

Manifest Destiny: Did the Advancement of the Cape colonial frontier stunt long term economic growth.

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1. Introduction

Turner's Frontier thesis claims that the impact of the American frontier advancement process played an integral part in the development of the US identity and eventually long-term economic success. The American western frontier was a socially mobile environment that would favour the development of growth enhancing economic institutions over the long haul. However; Turner's view of the frontier paints a rather romantic picture that has been widely criticised for not being grounded in empirical reality. Yet this theory if adapted to a more nuanced approach could be a useful tool through which to view long-term institutional development across all colonial societies. It is also useful to expand the empirical analysis of frontier societies by including more studies on other frontier environments.

The western American frontier was a socially mobile society which served as the outlet for poor settler frontiersmen who were unable to realise their fortunes on the rigidly stratified American east coast. Similarly, the Cape eastern frontier served as a refuge from the rigidly stratified colonial centre at Cape Town (Newton-King 1980; Mitchell 2009). Yet the Cape colony experienced a significantly different long-term economic development path than the United States. It therefore becomes pertinent to assess what the significant divergences between the two frontier environments were. At the advent of the 19th century the eastern Cape district of Graaff Reinet was a frontier society very much in flux. Apart from severely fluctuating population numbers the eastern Cape frontier was plagued by conflicts between the advancing settler population and the indigenous peoples they came into contact with.

The availability of transcribed Cape colonial datasets such as the Dutch East India Company (VOC) Opgaafrollen give the added ability to empirically assess the extent of social/wealth mobility on the eastern frontier. Since settler household assets are included in this tax census

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data, this study is uniquely able to analyse Graaff Reinet wealth mobility over time. Social mobility coefficients are calculated for each year of the 21-year panel of tax datasets (1805 to 1828) to assess the extent to which wealth/social mobility changes as the frontier started to close. We find that wealth mobility on the Graaff Reinet frontier was declining rapidly, especially during the first decade of the period of study. It appears as if economic opportunities for settler families were disappearing rapidly, relatively early on at Graaff Reinet. We also find that conflicts such as the Fourth frontier war had a positive impact on wealth mobility at Graaff Reinet directly post-conflict. This result remains robust even if the wealth proxy for Graaff Reinet pastoralists is restricted to livestock assets that were more widely owned.

This paper is organised as follows. In section two I present a brief literature overview on social mobility and the frontier. Section 3 examines the state of the eastern Cape frontier at the advent of the nineteenth century. Section four gives an overview of the data sources along with the method employed in this paper. Section five presents the results obtained and Section six makes concluding remarks.

2. Social mobility and the frontier

Engerman and Sokoloff (2000) and Coatsworth (1998) essentially debunked the long held premise that being a part of the British empire was a guarantee for sustained high economic growth (North et al. 2000). Although it might have played some small role in explaining the differing economic development trajectories for the various colonies, national heritage and religious values did not present a definitive answer to the great divergence debate (Gupta et al. 2015). In fact, there were some British colonial territories which sustained higher economic growth trajectories (the US and Canada) whilst others (Jamaica and Haiti) struggled to emulate this success (North, 1988). Subsequently, Engerman and Sokoloff (2000) concluded that, despite initial high standards of living, the colonial offshoots which had rich factor endowments, developed institutions which ultimately reinforced the growth of highly inequalitarian societies. This inequality would ultimately have a debilitating effect on that colony's future economic growth path (Roy 2014; Sokoloff & Engerman 2000).

South Africa has long been infamous for its highly unequal society (Nattrass & Seekings 2001). When Apartheid finally came to an end in 1994, the average per capita income of a black South African was around one tenth that of their average white cohort (Nattrass & Seekings 2001). It is tempting to make the assumption that by virtue of Engerman and Sokoloff's reasoning, the

initial factor endowments (the abundance of land and slave labour) of the early Cape colony gave rise to institutions that perpetrated the highly unequal South African economic landscape that exists today. Moreover, the development of this stark inequality would also explain South Africa's divergent economic growth path when compared to the sustained robust economic development trajectories of the US and Canada (Lamar & Thompson 1981).

However, this would be a gross simplification of South Africa's complex historical development on all fronts. In fact, the Cape Colony differed fundamentally from the colonies in the Americas in that the first Cape colonial outpost was not established by a national crown, but by a private undertaking, the Dutch East India Company or the V.O.C. (Fourie & von Fintel 2010). In the end, the decisions taken by the company – though not always driven by the opinion of elites – led to the development of an in-egalitarian society that played a significant part in the institutions which effectively gave birth to the unequal South Africa of today (Acemoglu et al. 2002).

