The Deep Roots of Rebellion: Evidence from the Irish Revolution

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Motivation: Understanding conflicts and unrest

– Contributions in social sciences have remarked the impact of conflicts on the long-run growth of countries and the need of understanding their causes;

– A large number of studies in the political science and economics literature have investigated the origins of social unrest and conflict;

– Researchers have identified many potential drivers, such as economic conditions, inequality, political exclusion, ethnic and religious fractionalization, and natural resources.

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This paper in a nutshell

In our paper we analyze what triggers political violence, using the evidence from the **Irish Revolution** (1913-1921). In particular, we

- Identify a large group of the individuals who took part to the rebellion;

- Link these individuals with different historical administrative data;

- Investigate the *individual* characteristics of those who joined the movement of independence;

- Test whether the radical negative shock originated by the **Great Irish Famine** (1845-1850) had a long-run causal effect on the decision to rebel against British rule;

- Study how cultural values modified by negative historical shocks can explain rebellions in the long-run.

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Our Hypothesis

- Famine episodes are ideal candidates for studying persistent historical negative shocks;

- The **Irish Famine** (1845-1850), caused by the diffusion of the potato blight, was one of the biggest tragedies of modern history;

- Relief was provided by Westminster in the form of public works, workhouses and eventually by Irish-run soup kitchens;

- Although the demographic impact was immediate, the historical evidence suggests that politically-motivated rebellion smouldered under the surface for several years.

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The Famine and the movement of Independence (1913-1921)

- The casual link between the Irish Famine and revolutionary episodes against the British rule has been highlighted by a few historical studies on the Irish identity in the United States.

- ***Our empirical results provide evidence in support of the famine's inter-generational legacy of rebellion.***

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The movement of Independence (1913-1921)

- Third Home Rule (1914);

- World War I;

- Easter Rising (1916);

- The anti-conscription movement;

- War of Independence (1919-1921);

- The Irish Republican Army;

- Guerrilla tactics;

- The Anglo-Irish Treaty (1921).

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Who are the Insurgents?

- Rebels are a hidden population, which, by its very own nature, is difficult to identify in a systematic way.

- The wealth of historical data that has been recently made available allows the identification of insurgents' characteristics and sheds light on the factors affecting the decision to rebel.

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Identifying the rebels: Exploiting the Military Archives

We consider applications for:

1. Pensions to all veterans (or spouses and children of deceased soldiers) who had participated in the Easter Rising and the War of Independence;

2. Medals to all veterans involved in military activities during the Easter Rising (1916 Medal);

Characteristics of the documents:

1. 4,170 applications;

2. Information about first name and family name, date of birth, proof of participation and place of residence at the time of the pension or medal application.

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Individual characteristics: 1911 Irish Census

- 1911 Irish Census, digitized by the National Archives of Ireland;

- Name, gender, age, county of birth, relation to the household head, religion, literacy, knowledge of Irish, occupation, type of disability (if any);

- 4,384,519 observations, across the 32 Irish counties.

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Data matching

- Matching between the list of veterans with the 1911 Irish Census.

- Hardly an easy task!

- Translation of Irish names

- Matching relies on four principles:
  - ➢ Complete name
  - ➢ Age (±2)
  - ➢ Place of residence in 1911
  - ➢ Nicknames used during the Rebellion

- Matching rate: 34%

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Insurgents

Figure 2: Geographical dispersion of Irish Rebels according to a scale ramp. Darker shades represents a higher number of rebels.

