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ABSTRACT

The Cape Colony of the eighteenth century was one of the most prosperous regions in the world. This paper shows that Cape farmers prospered, on average, because of the economies of scale and scope achieved through slavery. Slaves allowed farmers to specialise in agricultural products that were in high demand from the passing ships – notably, wheat, wine and meat – and the by-products from these products, such as tallow, skins, soap and candles. In exchange, farmers could import cheap manufactured products from Europe and the East. Secondly, the paper investigates why the relative affluence of the early settlers did not evolve into a high growth trajectory. The use of slaves as a substitute for wage labour or other capital investments allowed farmers to prosper, but it also resulted in severe inequality. It was this high inequality that drove the growth-debilitating institutions posited by Engerman and Sokoloff (2000). The immigration of Europeans was discouraged after 1717, and again during the middle of the century, while education was limited to the wealthy. Factor endowments interacted with institutions to create a highly unequal early South African society, with long-term development consequences.

Keywords: Slavery, Settler, Proto-industry, Eighteenth century, South Africa
JEL codes: N57, N27

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JOHAN FOURIE[2]

Introduction

The Cape Colony at the southern tip of Africa offers valuable lessons on the emergence of a productive agricultural society in a pre-colonial, mercantilist setting. Not only was the Cape Colony under Company rule – the *Vereenigde Oostindische Compagnie*, or VOC, which maintained a unique set of formal and informal institutions – but the particular geographic position of the Cape, as a midway point for ships sailing between Europe and the East Indies, and the temperate climate conducive for Mediterranean winter-rainfall crops, engendered unique factor endowments that gave rise to a relatively affluent settler society. And yet, it also gave rise to a slave society and severe inequality.

This paper firstly explores the reasons for the relative prosperity of the eighteenth century Cape settlers, estimated elsewhere to have achieved some of the highest levels of per capita wealth in the world (Fourie and Van Zanden, 2011). It shows that Cape farmers prospered, on average, because of the economies of scale and scope achieved through slavery. Slaves allowed farmers to specialise in agricultural products that were in high demand from the passing ships – notably, wheat, wine and meat – and the by-products from these products, such as tallow, skins, soap and candles. In exchange, farmers could import cheap manufactured products from Europe and the East.

Secondly, the paper investigates why the relative affluence of the early settlers did not evolve into a high growth trajectory. The use of slaves as a substitute for wage labour or other capital investments allowed farmers to prosper, but it also resulted in severe inequality. It was this high inequality that drove the growth-debilitating institutions posited by Engerman and Sokoloff (2000). The immigration of Europeans was discouraged after 1717, and again during the middle of the century, while education was limited to the wealthy.[3] Factor endowments interacted with institutions to create a highly unequal early South African society, with long-term development consequences.

The Cape economy

When Europeans first settled the Cape in 1652, their intention was not to found a new Dutch homeland. Jan van Riebeeck and his party of VOC employees were sent to the Cape of Good Hope to build and run a refreshment station for Dutch ships passing the Cape on their voyages to the East or back to Holland. Fruit and vegetables – to provide those essential vitamins in the fight

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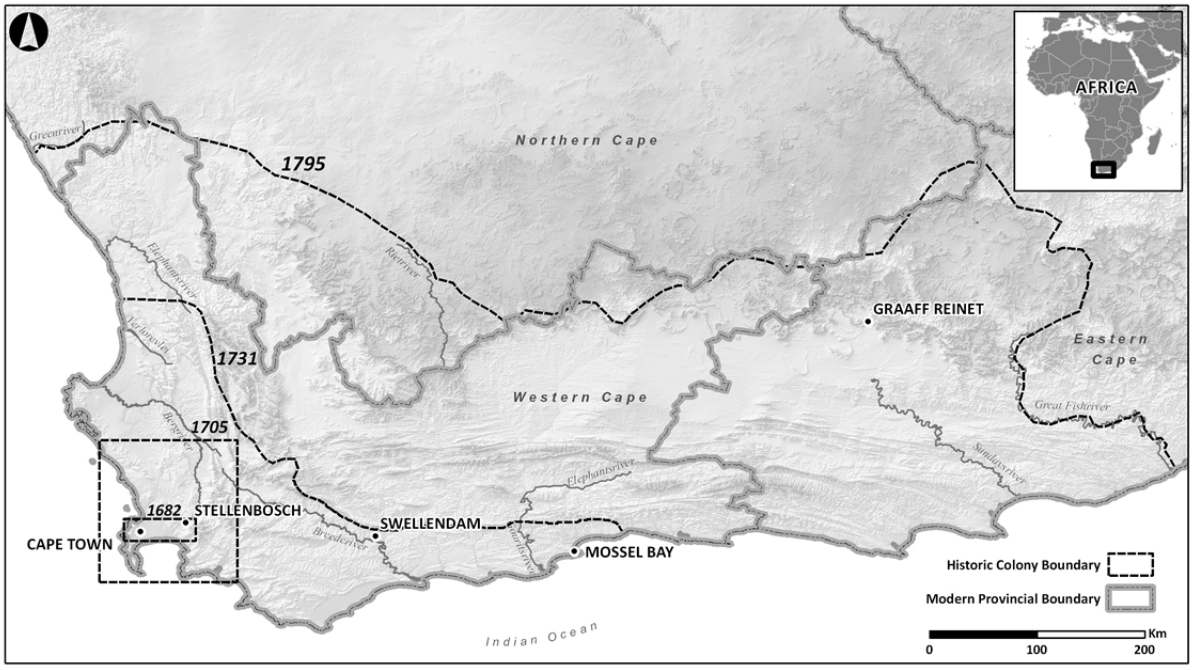
[3] Missionary stations were the exceptions; see Fourie, Ross and Viljoen (2011).

against scurvy – would be grown close to the fort, while cattle would be traded with the native Khoe, a pastoral people. Soon, though, Van Riebeeck realised that supply could not keep up with the high ship demand, and in 1657 he released nine Company servants to become free burgher farmers and begin the process of colonisation. As Figure 1 shows, the territory under European influence would rapidly expand, first North then East, until 1795 when the Company relinquished power to the British.

Figure 1: Map of Cape Colony borders: 1682, 1705, 1731 and 1795



Source: Guelke (1988) and own projections.

Cape Town remained the hub of economic activity during the entire eighteenth century. Those closest to Cape Town (settled on the fertile lands west of the first mountain ranges) produced wheat and wine, while the frontier farmers were predominantly pastoral, stock farmers. The spread of farmers into the interior – away from the market – gave rise to the traditional view of the Cape economy as an "economic and social backwater" which was "more of a static than a progressing community" (de Kock, 1924). Even in the most recent Economic History of South Africa, Charles Feinstein concludes that, before the discovery of minerals in the late nineteenth century, "markets were small, conditions were difficult and progress was slow" (Feinstein, 2005).

