.161	0.161
Panel B						
Crop failure	0.078***	0.054**	0.017**	0.015*	0.274	0.254
	(0.023)	(0.022)	(0.008)	(0.009)	(0.239)	(0.206)
Conley SE	0.030	0.028	0.008	0.009	0.224	0.182
N	297	297	324	324	328	328
R^2	0.284	0.423	0.174	0.203	0.018	0.036
Outcome mean	0.443	0.443	0.060	0.060	0.159	0.159
Controls	✓	✓	✓	✓	✓	✓
County FE		✓		✓		✓

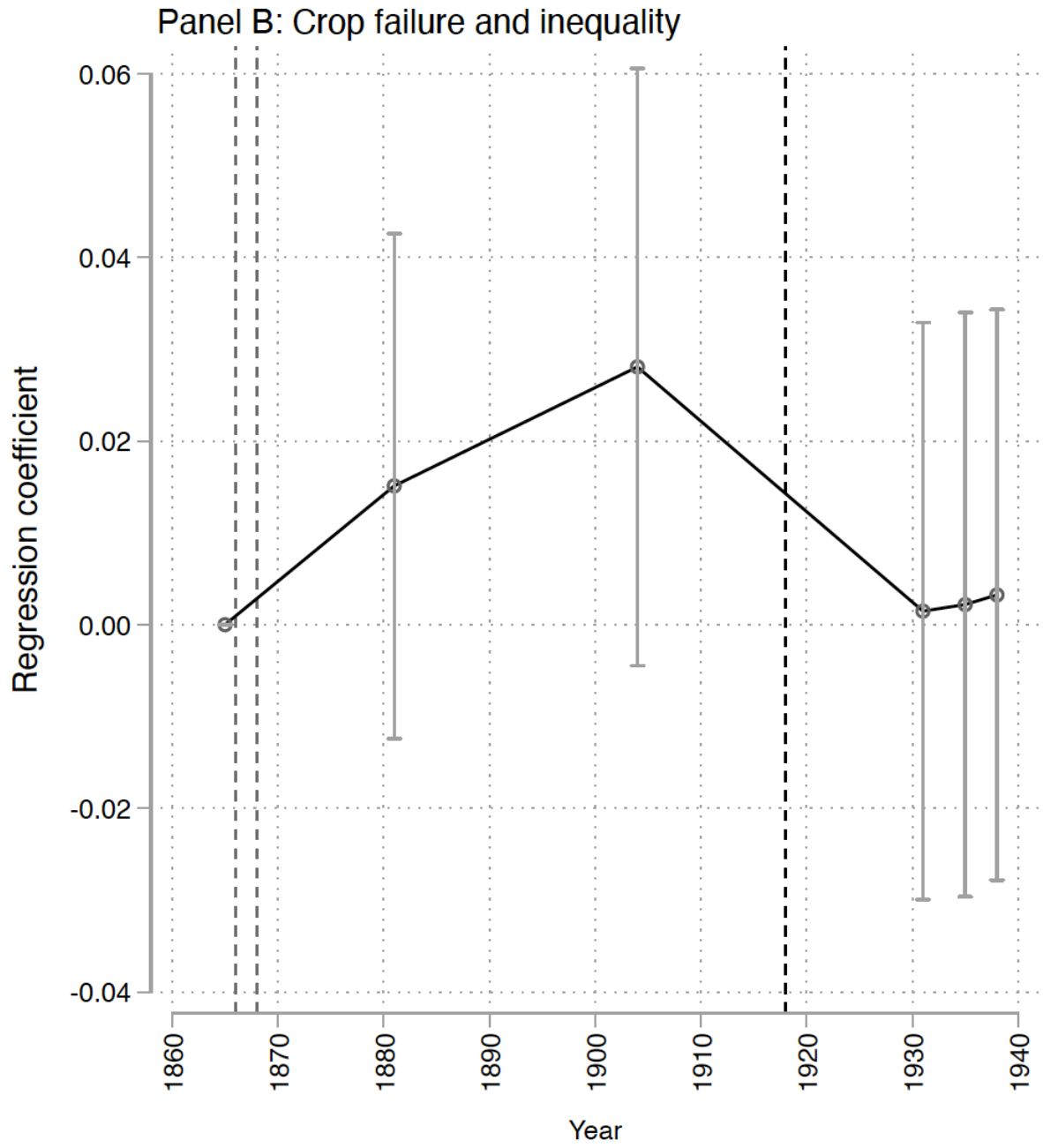

Panel A: Insurgent casualty share
Insurgent casualty share
0.03
0.02
0.01
0.01
0.30
0.40
0.50
0.60
0.70
Income Gini
Slope coefficient = 0.040 (0.008), p = 0.000
Panel B: White casualty share
White casualty share
0.0040
0.0035
0.0030
0.0025
0.0020
0.30
0.40
0.50
0.60
0.70
Income Gini
Slope coefficient = 0.000 (0.002), p = 0.926
Panel C: SDP vote share
SDP vote share
0.60
0.50
0.40
0.30
0.30
0.40
0.50
0.60
0.70
Income Gini
Slope coefficient = 0.716 (0.093), p = 0.000
Panel D: Workers' association members
Workers' association members
0.12
0.10
0.08
0.06
0.04
0.02
0.30
0.40
0.50
0.60
0.70
Income Gini
Slope coefficient = 0.225 (0.037), p = 0.000
Panel E: Strike participation
Strike participation
0.40
0.30
0.20
0.10
0.00
0.30
0.40
0.50
0.60
0.70
Income Gini
Slope coefficient = 0.977 (0.503), p = 0.053