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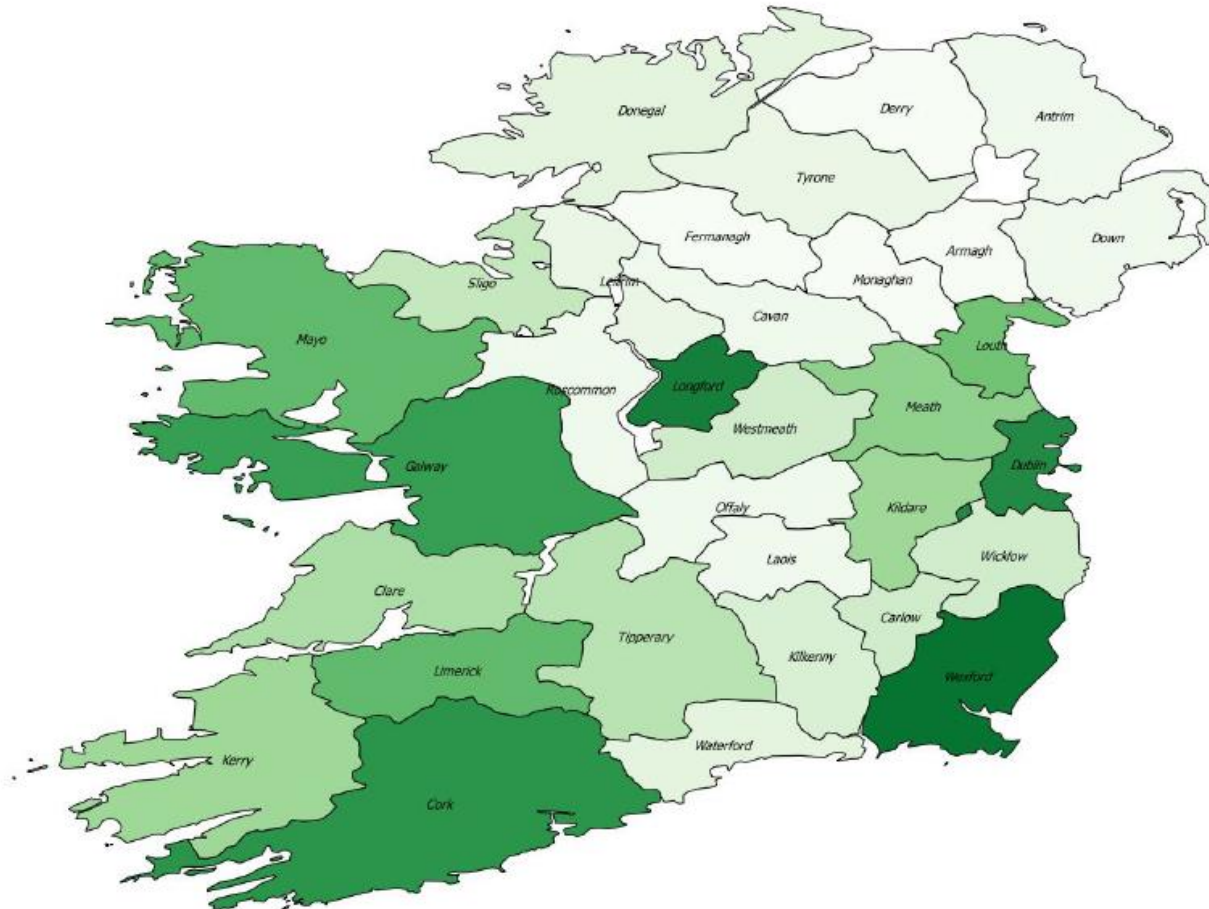
Basic econometric specification

We follow the approach suggested by Krueger (2007):

$$Rebel_{ijd} = \alpha + \mathbf{X}_i^{'}\boldsymbol{\gamma} + \mathbf{Z}_d^{'}\boldsymbol{\delta} + \varepsilon_{ijd}$$

- ***Rebel_{ijd}*** is an indicator variable which takes the value 1 if individual *i* born in county *j* living in district *d* takes part to rebellion activities.

- ***X_i:*** set of individual characteristics, such as age, gender, literacy, occupational dummies, being catholic, marital status, speaking Gaelic, household size

- ***Z_d*:** set of characteristics of the district of residence, such as share of males, share of Catholics, share of individuals aged 25-40, literacy rate

Estimation technique: Rare events logistic estimation method (King et al. 2003), but OLS gives consistent results.

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	Dependent variable: Rebel$_{ijd}$		
age	-0.06***	-0.05***	-0.05***
	(0.01)	(0.00)	(0.01)
female	-2.15***	-2.36***	-2.24***
	(0.21)	(0.23)	(0.19)
readers	0.45**	0.41**	0.31*
	(0.18)	(0.17)	(0.16)
catholic	2.37***	2.51***	2.04***
	(0.36)	(0.38)	(0.24)
married	0.29***	0.12	0.01
	(0.11)	(0.09)	(0.09)
gaelic	0.58*	0.79***	1.02***
	(0.31)	(0.28)	(0.31)
family size	0.04***	0.05***	0.03***
	(0.01)	(0.01)	(0.01)
professional		-0.61***	-0.52**
		(0.20)	(0.22)
clerical		0.23	-0.04
		(0.16)	(0.20)
sales		-0.28	-0.40**
		(0.20)	(0.19)
service		-0.15	-0.19
		(0.31)	(0.29)
agriculture		-0.97*	-0.58
		(0.51)	(0.37)
production		0.36***	0.26**
		(0.11)	(0.12)
share male			-0.89
			(1.64)
share catholic			1.41**
			(0.68)
share age2540			18.21***
			(2.90)
share readers			-0.53
			(1.63)
Pseudo R-squared	0.10	0.11	0.18
N. of obs.		2,765,103	

The Great Irish Famine (1845-1850)

- The Great Irish Famine was caused by the *Phytophthora infestans*, a potato blight.

