

A Study of Entitlement Methods Based on Spatial and Historical Data - An Example of the Potato Blight Famine in Ireland, 1845 - 1851

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Why people starving?

- A wide spread story is potato blight, but (Bourke 1964) ...
- Many think Irish were extremely poor at that time, but (Wegge et al. 2017) ...
- Maybe Ireland lack of food? But (Donnelly Jr 2002) ...
- Land quality was bad but (Kelly & Gráda 2015) ...
- Famine was hard to prevent at 19th century, but ...

Why people starving?



- Amartya Sen, 1998 Nobel Price in economic science
- In his book *Poverty and Famine* he mentioned an entitlement theory. (Sen 1982)

Why Irish Starving?

Amartya only find evidence in India, the Great Bengal Famine, so I am curious if we can use this theory to analysis Irish situation.

- So the assumption will be it is not because Ireland lack of food, but because Irish can not get the food.

[Maybe is a pie in the sky]

Further, I am going to compare different provinces in Ireland and try to find if this province suffer less stringency in the famine is because people have more right.

Data Introduction

Aiming at time range from 1821 to 1900, I combined data from these old documents:

- Ireland census from 1821 to 1891
- Ireland population estimate research
- Central Statistics Office 19th century agriculture report
- The Irish National Archives of price and yield
- Irish Industrail Report
- Ireland Statistics Department 1927 Report
- UK 19th century import and export list
- ...

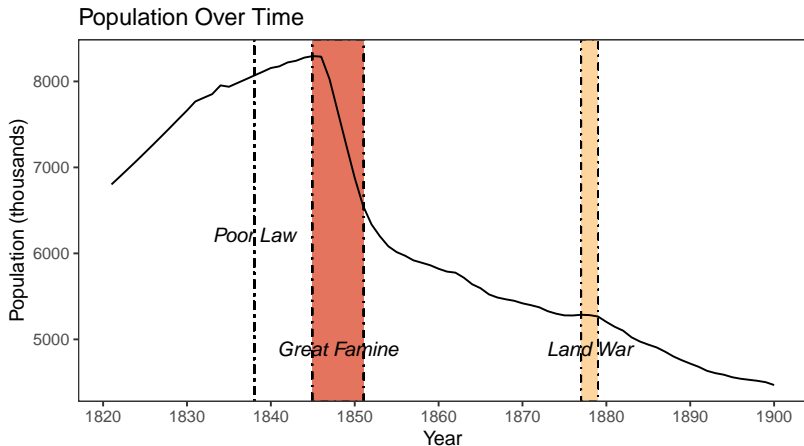
Data Introduction

- It looks like this

[illegible]

Population

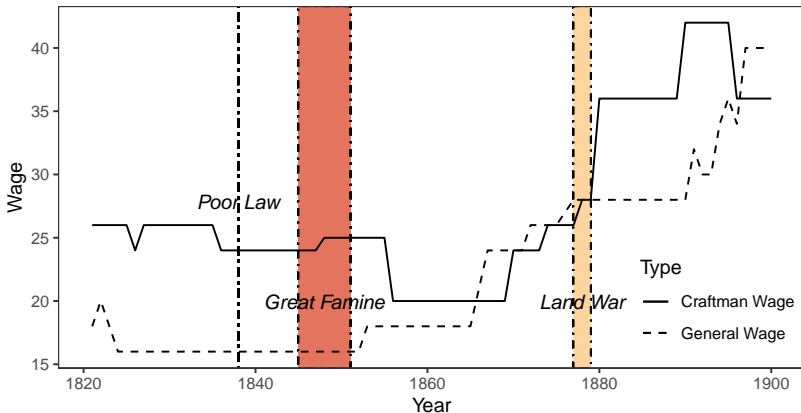
- I used Ireland 1821 to 1891 census and immigration estimation to calculate the 19th century population.



Wage

- I used the lowest wage in Dublin to estimate the average wage in Ireland.

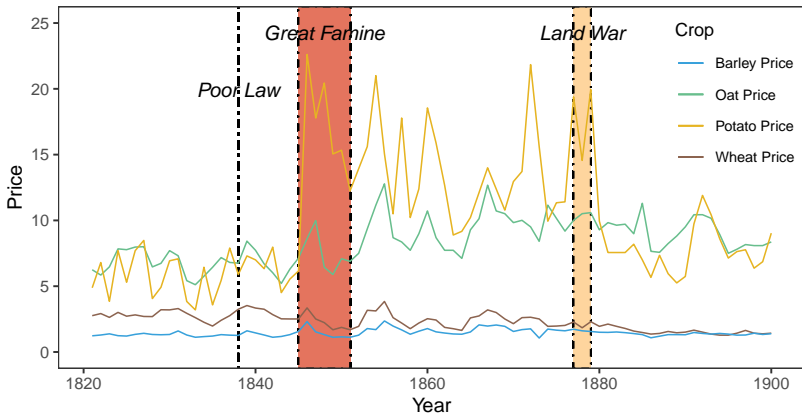
Craftman Wage vs. General Wage



Grain Prices

- Barley, oat, potato and wheat were the four main grain in 19th century's Ireland (Maybe till today).

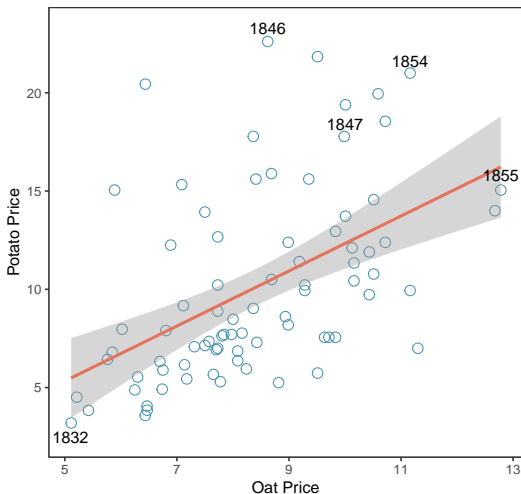
Grain Prices Over Time



Potato Price & Oats Price

- Potato and Oats were two most yield in nineteenth century.

Scatter Plot of Oat Price vs. Potato Price



Other Things

I am still working on this data set, here are things I already known but not draw a plot in this presentation:

- Grain yield (wheats, oats, barley and livestock numbers from 1847)
- Eggs and buttery price from 1845
- Grain import and export from 1839, butter export from 1821

Here are things I need to know more:

- Ground rent and taxes from 1821 to 1900
- More details about livestock price and yield
- ...

Regression

Maybe there are two regression approaches:

- A RDD regression will be conducted to see if the people's entitlement change around the famine cutoff.
- A regression model will be conducted to see which contribute to the population decrease more, food or right?

Also, I already found a poverty index and population index in 1847 of the east and west part of Ireland. So I am planning to use this spatial data to analysis the relationship between poverty and famine.

- Bourke, P. A. (1964), 'Emergence of potato blight, 1843-46.'
- Donnelly Jr, J. S. (2002), *The great Irish potato famine*, The History Press.
- Kelly, M. & Gráda, C. Ó. (2015), 'Why ireland starved after three decades: The great famine in cross-section reconsidered', *Irish Economic and Social History* **42**(1), 53–61.
- Sen, A. (1982), *Poverty and famines: an essay on entitlement and deprivation*, Oxford university press.
- Wegge, S. A., Anbinder, T. & Ó Gráda, C. (2017), 'Immigrants and savers: A rich new database on the irish in 1850s new york', *Historical Methods: A Journal of Quantitative and Interdisciplinary History* **50**(3), 144–155.