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## Fruit of the Vine? Alternative preconditions for the endowments-inequality hypothesis

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Cape Colony in perspective

## INTRODUCTION AND HYPOTHESIS

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### The Cape Colony

- Cape Colony unique
  - Controlled by Company, not Crown
    - No political rights for "vrijburghers" (free citizens)
- Key exogenous occurrence: arrival of French Huguenots (1688)
- Cape was based on slave labour (1658)
- Largely subsistence economic activity
  - No free market for individuals' goods
  - VOC was a monopsonist
    - And granted monopoly rights in certain cases to individuals (pachters)
    - Often in the sale of liquor, especially wine
- Evidence of elite
  - Sumptuary laws (1755)
  - Wealth inequality (Fourie and Von Fintel, forthcoming)

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### Inequality in newly settled societies

- Why do some societies prosper while others are left behind?
  - Early inequality may explain the type of institutions that developed, institutions that were disadvantageous to long-run growth
- Engerman and Sokoloff (2000; 2002; 2003; 2005) provide two explanations for the rise of inequality in newly settled societies
  - A suitable climate and soil
  - A large concentration of natives

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### An alternative hypothesis

- Not only climate and cheap labour that creates institutions in which inequality persists
  - Cape Colony has Mediterranean climate (similar to US colonies)
  - Local Khoikhoi could not be enslaved (Company rule)
- 1) Labour intensity of the dominant industry
  - French Huguenots gives Cape Colony comparative advantage in wine exports
    - Dutch allow this to compete with French exports
- 2) Mercantilist institutions of the Company
  - Monopoly owners (pachters) that would form the elite

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The *opgaafrolle*

## DATA

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## Data

- *Opgaafrolle* of the VOC
  - spanning 1663 to 1757
  - Roughly first century of Dutch settlement
- Tax inventory records
  - Largely subsistence society
    - VOC organised markets and transactions
  - Information on assets rather than consumption and income

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## Data

- Agricultural indicators
  - Tithe on grains collected
  - Wine production taxed upon entry into Cape Town
  - Sheep and cattle ownership for poll tax
  - Horses
    - Transport
    - Carriages a display of wealth by gentry
- Labour inputs
  - Slaves
    - Status symbol
  - *Knechts*

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## Data

- Non-agricultural indicators required to establish wealth of non-farmers
  - Large sample of individuals with zeroes on *all* agricultural indicators
  - Few variables that capture other commercial interests
  - So non-farmers appear to flesh out a large bottom tail of the wealth distribution
  - Omitted from analysis

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Empirical evidence

## RESULTS

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## Descriptives

- "Structural break" – slave ownership
  - Soon after wine farming commenced
    - Though "average" wine farmer did not improve production

Table 1 Descriptive Statistics

Year	Total slaves per farmer		Effect (mean < 15 slaves)		Effect (mean > 20 slaves)		Effect (mean > 25 slaves)		Wine in vineyards produced per farmer		Cattle (head per farmer)		Sample Size
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
1663	0.83	1.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.04	3.14	23
1670	1.28	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98	3.04	25
1678	2.64	3.70	0.01	0.12	0.01	0.08	0.00	0.00	0.00	0.00	3.77	4.04	148
1682	2.81	3.44	0.02	0.18	0.06	0.00	0.00	0.00	0.00	0.00	2.70	3.29	83
1685	2.48	3.82	0.01	0.11	0.01	0.11	0.00	0.00	0.00	0.00	4.65	4.83	85
1688	3.13	4.81	0.06	0.24	0.00	0.00	0.00	0.00	0.00	0.00	2.84	4.83	88
1692	3.18	4.28	0.09	0.18	0.01	0.12	0.00	0.07	0.00	0.00	6.80	6.23	222
1699	2.90	4.83	0.08	0.18	0.06	0.12	0.01	0.11	0.00	0.00	3.91	4.88	266
1700	2.99	5.89	0.05	0.22	0.02	0.15	0.01	0.13	0.85	1.40	3.73	3.46	271
1702	2.67	6.94	0.04	0.21	0.01	0.11	0.01	0.05	0.36	1.71	6.94	10.79	338
1709	4.18	7.29	0.08	0.27	0.06	0.23	0.03	0.18	0.43	1.27	8.11	19.21	371
1712	4.06	7.86	0.08	0.27	0.08	0.23	0.04	0.20	0.34	1.11	8.17	7.88	400
1719	3.65	6.12	0.11	0.32	0.07	0.26	0.04	0.21	0.25	0.55	5.56	11.17	381
1731	4.27	9.14	0.13	0.34	0.08	0.27	0.06	0.23	0.19	0.61	8.44	23.13	540
1738	6.89	9.34	0.16	0.36	0.09	0.29	0.07	0.25	0.08	0.21	4.96	9.05	644
1742	6.40	9.54	0.12	0.32	0.08	0.27	0.06	0.24	0.09	0.40	8.66	24.58	799
1752	4.19	7.06	0.07	0.26	0.05	0.21	0.03	0.16	0.26	0.88	3.24	3.35	371
1757	3.29	7.88	0.11	0.31	0.07	0.25	0.04	0.19	0.23	0.64	3.92	4.86	363