Hence, claiming universal application for the Engerman and Sokoloff hypothesis is not possible. The Turner Frontier hypothesis, presents an attractive alternative for examining the origins of economic institutions that would ultimately cement South Africa's long-term economic growth trajectory. Turner's original theory, which is largely historical, stated that the idiosyncrasies of the American frontier played a vital role in shaping American institutions. He argued that *"The peculiarity of American institutions is the fact that they have been compelled to adapt themselves to the changes of an expanding people- to the changes involved in crossing a continent, in winning a wilderness, and in developing ... the primitive economic and political conditions of the frontier into the complexity of city life"* (Weber 1986). Historians have widely criticised Turner's view of the American frontier as romanticised and anecdotal with no empirical proof (Pierson 1942).

The empirical results on the frontier theory has also not been definitive. A study by Reavis (1957) finds that English immigrants to Maryland had a relatively high likelihood of claiming the rank of gentlemen during the 1637-76 period. This was especially possible due to the rapid expansion of the number of counties into the Georgia and West Virginia territories (Reavis 1957). Peterson (1975) also finds that around 80% of the late-19th century mining Bonanza Kings of the US West were born into lower or middle class families. Poor immigrants therefore had a better chance of finding success on the mining frontier than eastern urban centres

(Peterson 1975). In a similar vein Clay & Jones (2008) find that migration to California during the 1850s gold rush increased absolute earnings. However, they conclude that miner earnings were worse after migration, bringing into question Peterson (1975) earlier findings. In fact, they find that earnings mobility was the greatest for occupations outside of mining (Clay & Jones 2008). When looking at the Kansas, Nebraska and Dakota agricultural territories during the 1860s and 1870s Steward (2009) finds that persistence in these frontier regions had a larger impact on wealth.

However; this high degree of social mobility in the various American frontier territories was not experienced by all. In a study by Guest (2004) utilising a sample covering nine regions of the US, it was found that there was no relationship between occupational mobility and the frontier regions in the 19th century. This study also finds that Irish and Chinese immigrants were systematically excluded from attaining wealth and status in some parts of California during the 1860s. Furthermore, a longitudinal study of social mobility in the frontier town of Gothic Colorado, which experienced a silver mining boom during the 1880s clearly demonstrated very little if any upward mobility for the majority of immigrants (Glover & King 2011). What does become clear from the wide body of literature on American frontier mobility is that frontier societies had very different geographical characteristics and eventually produced different levels of social mobility. Ultimately, the frontier process may have a positive or negative impact on social mobility, income or wealth inequality and ultimately institutions.

A significant amount of literature on the social mobility of the frontier has relied on analysis in the America's, especially North America. This North American bias, largely on account of data unavailability of other regions, has also driven this romantic view of the frontier advancement process, in lieu of American economic success. Yet the frontier process held a different significance altogether for social mobility in the Cape colony. However; quantitative social mobility studies on other frontier regions have been limited. One of the few studies conducted on early Southern African social mobility was done by Fourie & Cilliers (2016) who analysed the occupational mobility of fathers and sons before and after South African industrial take-off in the 1860s. They find that the post-industrial take-off occupational upward mobility was quite high; however, the study did not focus any attention on the frontier (Cilliers & Fourie 2016). This study presents the opportunity to study the social mobility of another frontier society outside of the Americas, which may add more insights into the general applicability of the Turner hypothesis.

3. The Cape colonial eastern frontier

From its initial founding in 1652 the Cape Colony was governed by the Dutch East India Company (VOC), before coming under British control in 1795. The VOC's strategic interest in the Cape primarily stemmed from the need for a refreshment station for its passing ships en route to the east. As the allure of the Cape outpost grew over time and settler fertility expanded, the number of European inhabitants increased steadily and by the early 18th century the Cape had established itself as a settler colony (Fourie & von Fintel 2010; Shell 2005). Most European farmers settled in the southwestern part of the Cape, where they engaged in wine and wheat farming, but as immigration continued, more and more European settlers moved further into the eastern and northern frontier regions.