Results #3

Towards Equality




Panel A: Famine deaths and inequality
Regression coefficient
0.80
0.60
0.40
0.20
0.00
-0.20
1860
1870
1880
1890
1900
1910
1920
1930
1940
Year


Panel B: Crop failure and inequality
Regression coefficient
0.06
0.04
0.02
0.00
-0.02
-0.04
1860
1870
1880
1890
1900
1910
1920
1930
1940
Year

	Land redistribution	
	(1)	(2)
Panel A		
Famine deaths per capita	1.062***	0.773***
	(0.178)	(0.181)
Conley SE	0.281	0.251
N	398	398
R^2	0.340	0.419
Outcome mean	0.276	0.276
Panel B		
Crop failure	0.066***	0.050**
	(0.020)	(0.022)
Conley SE	0.023	0.021
N	320	320
R^2	0.417	0.498
Outcome mean	0.278	0.278
Controls	✓	✓
County FE		✓

	Land redistribution		Δ Welfare spending	
	(1)	(2)	(3)	(4)
Panel A				
Famine deaths per capita	1.062***	0.773***	0.853*	0.877*
	(0.178)	(0.181)	(0.449)	(0.477)
Conley SE	0.281	0.251	0.446	0.413
N	398	398	398	398
R^2	0.340	0.419	0.083	0.153
Outcome mean	0.276	0.276	3.220	3.220
Panel B				
Crop failure	0.066***	0.050**	-0.040	-0.022
	(0.020)	(0.022)	(0.053)	(0.055)
Conley SE	0.023	0.021	0.051	0.050
N	320	320	322	322
R^2	0.417	0.498	0.083	0.180
Outcome mean	0.278	0.278	3.248	3.248
Controls	✓	✓	✓	✓
County FE		✓		✓

	Land redistribution		Δ Welfare spending		Δ School spending	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A						
Famine deaths per capita	1.062***	0.773***	0.853*	0.877*	1.143**	0.899*
	(0.178)	(0.181)	(0.449)	(0.477)	(0.481)	(0.529)
Conley SE	0.281	0.251	0.446	0.413	0.571	0.615
N	398	398	398	398	397	397
R^2	0.340	0.419	0.083	0.153	0.106	0.134
Outcome mean	0.276	0.276	3.220	3.220	1.871	1.871
Panel B						
Crop failure	0.066***	0.050**	-0.040	-0.022	0.053	0.064
	(0.020)	(0.022)	(0.053)	(0.055)	(0.047)	(0.052)
Conley SE	0.023	0.021	0.051	0.050	0.047	0.048
N	320	320	322	322	321	321
R^2	0.417	0.498	0.083	0.180	0.113	0.142
Outcome mean	0.278	0.278	3.248	3.248	1.853	1.853
Controls	✓	✓	✓	✓	✓	✓
County FE		✓		✓		✓

	Land redistribution		Δ Welfare spending		Δ School spending		Δ Health spending	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A								
Famine deaths per capita	1.062***	0.773***	0.853*	0.877*	1.143**	0.899*	3.000***	2.612***
	(0.178)	(0.181)	(0.449)	(0.477)	(0.481)	(0.529)	(0.826)	(0.918)
Conley SE	0.281	0.251	0.446	0.413	0.571	0.615	0.908	1.007
N	398	398	398	398	397	397	394	394
R^2	0.340	0.419	0.083	0.153	0.106	0.134	0.042	0.066
Outcome mean	0.276	0.276	3.220	3.220	1.871	1.871	3.791	3.791
Panel B								
Crop failure	0.066***	0.050**	-0.040	-0.022	0.053	0.064	0.206**	0.194*
	(0.020)	(0.022)	(0.053)	(0.055)	(0.047)	(0.052)	(0.097)	(0.104)
Conley SE	0.023	0.021	0.051	0.050	0.047	0.048	0.134	0.136
N	320	320	322	322	321	321	322	322
R^2	0.417	0.498	0.083	0.180	0.113	0.142	0.062	0.089
Outcome mean	0.278	0.278	3.248	3.248	1.853	1.853	3.824	3.824
Controls	✓	✓	✓	✓	✓	✓	✓	✓
County FE		✓		✓		✓		✓

Concluding Remarks

Conclusions

- Countries that once appear poor and backward may not be destined—perhaps because of culture or deep institutions—to be trapped in a low-development, high-inequality equilibrium.

- Nordic countries were not always equal! We provide a case study of Finland's drastic transformation into one of the most equal and democratic societies.
  - Economic and political inequalities of the early 1900s served as catalysts of participation in the Civil War in 1918.
  - The origins of the pre-civil war inequality were at least partly in the famine of 1866-1868.
  - The Civil War created a credible threat of revolution. Consequently, the country went through a successful democratization and started redistributing more.

- These findings speak to a prominent hypothesis that historically, violent uprisings have played an important part in shaping the distribution of prosperity and power.

- Moreover, our results show that historical events may have persistent effects that are not necessarily straightforward. In our case, the famine of 1866-1868 had differential effects over time, contingent on the historical circumstances (the Russian Revolution and the outcome of the Finnish Civil War).