This view has recently come under considerable scrutiny. Van Duin and Ross (1987) were the first to attempt a quantitative estimate of per capita consumption for the Cape, noting that the local market was far more extensive than previous scholars maintained. Van Duin and Ross rely on the *opgaafrolle*, annual censuses compiled by the Company for tax purposes. Brunt (2007), too, uses the opgaafrolle to estimate the impact of changing property rights systems on economic performance. He finds that the arrival of the British at the end of the eighteenth century boosted the sluggish economic growth during the Dutch period. This view is challenged by De Zwart (2011). Using wage data from Company records, he shows that, in contrast to other world regions, Cape real wages were increasing over most of the eighteenth century with little evidence of a significant boom after British arrival.

Fourie (2011) was the first to use probate inventories to document the living standards of Cape settlers and compare these to other regions. While the literature and the evidence from the *opgaafrolle* – which includes only agricultural indicators, and the limited records of export goods provided by Van Duin and Ross (1987) – suggest that the Cape remained primarily an agricultural economy with wheat, wine, cattle and sheep the four main commodities produced, the probate inventories point to greater complexity in the consumption and production choices available to farmers. Fourie (2011) refutes the claim that most settlers, especially those in the interior, lived just above subsistence levels. Even the poorest of farmers owned luxury items that indicate some market interaction and specialisation. The results point to growth in the acquisition of per capita household assets from 1700 until 1750 and again between the 1770s and 1790. These two growth episodes contest the claim that, on average, Cape settlers – especially those that moved into the interior – moved into deeper poverty. He argues that the consumer revolution of the Cape Colony was certainly not only an elitist revolution.

Fourie (2011) also argues that the extent and diversity of household assets suggest that most farmers maintained strong links with the market – even though this "market" may only have been the Company, intermediaries or even other farmers. In order to acquire the household assets observed in the inventories, farmers had to produce a surplus to be sold in the market. The comparatively high levels of cattle and sheep ownership highlighted in the inventories, suggest that stock may have been an important source of revenue. Aside from the higher rates of return on stock farming, Neumark (1956) also notes that stock yielded numerous by-products that were in demand in the Cape market. Meat, of course, was in high demand from the passing ships at the Cape. But tallow, skins, soap and candles – produced by household and slave labour on the farms as stock value added – offered farmers an additional source of revenue within the regulations of Company rule, enough to acquire the goods observed in the inventories.

This transformation from subsistence agriculture to a highly productive sector producing large surpluses requires explanation. This paper, therefore, investigates the composition of productive assets at the Cape: Did farmers substitute wage labour with other forms of capital – and, if so, what type of capital? Slaves are found to be the most valued productive assets at the Cape. The composition of productive assets reflects the incentives available to farmers and raises important questions which this paper attempts to answer: Why did settlers invest nearly one quarter of all movable assets in slaves? Why did farmers not shift to other forms of capital equipment? And, most importantly, how did the choice of slavery vis-a-vis other productive assets influence the process of proto-industrial take-off in the Cape Colony?

Source material

Cape probate inventories provide a wealth of information to scholars that investigate household production and consumption patterns. The *inventarisse* (hereafter referred to as probate inventories or MOOC8s) are lists of assets owned by deceased individuals or households. The Orphan Chamber at the Cape was established to administer the estates of individuals who died intestate and left heirs below 25 years (and unmarried) or unavailable (TANAP, 2010). These inventories (MOOC 8-series) was transcribed and digitised between 2004 and 2006 by an inter-disciplinary team which converted the hand-written Dutch records held at the Cape Town Archives Repository into a digital database of XML-code (Liebenberg et al., 2007). To the MOOC 8-series were added 134 Stellenbosch inventories which was transcribed into Microsoft Word by Annemarie Krzesinkski-de Widt (2002) and is available from the Stellenbosch Museum. 2577

unique probate inventories are catalogued between 1673 and 1795, which makes it one of the largest inventory datasets used in analysis of this kind. A full account of the data treatment is available in Fourie (2011).

The inventories include thousands of unique items owned by the Cape settlers. A comprehensive analysis of household items is thus both impossible and superfluous; rather, we use twenty-eight items defined to ascertain the extent of household ownership and acquisition. Table 1 provides the descriptive statistics for the 28 products, where 'Sum' signifies the total number of products in the 2577 inventories, 'Mean' shows the average number of products per inventory, 'SD' reflects the standard deviation, 'Max' the maximum, 'Med' the median per inventory, 'p75' and 'p90' the 75th and 90th percentiles, 'Non-0' counts the number of inventories that includes at least one observation of that product-type, and '% 0s' shows the percentage of the inventories that have no observations of that product-type.

Table 1: Descriptive statistics of 28 products in the 2577 inventories

Products	Sum	Mean	SD	Max	Med	p75	p90	Non-0	% 0s
Slaves	12682	4.92	8.65	148	2	6	14	1694	34.26%
Cattle	140436	54.50	108.26	2000	15	68	153	1486	42.34%
Horses	16128	6.26	13.05	296	2	8	18	1472	42.88%
Sheep	901357	349.77	689.20	10200	0	428	1010	1271	50.68%
Ploughs	1587	0.62	1.20	19	0	1	2	921	64.26%
Corn sieves	214	0.08	0.30	3	0	0	0	195	92.43%
Boats	62	0.02	0.17	3	0	0	0	54	97.90%
Buckets	7102	2.76	3.78	61	2	4	6	1662	35.51%
Spades	5169	2.01	13.12	450	0	2	5	906	64.84%
Guns	2972	1.15	2.11	47	0	2	3	1169	54.64%
Brandy stills	407	0.16	0.43	5	0	0	1	357	86.15%
Wagons	3109	1.21	1.96	40	1	2	3	1400	45.67%
Anvil	130	0.05	0.26	3	0	0	0	107	95.85%
Bench vice	263	0.10	0.38	7	0	0	0	223	91.35%
Balance	1023	0.40	0.91	9	0	0	1	618	76.02%
Fire-tong	1958	0.76	1.72	33	0	1	2	1020	60.42%
Oven	2264	0.88	2.20	24	0	0	3	594	76.95%
Bedstead	3284	1.27	1.86	26	1	2	4	1307	49.28%
Chairs	25719	9.98	15.45	125	4	12	28	1734	32.71%
Trousers	2929	1.14	5.39	143	0	0	3	433	83.20%
Irons	2225	0.86	1.75	35	0	1	2	1048	59.33%
Books	10518	4.08	77.65	3856	0	1	5	688	73.30%
Timepieces	776	0.30	0.89	30	0	0	1	529	79.47%
Snuff-box	2580	1.00	18.15	783	0	0	1	440	82.93%
Paintings	11664	4.53	11.05	134	0	4	15	789	69.38%
Mirrors	4368	1.69	5.90	193	0	2	4	1196	53.59%
Bird cage	1003	0.39	1.23	17	0	0	2	355	86.22%
Gold rings	983	0.38	1.94	44	0	0	1	288	88.82%