The Graaff-Reinet district, on the eastern frontier of the Cape Colony, was established in 1786 to accommodate the growing need for land by newly arrived Europeans (Newton-king 1988). Differently from the southwestern Cape, pastoral farming was by far the dominant economic activity in Graaff-Reinet. Stock-farming was not new to the area. On the contrary, the area had been an area utilised for stock farming for more than 2,000 years (Keay-bright & Boardman 2006). Although not being isolated from the rest of the Cape economy, trade with the commercial southwestern Cape was limited primarily to the livestock trade because of long-distances and rough weather conditions (Beinart 2003: 10). Prior to any social mobility analysis being done it is important to establish whether or not the Graaff Reinet district could be considered an open frontier district during the first half of the 19th century.

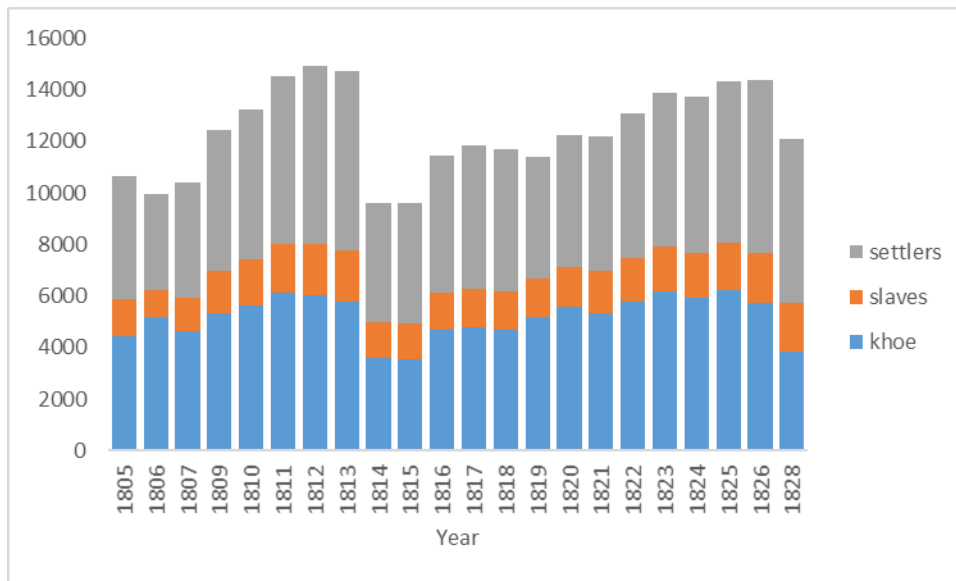
Gressley (1958) notes that the Turner Thesis came under widespread attack during the 1930s and 1940s especially due to the poor definition of the open frontier either as a geographic region or as a cultural divide. In the economic history literature an open frontier is characterised by low population densities, low levels of urbanisation, and limited market access (see McInnis 1977 for an overview). For the purpose of this paper however, I instead consider the sociological definition of an open frontier. In that regard Giliomee (1971) provides a useful framework within which to evaluate the frontier closure process, which considers the political, economic, and social aspects thereof. A politically closing frontier is signified by the rise of a single source of authority, whereas economic closure is characterised by the increased scarcity of land, a shift from subsistence to commercial agricultural practises, and growing control over the factors of production by a dominant group. Finally, social subjugation entails the stratification of society based on criteria such as race or wealth. When these three process are

complete the society can no longer be considered an open frontier (Giliomee 1971; Penn 1986). Closure on these fronts often is accompanied by periods of intense violence as one group attempts to achieve supremacy above another.

Cilliers and Green (2017) show that Graaff-Reinet over the period 1800-30 was undergoing frontier closing but was not yet fully closed in the economic sense of the term, due to increased population pressure causing the continuous establishment of new district borders. In the political sense, frontier closure was also not yet complete since no supreme colonial authority had been established by the period of this study. Ultimately, Graaff-Reinet frontier closure would be considered complete if the colonial powers had succeeded in establishing themselves as the singular hegemonic authority (Giliomee 1971).

