# Tariff protection in Colonial Victoria: Evidence of Lobbying?

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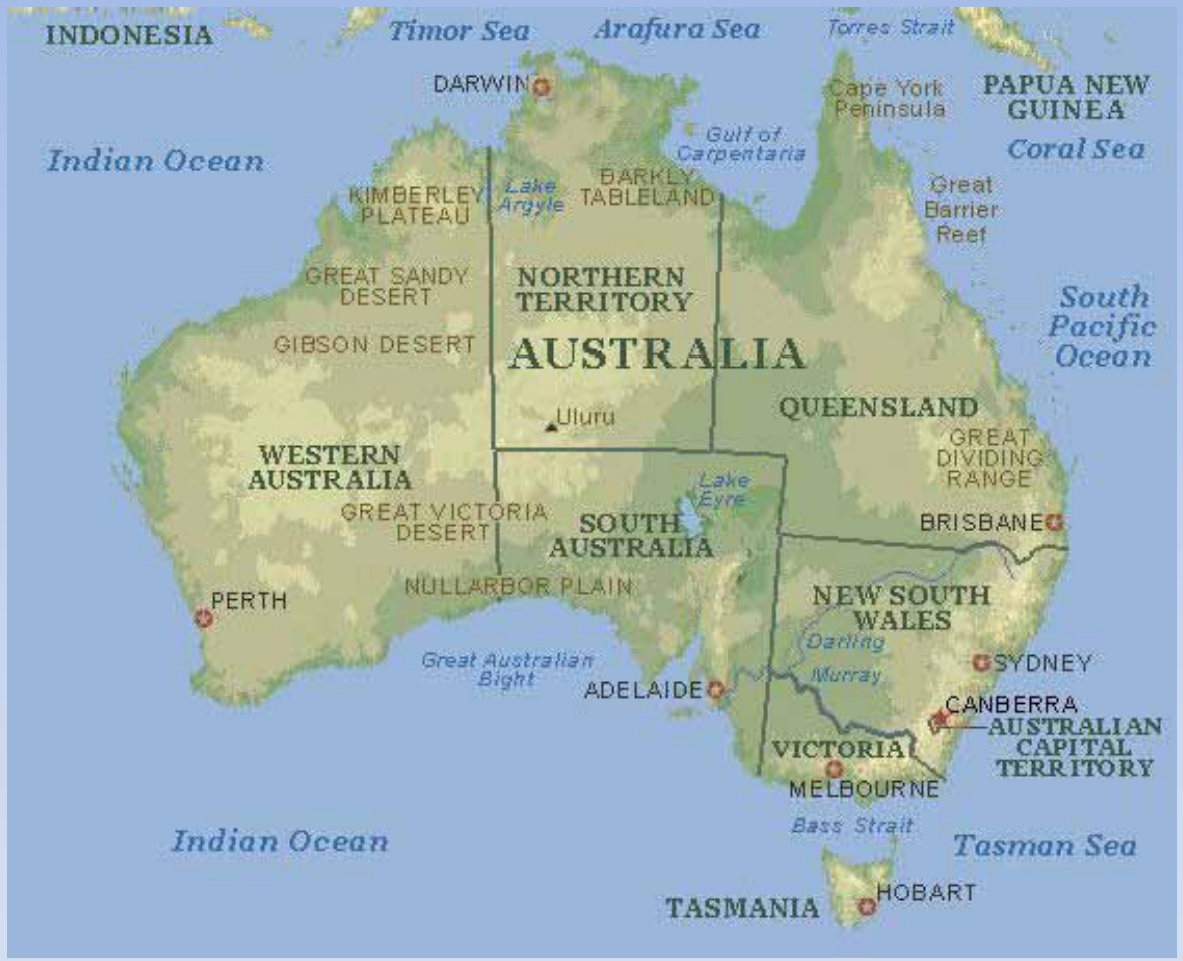
Paper presented at STIAS, November 2010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Timor Sea
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Indian Ocean
Gulf of Carpentaria
Coral Sea
KIMBERLEY PLATEAU
Lake Argyle
BARKLY TABLELAND
Great Barrier Reef
GREAT SANDY DESERT
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South Pacific Ocean
GIBSON DESERT
AUSTRALIA
QUEENSLAND
Uluru
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Lake Eyre
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SOUTH AUSTRALIA
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Great Australian Bight
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ADELAIDE
CANBERRA
AUSTRALIAN CAPITAL TERRITORY
VICTORIA
MELBOURNE
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# Trade protection

- Economists generally agree on the virtues of free trade
- Protection shown to be negatively associated with growth in modern economies
  - Often a function of lobbying
  - Deadweight losses from lobbying and protection
  - Worse in less industrialised nations with poor institutional quality and government

# Formal models of lobbying

- Large literature

  ‘workhorse model’: Grossman and Helpman (1994)
- Many extensions

  General result: deviation from free trade due to lobbying activities
- Explains who is more likely to get protection

# Tariffs in history

- Empirical problem:
  - Tariffs shown by some to have helped growth in 19th century (O'Rourke; Williamson & Clements)
  - If solely a function of lobbying, this seems to be a particularly odd result
- Is it possible that the types of industry protected matter?
- Can the structure of trade protection tell us about how intensive lobbying is?

# Nunn and Trefler (2006)

- Starting point for this study
- Consider G-H framework but allow for externalities
- Key results:
  - A country's average tariff rates tell us little about lobbying
  - Countries with 'good' institutions protect externality generating industries
  - Lobbying effective only where institutional quality is weak. Hence, we see the 'wrong' sectors being protected.