Table 1 already provides a glimpse of the pervasiveness of slavery at the Cape. While the most common asset is 'chairs', slaves are the second most common asset owned at the Cape, even

more than 'buckets', 'bedsteads' or 'mirrors'. Other commodities, like 'cattle', 'sheep' and 'horses' were also widely distributed, often more so than many of the basic household commodities like 'bedsteads', 'fire-tongs' and 'ovens'. Of the productive assets, only 'wagons' were widely dispersed, with more than 54% of farmers owning at least one. Aside from wagons, however, the absence of capital goods used by the majority of the population – such as corn sieves (>8%), bench vices (>9%), anvils (>5%), and boats (>3%) – is notable.

The table also reflects the average and median ownership of some goods; each household owned, on average, 54.5 cattle, while the median household owned 15. Were these levels of ownership high relative to the wealthiest societies of Europe and the Americas at the same time? The use of probate inventories allow for simple comparisons across time and region.

Comparisons of capital goods across regions

The Dutch Cape Colony is compared across as wide a range of regions as possible. De Vries provides estimates for Frisian probate inventories (De Vries, 1974). Estimates by Weatherill (1988) cover a number of jurisdictions across England and, more recently, Mark Overton et al. (2004), focus on sample parishes in Kent and Cromwell. For Colonial North America, we use the Chesapeake records of Carr and Walsh (1988). We also refer to Jones's (1980) majestic study, The Wealth of a Nation to Be, although her data is not presented in a format that is easily comparable with ours. Finally, Sheridan (1965) uses probate records of Jamaican plantations which informs our analysis.

Slaves were the most valuable movable assets in the Colony. Using the MOOC10-auction rolls, slaves accounted for 24% of all movable assets during the period 1691-1748. Given the increase in price of slavery towards the end of the century and the decrease in other assets, particularly cattle and sheep, one would expect this share to have increased further. As shown in Table 2, this resembles most closely the US South, where inventories held an average of 18.4% of total wealth invested in slaves in 1774. However, 98.4% of American South inventories record slaves and servants, whereas only 72% do in the Cape Colony.[4] The higher value but lower incidence of slaves at the Cape suggests that slaves were of relatively greater value compared to the American South. In contrast, the northern and middle colonies owned nearly no slaves (Jones, 1980).

On a different scale were the slave-owning sugar plantations of Jamaica, where slaves between 1741 and 1745 constituted 55% of total inventory valuations of the sugar plantations. This increased significantly to 81,6% in the 1771-1775 period (Sheridan, 1965). For example, Sheridan (1965) examines a "median sugar estate", noting that between 1741 and 1745 such an estate would have held an average of 99 slaves, increasing to 204 for the years 1771 to 1775 (Sheridan, 1965: 301). This is in sharp contrast to the average number of slaves held at the Cape, which total 6.67 and 5.33 for the two periods.

Table 2: Comparisons of slave's share of total household assets

Region	Source	Date
		1691-1748
Cape Colony	Own	24.0

[4] This is for the same time period (1691-1748) but from the MOOC8-inventories.

		1774	
Thirteen colonies	Jones	9.1	
New England	Jones	0.2	
Middle colonies	Jones	1.6	
South	Jones	18.4	
		1741-1745	**1771-1775**
Jamaica	Sheridan	55.0	81.6

Notes: "Own" refers to own calculations. "Jones" refers to Jones (1980). "Sheridan" refers to Sheridan (1965). Own calculations from MOOC8-series. See discussion in Chapter 1.

Livestock – including cattle, sheep and horses – was the largest component of movable assets for Cape farmers. Table 3 compares the average number of cattle per household with similar results for Holland (districts in Leeuwarderadeel) and England (Kent and Cornwall). Two measures of the Cape Colony are included: an average across all households and an average for cattle owners only. The reason for both measures is because, in some cases, the comparative sources may calculate averages only for cattle owners.

Table 3: Comparisons of average household cattle ownership across various regions

Region	Source	Date
		1700-1750
Cape Colony	Own	50
Cape Colony (only cattle farmers)	Own	90
Kent	Overton et al.	20
Cornwall	Overton et al.	9
		1711-1723
Cape Colony	Own	39
Cape Colony (only cattle farmers)	Own	75
Noordertrimdeel (Leeuwarderadeel)	De Vries	16
Zuidertrimdeel (Leeuwarderadeel)	De Vries	25

Notes: Leeuwarderadeel is a municipality in Friesland, the Netherlands. "Own" refers to own calculations, "Own calculations from MOOC8-series. See discussion in Chapter 1.

Tables 4 and 5 provide comparisons on the frequency of ploughs and wagons owned. The results show that, between 1711 and 1750, 63% of farmers within wealth group 3 owned at least one plough with 79% of farmers in wealth group 4. Compared to De Vries's estimates of Leeuwarderadeel farmers which show that 61% of those in the top income bracket (those owning more than 10 cows) owned at least one plough, the Cape performs surprisingly similar. Ploughs probably permeated Leeuwarderadeel society to a greater extent than did ploughs at the Cape, though, with only 17% of those at the bottom reporting ploughs in their inventories.

Table 4: Comparisons of the frequency of household plough ownership across various regions

Region	Class	Source	Date
			1711-1750
Cape Colony	1	Own	17
Cape Colony	2	Own	30
Cape Colony	3	Own	63

Cape Colony	4	Own	79
Leeuwarderadeel	1	De Vries	-
Leeuwarderadeel	2	De Vries	63
Leeuwarderadeel	3	De Vries	61

Notes: Leeuwarderadeel is a municipality in Friesland, the Netherlands. "Own" refers to own calculations, "Own calculations from MOOC8-series. See discussion in Chapter 1.

While wagons were the only source of transportation at the Cape, road transportation competed with water transportation in Holland. That is perhaps why comparisons of wagons between the two regions show – as in Table 5 – that wagon ownership were wide-spread in the Cape Colony, even amongst the poorest of farmers.

Table 5: Comparisons of the frequency of household wagon ownership across various regions

Region	Class	Source	Date
			1711-1750
Cape Colony	1	Own	26
Cape Colony	2	Own	44
Cape Colony	3	Own	80
Cape Colony	4	Own	96
Leeuwarderadeel	1	De Vries	17
Leeuwarderadeel	2	De Vries	77
Leeuwarderadeel	3	De Vries	100

Notes: Leeuwarderadeel is a municipality in Friesland, the Netherlands. "Own" refers to own calculations, "Own calculations from MOOC8-series. See discussion in Chapter 1.