Conversely, scholars like Newton-King (1980) argue that the frontier was already closed in the political sense by late 18th century as the colonists had already gained the upper hand in the struggle for dominance over the eastern frontier at Graaff-Reinet. However, fig. 2 indicates that Newton-King neglects to account for the tremendous fluctuation in Graaff-Reinet population numbers. The settler population numbers at Graaff-Reinet varied substantially over the 1805 to 1828 period (see figure 1), indicating that the society was still very much in flux and far from hegemonic. Moreover, the major declines in the number of settler households at Graaff-Reinet coincided with major frontier events. To some extent this pattern can be explained by administrative changes. For example, one of the first significant settler population declines in Graaff-Reinet occurred around 1806. Not only was this the first year of the second British occupation at the Cape but it was also the year after the formation of the Tulbagh district. These two significant changes meant that colonial boundaries were considerably altered, with some settlers previously categorised in the greater Graaff-Reinet *landdrost*, now finding themselves in the newly established Tulbagh sub-district (Legassick 1970; Freund 1972). Moreover, the incentive for accurate, or at least credible record-keeping, was also much lower during the transition from the Batavians to the English.

Figure 1: Settler, Khoe, and Slave numbers in Graaff-Reinet *Opgaaffrollen* 1802 to 1823



Having said that, the major subsequent declines in the settler and Khoe population was not caused by administrative changes but by social and political conflicts. During what is now known as the Third Frontier War during 1799 to 1803, Xhosa chiefs and heavily armed Khoe virtually destroyed the eastern frontier economy forcing many settler families to flee from the company loan-farms that they occupied (Freund 1972). This was a tumultuous time not only for the Graaff-Reinet region, but for the entire Cape, as control of the colony briefly shifted to the British during the Napoleonic Wars prior to the conclusion of the Treaty of Amiens in 1802, where after control of the Cape reverted back to the Batavian Republic. This weakness in colonial authority was effectively capitalised on by the Xhosa and Khoe as the Batavians were forced to agree to leave the Xhosa in the Zuurveld and the eastern colonial border unchanged (Legassick 1970).

The population decline in 1814 occurred immediately after the conclusion of the Fourth Frontier War (1811 to 1813). In addition to the loss of life related to the conflict, the colonial authorities actively campaigned for settlers residing in Graaff-Reinet and Uitenhage to relocate to the Zuurveld after the Xhosas had been expelled. This move was encouraged to reduce the likelihood of the Xhosas returning to the Zuurveld area. It is also not imprudent to assume that the settler farmers relocated with their slaves and cattle. The Fifth Frontier war which occurred from 1818 to 1819 also led to decline in settler numbers at Graaff-Reinet albeit to a smaller degree, since the then governor of the Cape, Lord Charles Somerset, encouraged resettlement to the area between the Fish and Keiskamma rivers (Legassick 1970). The advancement further east clearly indicates that economic closure was also by no means complete.

Had social stratification set in to the degree that the eastern Cape frontier could be considered closed in the social sense over the 1805-28 period? Social stratification had already begun by the early 19th century if one considers the treatment of the indigenous Khoe and Xhosa by European settlers. Legislative coercion by way of the *Inboekstelsel* – a pass system which severely inhibited the movement of Khoe who did not carry the right papers – in 1775, was a one of the first attempts to impose settler hegemony upon the indigenous people (Penn 2005). In 1809 the English made further attempts to formalise indigenous subjugation by enacting the Caledon Code, thereby indenturing Khoe labour to European settler farmers. The traditionally nomadic Khoe were required to show proof of a fixed place of residence which had to be approved by a local colonial government official. Additionally, this legislation deliberately lacked explicit recognition of Khoe property rights, denigrating the indigenous population to a landless labour class (Legassick 1970; Eldredge 1994). However, frequent successful indigenous revolts in the form of at least two frontier wars over the period of this study paints the picture that settler hegemony and social stratification, although growing in extent, was also vehemently challenged (Mason 1994; Cornwell 2003). Nevertheless, the eastern frontier remained open on political and economic grounds presenting the ideal opportunity look at social mobility.