## Decomposing slave use by product

- Only 'significant' differences from 1692
  - Arrival of French

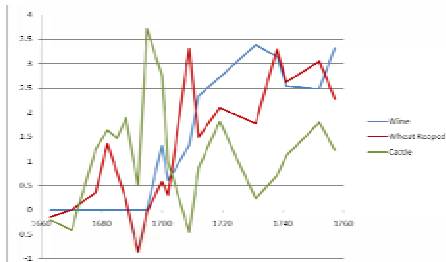
Table 3 OLS Estimates of the Composition of the Slave Labour Force

Total Slaves	POOLED	FE	1663	1670	1678	1682	1685	1688	1692	1695	1700	1702	1709
Wine	2.547	1.694	0	0	0	0	0	0	0	0.001	1.32	0.608	1.322
	(10.68)**	(4.50)**	()	()	()	()	()	()	()	(0.06)	(2.25)*	(1.14)	(3.19)**
Wheat Reseed	1.957	1.72	-0.145	0	0.364	1.958	0.785	0.201	-0.839	-0.044	0.583	0.309	3.309
	(11.98)**	(6.21)**	(0.3)	()	(0.81)	(1.82)	(1.35)	(0.35)	(1.45)	(0.08)	(1.81)	(1)	(3.41)**
Cattle	0.808	1.483	-0.203	-0.412	1.232	1.848	1.872	1.904	0.495	3.722	2.706	0.912	2.644
	(3.42)**	(3.18)**	(-0.71)	(-0.87)	(2.48)**	(2.19)**	(2.06)**	(1.78)	(1.03)	(3.67)**	(3.69)**	(1.33)	(1.68)
Sheep	1.522	1.049	1.034	1.767	0.524	0.875	0.592	1.106	2.384	0.409	1.348	2.222	0.999
	(5.83)**	(2.32)*	(1.25)	(2.13)**	(1.31)	(0.97)	(1.2)	(2.50)**	(3.23)**	(0.73)	(2.28)**	(2.76)**	(0.74)
Figs	0.521	-0.052	-0.39	-0.175	0.802	-0.066	0.041	0.214	1.255	0.021	0.137	0.873	1.798
	(2.12)*	(0.18)	(-0.62)	(-0.5)	(1.75)	(-0.16)	(0.27)	(0.37)	(2.14)**	(0.07)	(0.4)	(2.51)**	(4.31)**
Barley Reseed	0.278	0.243	0	0	-0.003	1	0.173	0.096	0.669	-0.333	0.132	0.173	-0.201
	(1.89)	(0.28)	()	()	(-0.01)	(1.83)	(0.49)	(0.06)	(2.86)**	(-0.56)	(0.7)	(0.78)	(-0.06)
Eye Reseed	0.003	0.281	0	0	-0.684	0.053	-0.374	-0.793	0.006	-0.355	-0.871	-0.17	0.641
	(0.02)	(1.44)	()	()	(-1.47)	(0.09)	(-0.8)	(-0.8)	(0.03)	(-1.21)	(-1.81)	(-0.76)	(0.28)
Constant	4.993	4.676	0.826	1.257	2.837	2.313	2.884	3.132	3.365	1.896	2.988	2.463	4.196
	(66.47)**	(59.19)**	(12.58)**	(2.84)**	(9.90)**	(9.01)**	(7.03)**	(9.83)**	(8.84)**	(10.84)**	(13.26)**	(11.17)**	(16.73)**
Observations	4206	25	35	146	83	85	16	222	168	271	336	372	
R-squared	0.5	0.22	0.3	0.27	0.46	0.32	0.48	0.53	0.62	0.89	0.64	0.57	