Colonial probate inventories created a stir in the United States in 2000 with the publication of *Arming America: the Origins of a National Gun Culture* by Michael Bellesiles. Bellesiles (2000) claimed that American gun culture did not have its roots in America's colonial period but emerged only during and after the Civil War; that during the colonial and antebellum periods, average gun ownership was low and proficiency in use poor. Consequent research, however, showed that Bellesiles had fabricated evidence and that his conclusions were false (Main, 2002). Lindgren and Heather (2002), for example, conclude that "there were high numbers of guns" in seventeenth and eighteenth-century America, and lists the ownership proportions calculated from a number of probate samples. It is these figures which is included in Table 6 to compare gun ownership at the Cape with those of other areas.

Table 6: Comparisons of the frequency of household gun ownership across various regions

Region	Source	Date	
		1690-1719	**1720-1749**
Cape Colony	Own	40	46
Cornwall	Overton	2	2
Kent	Overton	17	21
		1765-1784	**1774**
Cape Colony	Own	46	
New England	Jones 1980		50
Middle Colonies	Jones 1980		41

South	Jones 1980		69
		1740-1800	**1740-1810**
Cape Colony	Own	46	
Maryland and Virginia	Gunston Hall Database		71

Notes: "Gunstan Hall Database" can be accessed at http://www.gunstonhall.org/library/probate/index.htm [Accessed: 1 November 2011]. "Own" refers to own calculations, "Own calculations from MOOC8-series. See discussion in Chapter 1.

It is clear that gun ownership in the American South were significantly higher than the other colonies in the North America as well as the Cape Colony. Gun ownership in the Cape Colony more closely reflected ownership in the northern territories, and both regions were significantly above the ownership share of Cornwall and Kent in England.

The results here suggest that the average Cape farmer invested a large share of their surplus into capital goods, owning capital goods at similar levels to those of the fastest growing economies of north-western Europe and the settler economies of North America. Yet, different to Europe but akin to the Southern colonies of North America, Cape Colony settlers invested a large share of their savings in slaves. Investment in slaves was a priority for Cape settlers. The next section finds a novel way to show these ownership priorities.

Composition of assets

One way to identify ownership priorities amongst Cape households is shown in Figure 2. The data is calculated as follows: the number of product varieties owned by each household is counted (there are 49 households owning none of the twenty-eight products and one household owning 27 of the 28 products). The households are then grouped by the number of product varieties owned and the groups ranked (from zero to twenty-eight on the x-axis).[5] The ownership priority is then calculated as a proportion of the full list. In Figure 20, the products are categorized by four types, commodities, productive assets, basic household products and luxury household products.

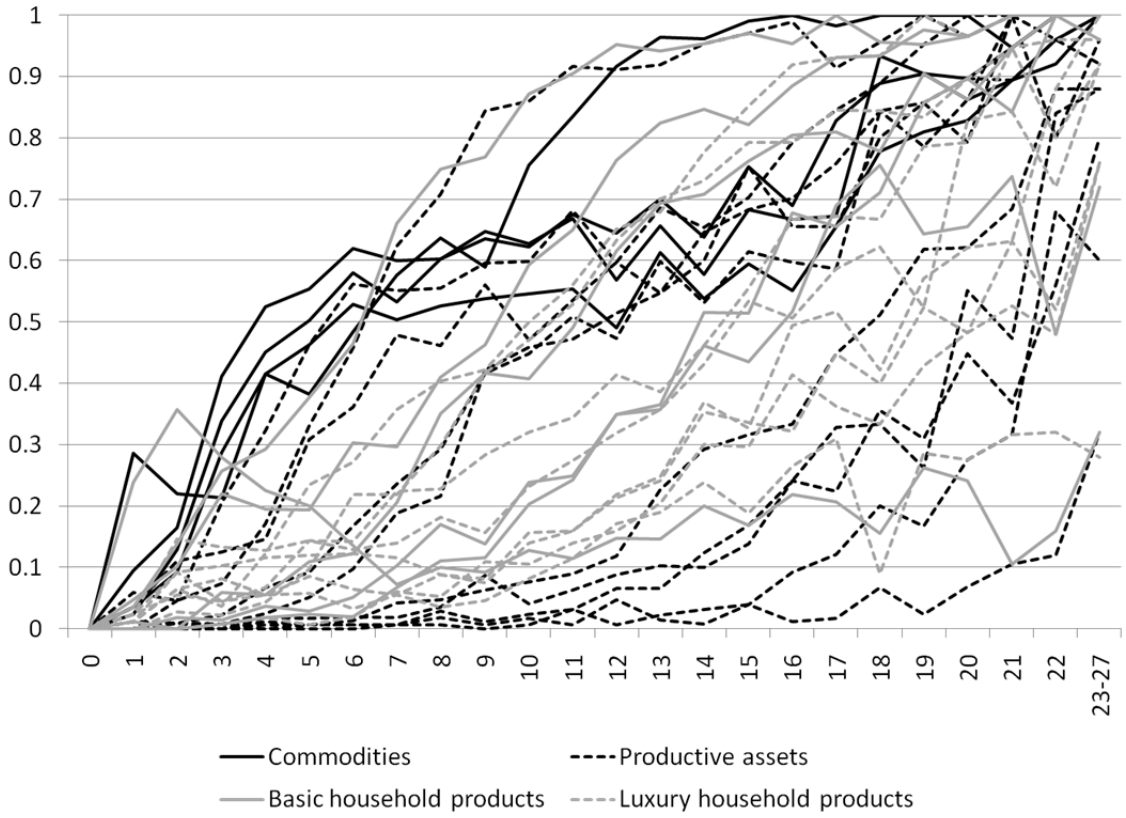
A visual analysis reveals interesting trends: the first products owned by the majority of households tend to be slaves, cattle, horses and sheep. Wagons, classified here as a productive asset, resemble a very similar trend to that of cattle and horses.

Next follow the basic household products. The strange incidence of trousers suggests that it is measured imprecisely; the likelihood that a person with only 2 products owned a pair of trousers was higher than with any greater number of products. This suggests that individual clothing items was listed akin to an inferior good: the higher the level of wealth, the less it was reported.[6]

[5] Categories 23-27 are merged because of very few observations.
[6] This makes sense once the raw data is considered: for poorer individuals, trousers are often enumerated as a separate item, while for richer individuals trousers are presumably included in "a cupboard of clothes", for example.

Together with basic household products, four productive assets also appear at this stage: guns, ploughs, buckets and spades. This is not unexpected, given the multiple uses of buckets and spades in the household.