4. Data and Method

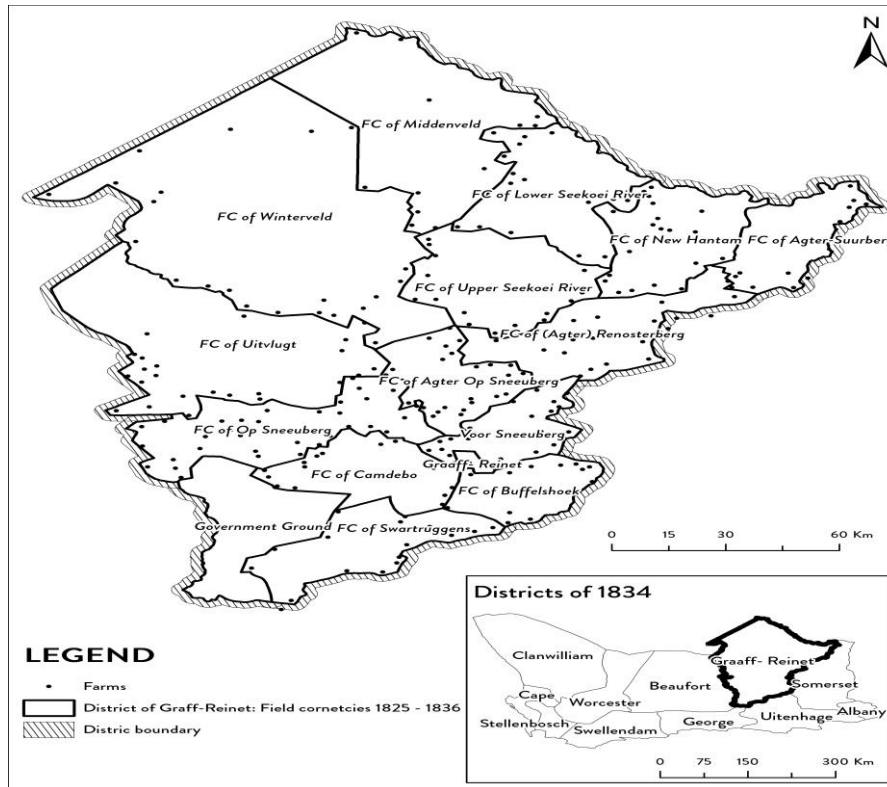
a. Data

The main data component employed in this analysis comes from the transcribed Graaff-Reinet *Opgaafrollen* for the 1805 – 1828 period. This data combines a series of cross sectional information sets for settler farming families in different areas², recording their holdings for a given year so that their tax liability could be determined by company officials. Figure 2 exhibits a map outlining the various sub-districts (Feld Cornetsies) of Graaff Reinet. These holdings included amongst other things the number of Khoe labour, slave labour, the amount of livestock kept, the number of wagons, the number of vines and volume of wine produced, as well as the

² These areas included Graaff-Reinet town, Agter op Sneeuwberg, Agter op Rhinocerberg, the Zuurberg, Buffelshoek, the Camdeboo, Zwartuggens, Ghoup, Nieuweveldt, the Lower and Upper Zeekoei rivier, the Hantam, Zwartberg, the Winterveldt, Uitvlug and Swaggershoek, collectively termed the Graaff-Reinet district for the puposes of this study.

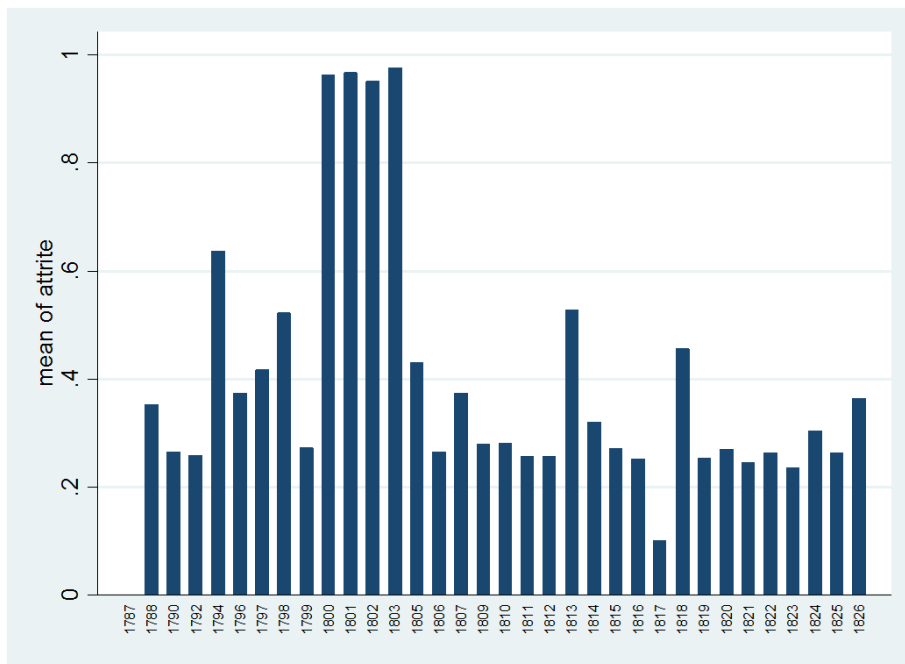
amount of crops sown and reaped. A major shortcoming of the dataset is that it does not include information for the years 1804, 1808 and 1827.