$\Rightarrow$ Structure of trade protection can tell us about rent seeking

# Empirical evidence

- Nunn and Trefler (2006)
  - 59 countries, 17 sectors (1972-2000). Data on institutional quality (Polity, etc). Externalities given by level of education of labourers in each sector
  - Skill bias of tariffs positively associated with growth
- Tena-Junguito (2008)
  - Historical application (1876): 32 Countries, 25 industrial products
  - Uses wage rates (assumes uniform distribution of k between sectors)
  - Tariffs positively associated with growth for 'rich club', but result falls away if Settler economies included – but

We wish to look more closely

Intra - national variation in tariffs

- E.g. Vic average 1872/75=18%; 1890 = 26%

(cf Tena-Junguito data for Australia, 1875: 4% - as it includes data from British export records which also includes NSW and less protected destinations)

# This study

- Slightly different approach
- Examine one colony with high levels of protection – Victoria
  - Generate disaggregated tariff data 1875, 1880, 1890
  - Match to data on industrial characteristics

  (eg. Capital intensity, horse power, steam power, gas power, labour)

# Data

- Tariff data
  - 1875: 68 sectors (compiled from 143 goods)
  - 1880: 73 sectors (175 goods)
  - 1890: 77 sectors (208 goods)
- Manufacturing data for each sector:
  - Number of firms
  - Horsepower employed
  - Female/male employment ratio
  - Value of capital
  - Principal energy source  (labour; horse, water, steam, gas (post 1880)

# Deviations from N-T and Tena Junguito

- We do use education level of workforce (N-T)
- We do not use disaggregated wage data (Tena J))
- Use our industrial measures relating to production to try and capture externalities
  - Eg. Steam associated with increases in MP of labour (Atack *et al.*, 2006) $\Rightarrow$ early use may have promoted other industries
- One possible labour market measure to proxy skill might be female/male ratio

# Analysing the Victorian tariff

- Hypothesise that a ‘good’ tariff will be positively associated with:
  - Use of steam relative to labour as main power source
  - Horse power per firm employed
  - Low F/M ratio
  - Higher capital per firm
- If industries with externalities are more protected- lobbying to influence tariffs is less of a problem
- If industries with externalities are less protected- lobbying to influence tariffs could be a ‘problem’

# High v low protection in Vic

| | Top 10 | | Bottom 10 | |
|---|---|---|---|---|
| **Measure** | **1875** | **1880** | **1875** | **1880** |
| Ave t | 0.23 | 0.27 | 0.04 | 0.04 |
| Ave n | 18.2 | 31.6 | 22.1 | 17.6 |
| Ave HP per firm | 3.62 | 3.4 | ***19.6*** | ***7.8*** |
| Prop Steam & Gas* | 0.28 | 0.26 | ***0.39*** | ***0.3*** |
| Machinery and Plant per firm | 729.02 | 498.5 | ***3408*** | ***1209.1*** |
| Machinery and Plant per labourer | 50.5 | 39.7 | ***92.4*** | ***66.6*** |
| Female-Male ratio | 0.44 | 0.24 | ***0.19*** | ***0.2*** |

**Table 1 – Results of Panel Regression: 1875-1890**

| | **Model 1** | **Model 2** |
|---|---|---|
| N firms | -0.002<br>(0.010) | 0.0016<br>(0.01) |
| Land | **0.006*****<br>(0.013) | **0.023*****<br>(0.01) |
| Capital | -0.014<br>(0.012) | -0.012<br>(0.013) |
| HP | **0.024****<br>(0.012) | -0.012<br>(0.024) |
| Steam | **-0.087****<br>(0.037) | |
| Water | 0.263<br>(0.192) | |
| Horse | **-0.558*****<br>(0.189) | |
| Labour | | |
| FM | 0.002<br>(0.018) | |
| Constant | 0.160*<br>(0.088) | 0.023<br>(0.086) |
| n | 196 | 196 |
| Groups | 91 | 91 |
| R squared | 0.27 | 0.13 |
| F statistic | 5.51*** | 6.78*** |

**Table 2**
**1880-1890**

| | **Model 1** | **Model 2** |
|---|---|---|
| N firms | **-0.034**** (0.014) | **-0.027*** (0.014) |
| Land | -0.013 (0.008) | **0.021***** (0.005) |
| Capital | **-0.036**** (0.016) | **-0.037*** (0.021) |
| HP | **0.052***** (0.017) | **0.036**** (0.014) |
| Steam | **-0.12*** (0.065) | |
| Water | **0.644***** (0.193) | |
| Horse | **-0.292**** (0.139) | |
| Gas | 0.0119 (0.063) | |
| Labour | | |
| FM | -0.034 (0.057) | |
| Constant | 0.453*** (0.131) | 0.337** (0.148) |
| n | 136 | 136 |
| Groups | 83 | 83 |
| R squared | 0.41 | 0.29 |
| F statistic | 7.05*** | 7.91*** |

# Discussion

Tentative results so far:

- Sectors with a higher % steam power were *less* likely to receive protection
- Capital / firm negatively associated with protection
- Horse power positively associated with protection
- These results stronger over time (1880-90 vs 1875-80)
- Negative relationship between number of firms in a sector and level of protection

# Tentative insights and speculations

- Tariffs and Lobbying are complicated but in this case:
- Tariffs in Victoria not associated with industries with externalities- suggests possible influence of lobbying
- But maybe also:
- Tariff setting ad hoc and ‘accidental’ in effect
- Tariff setting changes over time - from initially revenue raising to being lobby group influenced
- Rival lobby group influence may offset imperfectly (eg land holders v industrialists)
- What is seen as a positive externality in hindsight not the initial intention (employment max. v capital growth)
- Many other ‘errors’ (measurement, proxies) may explain results

More work to do!