Figure 2: Ownership priorities of item ownership over 20 products, categorized into four groups



The next cluster of goods is household luxuries – irons, books, mirrors, paintings, timepieces, snuff-boxes and bird cages. The likelihood of owning a luxury product rises sharply after the 10th product is owned. Gold rings are the exception. While the likelihood of owning a gold ring rises quite early, it flattens off towards the end of the sample, probably owing to it not being captured well in the data.

The expensive productive assets – anvil, bench vice, corn sieve, brandy still and boats – are the final category to appear. It is perhaps surprising that these are acquired only after luxury products, but points to an important predisposition at the Cape: large, productive assets were owned by an elite few, appearing below luxury products on the farmers list of consumption (investment) priorities. As discussed later, only slaves, and to some extent wagons, were consumption priorities for the non-elite.

Table 7 summarises the product incidence by group. Seven groups of ownership are defined. Commodities were the first assets acquired by poor households.[7] Of those owning four or fewer items, 31% owned cattle, 25% horses and 27% slaves. Household necessities, such as chairs,

[7] There is a correlation of 0.58 between the number of items owned and the ownership of slaves (which is used as a proxy for welfare above). Not all the "poor" as measured by the spread of items owned are thus necessarily those with few slaves, and vice versa. Nevertheless, the trends reported in Table 4 are similar when slave ownership rather than counted items is used as ranking.

buckets and beds were also obtained at an early stage, while household luxuries and productive assets had a very low incidence amongst the poor. Yet, even amongst the poorest some luxury products could be found – in the poorest category, 10.5% owned a book, 8.1% owned a clock or watch, 6% owned a mirror, and surprisingly 5% owned gold rings. Compare this to the extremely low incidence of productive assets for this group: while 10.3% owned a gun, only 1.1% owned a spade, and fewer than 1% owned an anvil, bench vice or brandy still.

Table 7: Incidence of products by group

Products	0-4	5-8	9-12	13-16	17-20	21-24	25-28	Total
N	542	666	671	455	174	62	7	2577
Slaves	26.8%	52.0%	77.2%	97.6%	99.4%	98.4%	100.0%	65.7%
Cattle	31.0%	59.3%	62.7%	64.2%	82.8%	95.2%	100.0%	57.7%
Horses	25.1%	55.4%	64.4%	69.2%	87.4%	98.4%	100.0%	57.1%
Sheep	22.1%	50.5%	53.2%	57.6%	75.3%	93.5%	100.0%	49.3%
Ploughs	3.0%	19.7%	46.1%	58.2%	77.0%	95.2%	100.0%	35.7%
Corn sieves	0.0%	0.3%	2.5%	13.8%	35.1%	74.2%	85.7%	7.6%
Boats	0.4%	1.2%	1.8%	2.6%	4.0%	14.5%	57.1%	2.1%
Buckets	8.9%	53.0%	88.2%	95.4%	95.4%	100.0%	100.0%	64.5%
Spades	1.1%	13.8%	46.6%	63.5%	80.5%	95.2%	100.0%	35.2%
Guns	10.3%	40.2%	54.1%	62.9%	76.4%	90.3%	100.0%	45.4%
Brandy stills	0.2%	2.7%	8.6%	28.6%	53.4%	80.6%	100.0%	13.9%
Wagons	15.9%	53.2%	61.7%	70.1%	90.8%	100.0%	100.0%	54.3%
Anvil	0.7%	0.9%	1.9%	3.3%	17.8%	56.5%	42.9%	4.2%
Bench vice	0.6%	2.3%	7.0%	13.6%	31.6%	56.5%	85.7%	8.7%
Balance	0.7%	5.6%	22.7%	50.1%	75.9%	93.5%	100.0%	24.0%
Fire-tong	3.3%	19.8%	48.1%	73.4%	83.3%	98.4%	100.0%	39.6%
Oven	1.8%	8.9%	24.3%	43.5%	69.0%	59.7%	100.0%	23.1%
Bedstead	14.2%	30.0%	61.5%	84.2%	94.8%	100.0%	100.0%	50.7%
Chairs	18.6%	56.3%	87.3%	95.4%	97.1%	100.0%	100.0%	67.3%
Trousers	24.7%	12.8%	12.1%	18.0%	21.3%	14.5%	71.4%	16.8%
Irons	2.4%	20.7%	51.1%	74.7%	85.1%	95.2%	100.0%	40.7%
Books	10.5%	14.9%	24.4%	44.6%	62.1%	80.6%	100.0%	26.7%
Timepieces	8.1%	11.1%	15.4%	34.7%	52.3%	83.9%	100.0%	20.5%
Snuff-box	5.2%	7.4%	14.6%	31.0%	46.0%	61.3%	85.7%	17.1%
Paintings	4.6%	18.5%	34.0%	49.9%	71.8%	88.7%	85.7%	30.6%
Mirrors	6.1%	31.7%	53.2%	79.1%	95.4%	100.0%	100.0%	46.4%
Bird cage	0.7%	3.5%	12.8%	29.2%	39.1%	56.5%	85.7%	13.8%
Gold rings	5.0%	4.5%	10.3%	21.8%	24.1%	29.0%	42.9%	11.2%

Cape households reinvested their savings predominantly in acquiring additional cattle, sheep and horses, or in purchasing slaves. Only the elite would reinvest their savings in productive assets; slaves, therefore, must have offered poorer farmers higher yields than investments in other productive assets, a question we turn to next.

Capital investment

Adam Smith first observed that wealth is created through specialisation and surplus trading. Smith's wealth accumulation assumes, of course, that free trade is possible and that few

limitations exist as to the type of production that may occur. Both assumptions could be rejected in the Cape economy: trade in the three most important Cape commodities was only possible where it involved a monopsonist buyer, the Company. The Company could dictate market prices, vying for as low a price as the market could possibly provide. Furthermore, the Company prohibited manufacturing activity and disallowed any private traders of goods to find alternative export markets for Cape goods. To the extent that farmers were market-oriented, their investment choices would have been influenced by these market limitations.

The current consensus is that these mercantilist institutions would have had a detrimental impact on Cape economic performance. Even Smith (1776) in his treatise, The Wealth of Nations, notes: "The government of an exclusive company of merchants is, perhaps, the worst of all governments for any country whatever" (IV.7.33). Referring to the Dutch colonies, Smith concludes: "The progress of some of them, therefore, though it has been considerable, in comparison with that of almost any country that has been long peopled and established, has been languid and slow in comparison with that of the greater part of new colonies (IV.7.34)."