Figure 3: Feld Cornetsies at Graaff Reiniet in 1834



The data employed also limits the scope of this study to the eastern frontier population recorded in the VOC *Opgaafrollen*. This essentially means that our analysis falls prey to the “population under European influence” problem (Fourie & von Fintel 2011). Essentially, I am only able to analyse settler households or do a within settler group study. While the dataset includes information on Khoe labourers working for settler farmers on the eastern frontier, no distinction is made between indentured and free Khoe labour. Figure 1 shows that on average, Khoe labourers at Graaff-Reinet outnumbered slaves by four to one, which effectively proves that Khoe labour was always more important on the eastern frontier than slaves. Settler and Khoe labour were also roughly equally represented in the Graaff-Reinet tax censuses. This information is particularly important, especially since excluding the Khoe from studies of the economy of the early Cape colony would yield an inaccurate overall picture of the colonial agricultural production process (Fourie & Green 2015). It must also be noted that the data panel constructed is unbalanced, therefore not all individual settler households followed are included in the panel for the same length of time.

Figure 3: Settler Household Attrition 1787 to 1828.



The original constructed panel dataset for the Graaff Reinet district spanned 1787 to 1828. However; I took the decision to only include the 1805 to 1828 portion primarily due to high levels of attrition; especially during the period of Third Frontier War (1799 to 1803). This level of attrition is understandable in this highly volatile and violent frontier environment. Figure 3 shows that almost the entire sample of settler households that were present prior to 1800 fell out of the panel during the 1800 to 1803 period. This would effectively mean that the sample of settler households present in 1805 would be an entirely new. Attempting to link the same household over time prior to 1805 is therefore not possible.

b. Method

The paper will aim to estimate asset wealth mobility over the duration of the panel. This analysis will be done in order to ascertain the degree and trajectory of asset wealth mobility from 1805 to 1828. In essence, I will be utilising a methodology similar to that developed by Antman and Mckenzie (2007), which involves the estimating the following equation for each settler household for every year of the panel starting in 1805:

$$\Delta y_t = \alpha_1 + \alpha_2 y_{t-1} + u$$

Where y_t represents the log of settler assets at period t. If the coefficient of log assets/production in period t-1 is negative, this indicates convergence in asset/production

mobility over time, effectively showing that upward mobility in assets or production is present (Antman & McKenzie 2007).

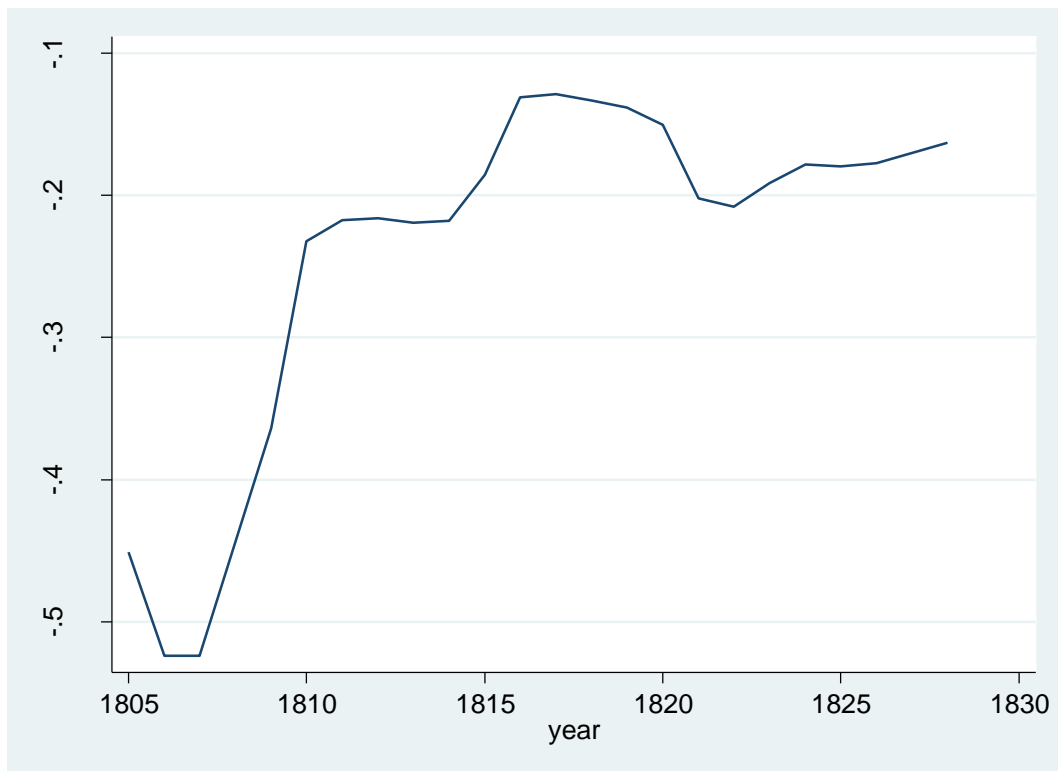
Table 1: Frontier Pastoralist farms (1805 to 1828)				
Asset	Average	Std. Dev	Min	Max
slaves	1.175	2.982109	0	57
sheep	553.332	791.0736	0	14121
cattle	42.716	62.65294	0	1333
horses	5.749	13.93566	0	1866
vines	319.210	2321.026	0	148174
reapwheat	5.588	22.4168	0	67
reaprye	0.022	0.752775	0	1232
reapoats	0.014	0.707557	0	80
waggons	0.081	1.40186	0	186