- The *Phytophthora* struck much of Europe and was observed in Belgium, France, Germany, England, Scotland and Ireland.

- The epidemic was most severe in Ireland due to the widespread planting of potatoes and favourable weather conditions.

- The pathogen spreads through spores released by an infected plant. Spores can spread by air, by water and from tuber to tuber.

- It is estimated that the daily intake of potatoes for most of the year was about two kilos per person in the early 1840s.

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The Great Irish Famine (1845-1850)

- About one third of the potato crop was destroyed by the *Phytophthora* in 1845;

- Almost complete failure of the potato crop in 1846;

- In 1847 the extent of the blight was minimal, but due to the limited availability of seed potatoes from the previous year, the total yields were low;

- The *Phytophthora* hit badly in 1848 and the crop failed almost completely;

- The blight appeared again, but to a lesser extent, in 1849 and, in some areas, in 1850 as well.

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The Great Irish Famine and demographic changes

Ó Gráda (1989 and 1994):

- The famine claimed one million deaths over the period 1845 and 1851;
- One million people emigrated, mainly to North America, out of a population of 8.5 million people.

The general consensus among historians and critics at the time was that "[**British] relief [was] being too little, too slow, too conditional and cut off too soon**" (Ó Gráda, 2009).

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Cultural persistence over space and time

- Although the demographic impact was immediate, the historical evidence suggests that politically-motivated rebellion smouldered under the surface for several years;

- Two reasons for this delay:

  - ➢ Resignation and debilitation due to the long period of starvation and physical deterioration;
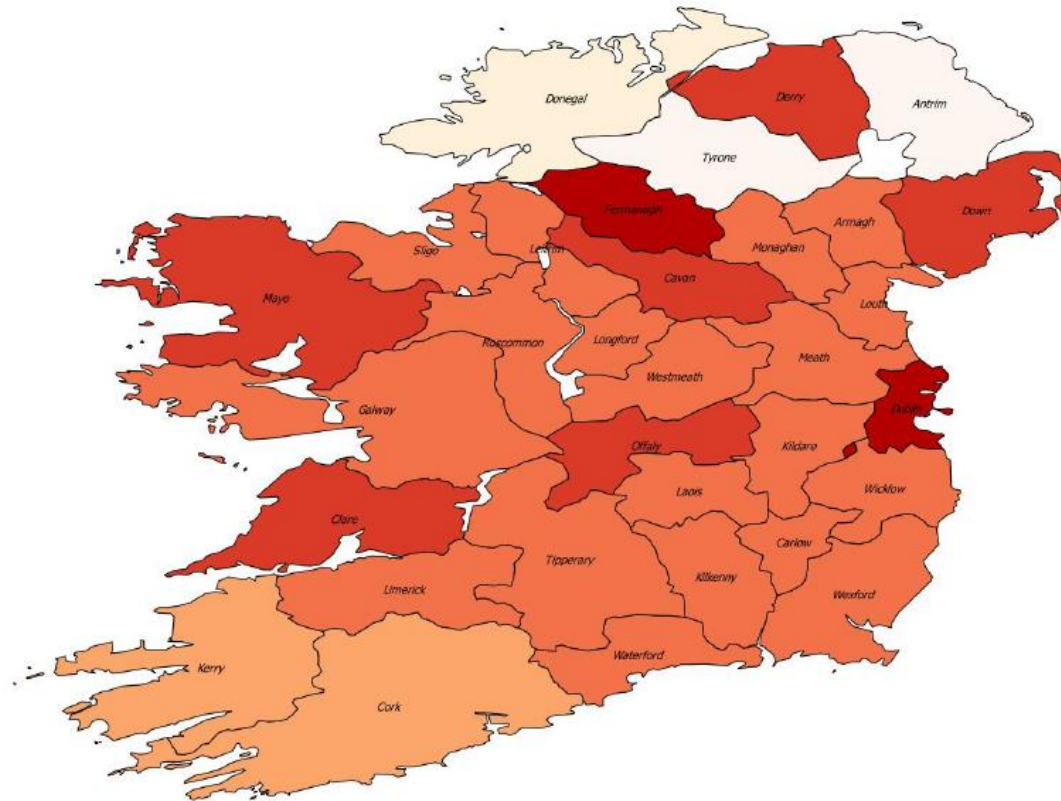 - ➢ Changes of institutional settings.