The living standards reflected in the 28 probate products support Smith's notion that "the progress ... has been considerable" relative to those of other "established" regions. Cape farmers, on average, owned more possessions than those regions of Holland and England for which comparative figures are available (see Fourie 2011). It is, however, Smith's second belief – that "progress ... has seen languid and slow in comparison with that of the greater part of new colonies" – that requires further attention. Undoubtedly, Cape settlers were no worse off relative to settlers of the North American colonies for which probates are available. Yet, perhaps Smith's reference here refers not to contemporaneous living standards, but rather to the growth potential of the colonies or, in other words, the colonies' development trajectories.

The mercantilist institutions imposed by the Company, primarily the prohibition on manufacturing and private trade and the system of monopoly contracts, ensured that agriculture and its spin-off industries were the main productive activities at the Cape. And in view of the relatively abundant and inexpensive land of the interior[8], the average settler, at least after 1720 when the interior opened, had little alternative but to channel all investment into increasing the extensive margin on farms. Most of the farmers' investment was in the form of additional agricultural commodities, predominantly cattle and sheep; as the ownership priorities above reflect, only a small elite of farmers, mostly those located close to the market in Cape Town, would invest in productive assets that would improve the intensive margin of farms.

The prevalence of agricultural commodities – reflected by the decreasing prices of cattle and sheep over the course of the eighteenth century – and inexpensive land in the interior resulted in rapid population growth. The large households of Cape settlers further bolstered the labour supply. It was presumably this labour that was most often used for the value-added processes of eighteenth century agricultural production: churning milk into butter and tail fat into soap and candles, and the treatment of animal skins into hides. A ready market existed in Cape Town for these commodities; butter, tallow, candles and soap were victuals prized by the passing ships (Neumark, 1956).

[8] In contrast to the relatively high capital costs of wheat and wine farming, cattle farming – with land leased from the Company annually – provided an affordable alternative for young settlers (Neumark 1956). The low barriers to enter pastoral farming also explain the dearth of wage labourers in the Colony.

But apart from investments in agricultural commodities, settlers also invested in slaves. While the first slaves already arrived at the Cape in 1658, slaves were not widely dispersed amongst settlers until the take-off of viticulture at the beginning of the eighteenth century. Viticulture required economies of scale and in the absence of large numbers of wage labourers, the Company decided to encourage slave imports as a way to keep farmers' input costs to a minimum, with a view to address the constant objections against the low prices set by the Company. However, slaves soon became an important investment for Cape settlers and, as many scholars have noted, the "backbone" of the Cape economy. Not only did slaves satisfy the demands of viticulture, but they also offered economies of scope on pastoral farms; the pervasiveness of slaves in the country-side reflects the usefulness of slaves as substitute for capital goods even in the households of the less affluent. Slaves were also a potential source of leisure. Slave labour substituted the farmers own need to actively engage in farm labour, often allowing them to act only as "overseer" of work. Such a rational consumption choice dictated by a backward-bending labour supply curve was also prevalent in pre-industrial Britain (Allen and Weisdorf, 2011). At a certain level of income, the benefits derived from additional consumer goods simply did not outweigh the benefits derived from leisure. Such "leisure" substitution, of course, could also have been in the form of scouting, hunting or raiding, which were frequent frontier activities. Slave and household labour – and, Khoisan indentured labour, probably underrepresented in the data although statistical evidence for this is virtually nonexistent – thus provided sufficient returns to discourage investment in other capital goods for the average farmer.

Evidence of proto-industry

But behind this seemingly simple production structure, a gradual process of Cape proto-industrialisation emerged. This is not easy to detect, and the availability of quantitative evidence in the *opgaafrolle* explains why most historians have neglected its impact. Constrained by Company policies, the Cape economy did not follow the same trajectory as in other proto-industrial economies: the virtual paucity of productive assets in non-agriculturally related industries that were often the first to develop in a proto-industrial economy – like spinning and weaving – reflects an economy principally specialised in agriculture. Whereas Dutch and English households would diversify into spinning and weaving, only three inventories in the sample of 2577 Cape probates report a spinning wheel ("spinnewiel") or weaving loom ("weefstoel"). [9]

Yet, Cape settlers *did* diversify into other by-employment. Figure 3 provides evidence of the industry-related equipment available on farms by showing the composition of equipment types in the inventories. The figure reports only equipment that was clearly defined by type. Of the 807 observations of some type of equipment in the inventories, 252 do not list any type and are thus classified as unknown and excluded here. Note that only equipment ("gereedschap"/"gereetschap") was searched for. The figure therefore excludes all the products that should be classified as equipment, but that would be listed separately (such as anvils and bench vices included in our above analysis). The importance of carpentry equipment probably shows that smaller items – such as chisels – would more easily have been bundled together under one category heading, in this case "timmermansgereedschap".

[9] Willem ten Damme in 1714 (MOOC 8/2.117), Pieter Willem Regnault in 1765 (MOOC 8/11.42) and Hand Diederik Mohr in 1785 (MOOC 8/19.7).