The wealth variable was constructed by combining the top six held asset items of the average Graaff Reinet settler household over the entire panel period. Table 1 shows that these assets were sheep, vines, cattle, horses, wheat reaped and slaves. A significant shortcoming of the constructed wealth variable is that it only takes into account the quantities of these assets held and not the values. In the context of frontier analysis, it will be possible to observe how asset wealth mobility evolved over time for settlers. As mentioned earlier, the current available data only allows analysis of the settler population. If social mobility increases over time this will inevitably lead to a more equal distribution of income after the frontier closes. The opposite effect is also true. This study will therefore attempt to ascertain what the effect of the frontier was on settler asset mobility as a precursor to the level of inequality that was to follow after the frontier closed.

5. Results

I begin by analysing the wealth mobility of Graaff Reinet for the 1805 to 1828 period. It is clear from figure 4. That wealth mobility declines over the entire period of analysis. This decline in wealth mobility is to be expected since it illustrates that settler households who arrived at the dawn of the 19th century had a much greater likelihood of amassing wealth than individuals who had arrived in the following years (first mover advantage of moving to the frontier).

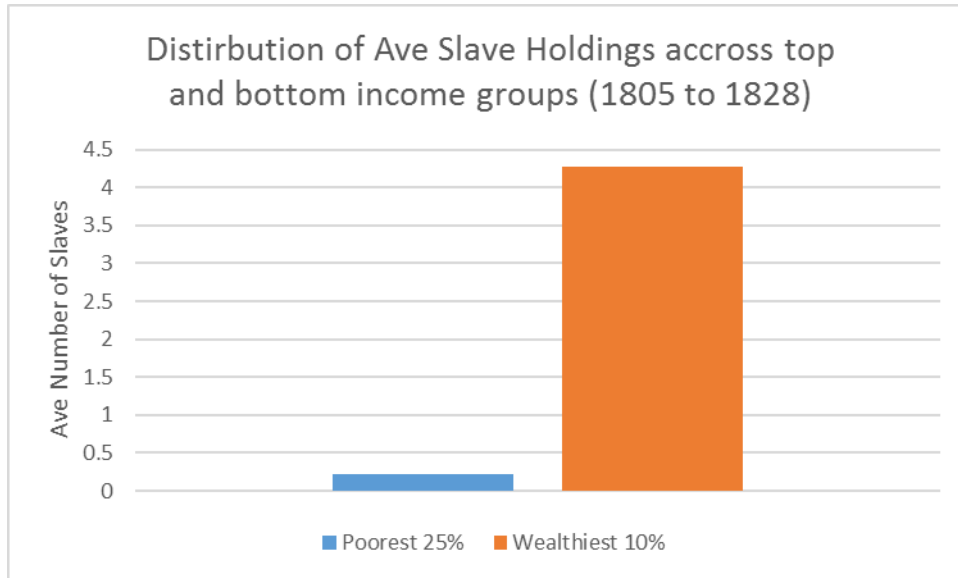
Figure 4: Wealth Mobility Graaf Reinet District 1805 to 1828