Measuring the Famine

- We measure the famine in terms of the potato crop failure, *i.e.* the percentage change in potato production between 1845 and 1846.

- We also consider the percentage change in potato production between 1844 and 1846.

- Information on potato production and potato cultivation at county level relies on the statistical work by Bourke (1959).

- All these measures are comparable to the classification made by Goodspeed (2016).

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The Great Irish Famine (1845-1850)

Figure 1: Extent of the Famine at county level represented according to a scale ramp. Darker shades represents more intense effect.

Source: Authors' calculations using data provided by Bourke (1959).

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Econometric specification

$$Rebel_{ijd} = \alpha + \beta Famine_j + \mathbf{X}_i^{'}\boldsymbol{\gamma} + \mathbf{C}_j^{'}\varphi + \mathbf{Z}_d^{'}\boldsymbol{\delta} + \varepsilon_{ijd}$$

- **Rebel$_{ijd}$** is an indicator variable which takes the value 1 if individual *i* born in county *j* living in district *d* takes part to rebellion activities.

- *Famine$_j$* measures the extent of the famine in the county of origin *j*

- **X$_i$:** set of individual characteristics, such as age, gender, literacy, occupational dummies, being catholic, marital status, speaking Gaelic, household size

- **C$_j$:** extent of past rebellion at county of origin level (1798 Rebellion and Land war), soil quality, economic development

- **Z$_d$:** set of characteristics of the district of residence, such as share of males, share of Catholics, share of individuals aged 25-40, literacy rate

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Table: Relogit Estimation

	Dependent variable: $\textbf{Rebel}_{ijd}$			
	(1)	(2)	(3)	(4)
Famine	2.18***	1.94***	1.47***	1.01***
	(0.52)	(0.51)	(0.48)	(0.26)
Migration	0.01	0.01	-0.01	0.13***
	(0.06)	(0.05)	(0.05)	(0.04)
Pseudo R-squared	0.13	0.14	0.16	0.18
N. of observations	2,587,987			

History of Violence and Poverty

➢The rebellion might be originated by other forms of violence (related to the land condition) in the past;

➢We consider additional regressors:

1. number of outrages against property and the number of violent episodes during past rebellions in Anglo-Irish history (1798 and 1881);

2. the quality of land (FAO data);

3. the family names of the insurgents during 1798.

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	Dependent variable: **Rebel**$_{ijd}$		
	(1)	(2)	(3)
Famine	1.46***	1.36**	1.45***
	(0.20)	(0.54)	(0.15)
Violence 1881	21.70*		
	(12.72)		
Property 1881	21.08***		
	(6.08)		
Claimants 1798	0.05***		
	(0.00)		
FAO Cereal		-0.010***	
		(0.00)	
FAO Potato		-0.230	
		(0.14)	
Family Names			0.08***
			(0.02)
Pseudo R-squared	0.15	0.16	0.16
N. of observations		2,587,987	

Instrumental Variable Estimation

Two potential sources of bias:

1)   Measurement errors;

2)   Potential confounding factors which might be positively related both to the impact of the famine and the probability to join the Irish rebellion movement.

We refer to the scientific literature based on the dispersion of the potato blight and construct instruments on the basis of the natural (and exogenous) drivers of the intensity of famine.

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IV estimation: First stage

- Bourke (1964) and Bourke and Hubert (1993): humidity, temperature and wind during spring and summer are positively related with the intensity of the famine in Ireland;

- Cavalli-Sforza and Feldman (1981) and Kampmeijer (1977): the spread of the potato blight in Europe is a classical example of smooth and isomorphic dispersion;

- We estimate the effect of the famine based on climatic and geographical characteristics of the county
  - ✓ Temperatures – Spring and Summer 1844-1846
  - ✓ Rainfall – Spring and Summer 1844-1846
  - ✓ Longitude, Latitude

- The IV analysis confirms the previous findings.

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Conclusions

- In this study we investigate the research question on what makes a rebel from a qualitative and quantitative point of view.

- Our original contribution exploits the information contained in a unique dataset based on Irish historical data during the first two decades of the 20th century.

- We are able to identify the individual features and determinants of those who voiced their discontent and actively participated in the movement for the independence of Ireland from British rule.

- We analyse the inter-generational transmission of rebellion generated by the large negative radical shock caused by the Great Irish Famine.

- We shed some light on the discussion on the drivers of rebellion.

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Thank You!