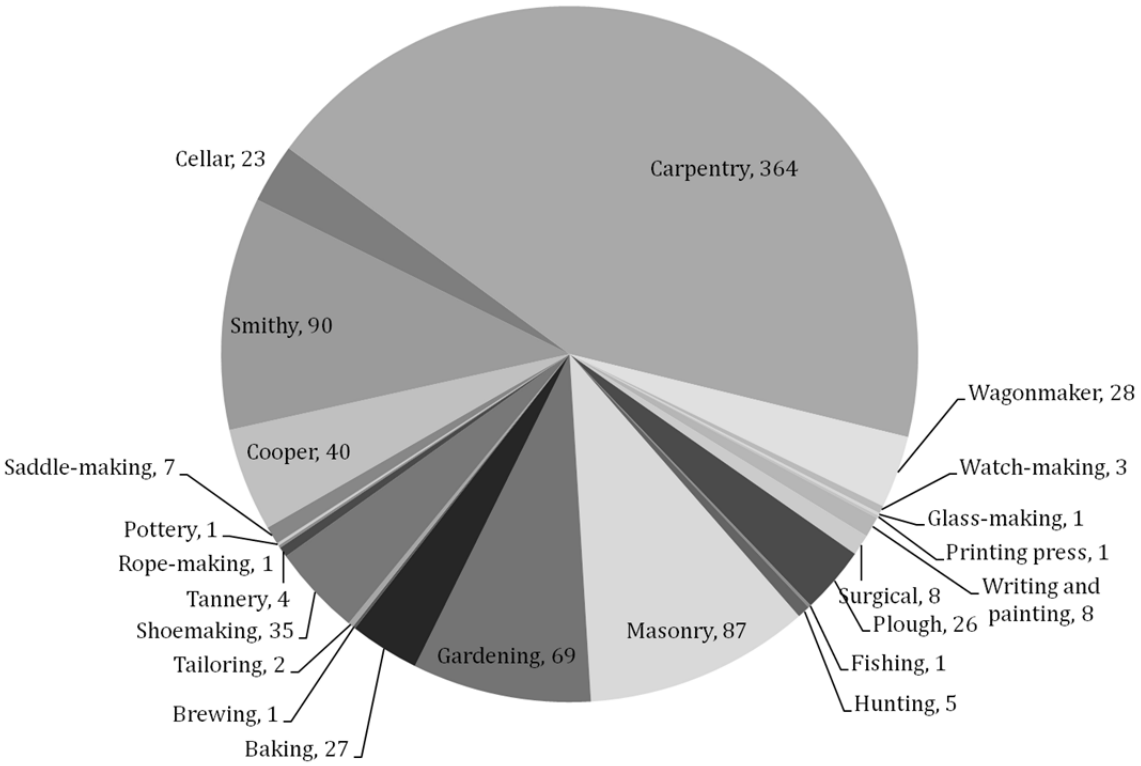


FIGURE 3: The composition of equipment types recorded in the 2577 inventories

What is clear from Figure 3 is the bias in favour of equipment types that augmented agricultural production. Carpentry and woodworking equipment features prominently with 44% of equipment types, followed by smithy (11%), masonry and construction (10%), and gardening (8%) equipment. There are also several entries for cooper and wagonmaking-equipment. The low occurrence of pottery, printing, watch-making and glass-making equipment, for example, depicts the dearth of non-agricultural output.

Figure 4 shows the percentage of inventories ranked by product ownership, which includes carpentry equipment. The white line represents the number of inventories (shown on the secondary y-axis). Carpentry equipment is predominantly owned by individuals that already own several product items, i.e. wealthy individuals. A strong, positive correlation between equipment ownership and wealth corroborates this. (The same trends are visible if all equipment types are included.[10]) The point is that equipment ownership – and thus the diversification of production – is mostly restricted to the upper echelons of Cape settler society, those settlers who owned several slaves.

[10] There is some evidence that certain types of equipment follow a different distribution. Shoemaking-equipment, specifically, are rather equally distributed across the spectrum of product groups. The low absolute number of shoemakers, however, does not permit a robust interpretation of this trend.

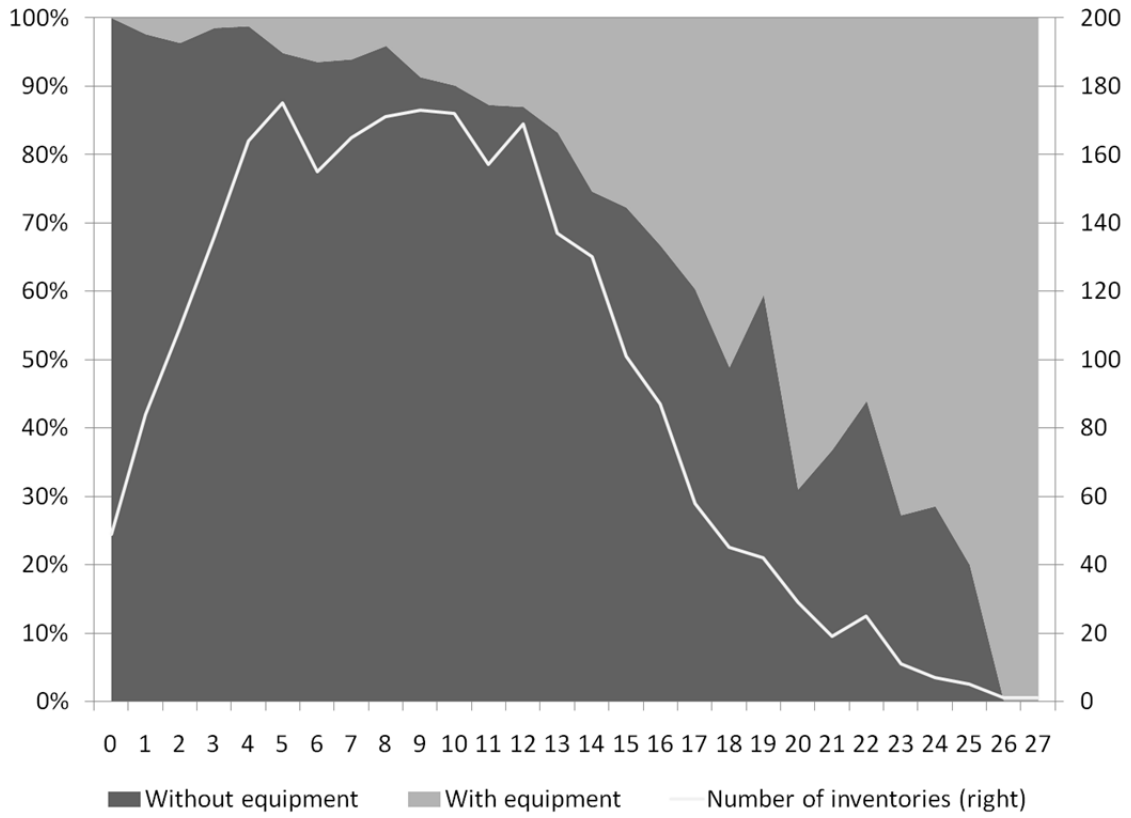


FIGURE 4: Share of carpentry equipment found in the inventories (ranked on the x-axis by the number of products found in the inventories)

Overton et al. (2004) report a similar rise in proto-industrial by-employment in England during the seventeenth and early eighteenth centuries. Their results suggest that – counter to De Vries's concept of an "industrious revolution" where specialisation would occur on farms driven by a greater demand for marketable items – by-employment (or the diversification of production) increased systematically as output increased. While by-employment is typically modelled as a risk-averse farmer mentality, Overton et al (2004: 77-78) argue that in England "by-employment was a means of maximising household income rather than avoiding risk" by which "capitalist entrepreneurs can make the most money".

Company policies certainly interfered with the process of proto-industrialisation at the Cape. Apart from vinification and brandy making, the only industries higher up the value chain that was actively promoted by the Company (van Zyl, 1974, Jooste, 1973), the barriers to entry in other formal sectors were insurmountable. The Company, for example, offered only one beer brewing license, sold to a distillery in Newlands. Even though the quality of the beer was occasionally considered too poor for consumption, the profits earned through licensing ensured that the Company would not consider competition in a free market a viable alternative. The system of monopoly contracts created absurd situations; De Kock (1924: 68) notes the curse of a resident of Cape Town "who had a farm in the vicinity of the capital but could not use his own flour for bread. He was bound by law to sell his corn to the monopolist, and the price which he received for it would not suffice to re-purchase half of it in bread".