### Decompositions – slaves per st. dev. of production

- Substitution of labour to slavery from 1700's
  - Immigration curtailed
    - Other forms of (European) labour not clearly divided between products
  - Shift of labour from cattle to wine / wheat production

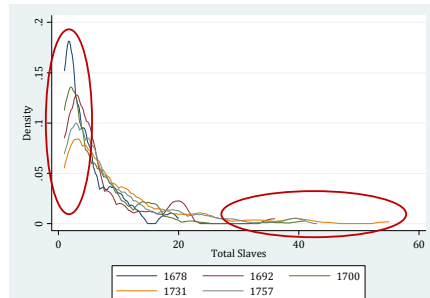


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### From the average to the elite

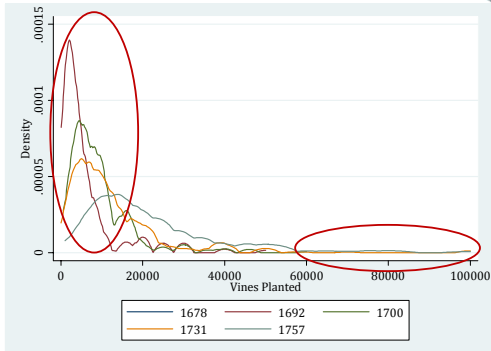
- Mode stays constant; an upper tail emerges
  - Slave importation by elites to replace other labour



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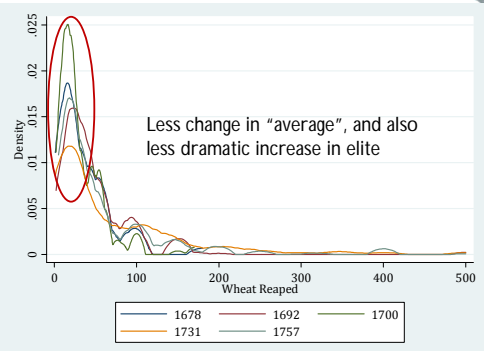
### Vines – similar pattern



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### Wheat



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### Pachters become rich – preliminary evidence

- David Heufke
  - Before and after pacht
    - Obtained in 1706

Year	Male Slaves	Female Slaves	Boy Slaves	Horses	Cattle	Sheep	Vines
1705	5	11	0	7	0	250	80
1709	6	11	1	9	60	500	8000

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Support for an augmented inequality-endowments hypothesis

## INTERPRETATIONS

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## Conclusions



- Preliminary results support an alternative endowments-inequality hypothesis
  - Low inequality before French Huguenots
  - Wine becomes dominant industry
  - Labour intensity of wine necessitates imports of slaves
    - Immigration policies of 1717
  - Created the supply which accentuated the role of existing institutions
- Limitations in the evidence
  - Endogeneity

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## Conclusions II



- Preliminary evidence supports that monopoly owners formed the elite
  - Thus creating a strong economic elite closely aligned with the Company (political elite)
- Economic institutions 'evolved' (perpetuated) that protected the elite
  - Evidence in the Patriots movement of the 1770s
  - At the extreme: Initial inequality possible determinant of South Africa's high inequality today

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