Such policies limited the specialisation of non-agricultural production in urban centres and constrained value-added production to the wealthiest farmer entrepreneurs who could realise some economies of scale. Jan Martin Vogel, whose inventory was compiled on 2 April 1777, was

one such wealthy settler. Vogel owned 10 houses and 2 farms. On one of these farms, in addition to the standard items to be found in the five-room house, his inventory lists an outside garden house, a carriage house, a pigsty and stables, the inventory lists a lime pen ("kalkhok"), a hay barn ("hooijschuur"), a pharmacy ("aphoteequers winkel"), a carpenters shop ("timmermans winkel"), a smithy ("smitswinkel"), a wheelwright ("wagenmakers winkel") and a millhouse ("molenhuis").

Such diversification explains why farmers continued to invest in slaves, even as slave prices continued to increase vis-a-vis other forms of capital. Slave labour – in contrast to other capital goods – was ideal to cope with the diverse array of activities on the farms. While specialisation may have occurred within slave ranks on the farms, with some slaves assigned specific tasks, this was only a second-best solution.

Consequences of slavery

The ownership of slaves yielded high returns on private capital, but in the long-run harmed the Cape's growth potential. A shortage of labour had resulted in labour-saving capital investments first in Britain during the Industrial Revolution (Allen, 2009) and later in the North American colonies (where slaves were absent). This resulted in new innovations and technology that increased labour productivity. Where farmers substituted labour-substituting investments with slaves, though, there was little incentive to improve labour productivity. Smith noted this effect in 1776, saying "slaves, however, are very seldom inventive; and all the most important improvements, either in machinery, or in the arrangement and distribution of work which facilitate and abridge labour, have been the discoveries of freemen" (Smith, 1776, IV.7.46). Slavery had put the Cape economy on a high plateau.

Engerman and Sokoloff (2000) note another consequence of slavery that would affect its long-run development trajectory. Engerman and Sokoloff suggest that the mechanism through which initial factor endowments affect later development is inequality. Severe initial inequality would result in growth-debilitating institutions, such as low access to education, low levels of immigration, disenfranchisement, and property rights favouring the elite. Low levels of inequality would result in high levels of educational attainment, the extension of the franchise, immigration and property right protection for all.

In Engerman and Sokoloff's model, initial inequality arises from the type of climate and the size of the native population: a temperate climate with a small native population would likely result in low initial inequality whereas a tropical climate with a large native population would likely result in severe initial inequality. These initial factor endowments are less relevant in the case of the Cape Colony; the Cape was situated in a temperate climate and, although there was a sizable native population, the policies of the Company prevented settlers from enslaving them. Rather, the skills brought to the Cape by the arrival of French Huguenots (Fourie and Von Fintel, 2011b) and the demand for wines from the passing ships (Boshoff and Fourie, 2010) shifted production towards viticulture, a labour-intensive crop.

The Company invested in slavery as a way to circumvent the shortage of labour on the farms. Slaves created a highly unequal Cape society during the eighteenth century (Fourie and von Fintel, 2010, Fourie and von Fintel, 2011a). As predicted by Engerman and Sokoloff, this high inequality would reinforce growth-debilitating institutions at the Cape, notably the choice to limit European immigration at the start and middle of the eighteenth century. In 1717 the

Company officials in Cape Town requested that immigration to the Colony be discouraged as the objectives of the Cape settlement, to supply produce for passing ships, had been met as a result of the extension of the frontier. And again, in 1750s, the Company – now with the support of a number of prominent settler farmers – discouraged European immigration because slave labour could fulfil all the labour requirements the farmers might have.

Slavery was only abolished in 1834 with the slaves remaining on the farms until at least 1838. Even after emancipation, de facto labour contracts and practices continued mostly as before which meant that the institutions of the eighteenth century were entrenched in Cape society. The extent to which these institutions influenced later South African development is more contentious; the temptation is large to draw parallels between the high inequality of the eighteenth century Cape settlers and indentured labourers after emancipation. Perhaps these early institutions moved with Cape farmers on their Great Trek into the interior of South Africa in 1836 and were reinforced by the discovery of diamonds and gold at the end of the nineteenth century (which also made use of cheap, indentured labour on the mines). The causal link connecting early inequality to twentieth century Apartheid is even more questionable. Yet, there is little doubt that slavery contributed to high inequality that perpetuated the institutions of a wealthy but static eighteenth century Cape economy. Following the Engerman-Sokoloff hypothesis, these institutions created during "Dutch colonialism" – the "racism and racial inequality in the distribution of political, economic and ideological power" – "contributed most, directly and indirectly, to the inequality in [South Africa's present] income distribution" (Terreblanche, 2002: 393).

Conclusions

The decision to substitute expensive European wage labour for imported slave labour proved to be advantageous to the European settlers in the short-run but had negative long-run implications for Cape society. As the low incidence of capital equipment show, Cape farmers invested surplus savings in purchasing slaves rather than labour-saving investments in capital equipment. In other societies – notably those of England, Holland and the North American colonies – labour-saving investments would give rise to new technologies and innovations that would propel labour to higher productivity. Slave labour, benefiting from economies of scale and scope on farms, resulted in a prosperous eighteenth century settler community. Probate inventories discussed here reveal high comparative wealth levels for the average farmer. Yet, slavery lacked the additional incentives for improvement, innovation and productivity growth. The Cape did not experience an "Industrious Revolution" similar to that of North-West Europe, not because of incapacity, but because the majority of movable assets were owned in "dead capital", i.e. slaves.

Not only did slavery result in a static economy, but it also created a highly unequal society. Severe initial inequality, according to Engerman and Sokoloff, results, through various channels, in growth-debilitating institutions. While the Cape did not adhere to the traditional requirements for a highly unequal society in the Engerman-Sokoloff hypothesis – a tropical climate and a large native population – the labour-intensive production function of viticulture was created through settler skills and ship demand. This necessitated more labour, and the Company decided, in an attempt to reduce the input costs of farmers in order to maintain high profit margins, rather encourage slave imports than European immigrants. Again, the benefits of this policy were in the short run. In fact, at a meeting in 1717 of the Cape Policy Council, several

members suggested the low cost as reason for favouring slave imports. Only one member, D.M. Pasques de Chavonnes, recommended that European immigration may, in the long-run, be more beneficial for Cape society. Against the power of short-run (Company and settler) profits, his ideas held little sway.

The highly unequal society which arose began to instil institutions that would be detrimental to growth: first in limiting immigration of Europeans, later in restricted property rights and low access to education for the emancipated slaves. In addition, inequality congealed along racial lines, creating various growth-debilitating informal (ideological?) institutions, which paved the way for a highly unequal Apartheid South Africa of the twentieth century. And the effects of these institutions linger on in post-Apartheid South Africa: Charles Feinstein (2005: 281), in his conclusion, notes that "South Africa's past will exert a powerful influence on its present and future for a long time to come".

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