What is striking is the rapid decline in wealth mobility from 1805 to 1815, which meant that the first mover advantage obtained from migrating to the eastern Cape frontier dissipated over a relatively short period of time. It does appear that the post-Fourth Frontier War Graaff Reinet district is somewhat more mobile in terms of wealth. The fact that war or conflict opens up wealth mobility concurs with findings by Van Leeuwen et al (2016) that conflicts such as the French Revolution opened up social/wealth mobility post-conflict (Van Leeuwen et al. 2016). Despite the fact that the nature of French conflicts after 1720 and the frontier clashes in the Cape colony were fundamentally different, it appears as if war generally has a destabilising impact on societal structures.

The manner in which household wealth on the eastern Cape frontier is measured may also have an impact on the eventual wealth mobility that is observed at the Graaff Reinet frontier over the period of the study. Ownership of household assets such as horses, slaves and vines were not as widespread and may have a distorting impact on wealth mobility estimates. Slaves and horses were luxury assets owned by a handful of wealthy frontiersmen. Ultimately it might be more valuable to utilise a measure of wealth that is more representative across all income groups at Graaff Reinet for the period in question.

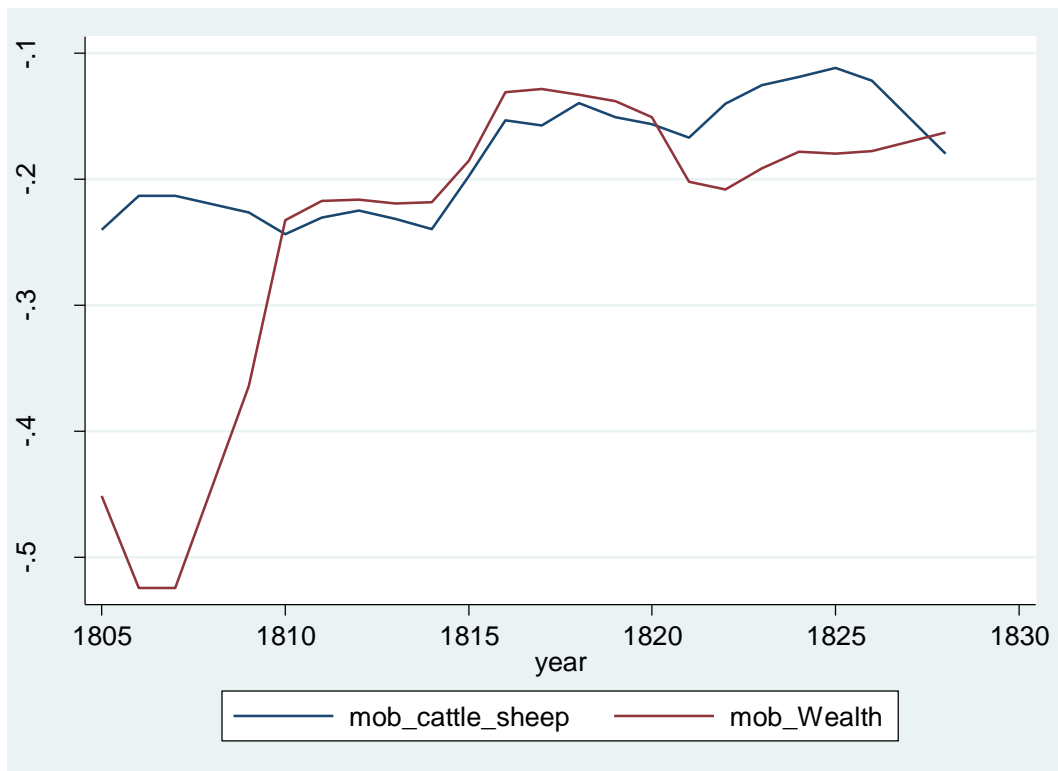
Figure 5



Restricting analysis to only sheep and cattle wealth

Since Graaff Reinet was a primarily pastoralist frontier, it may be more representative to make use of a sheep and cattle wealth variable instead. Figure 5 shows how the poorest 25% of settler households had access to around an average of 0.4 slaves over the entire period of the study (this also virtually counts as zero). The wealthiest households naturally had access to an even greater pool of slave labour. The top 10% of wealthy households at Graaff Reinet had access to an average of 4.3 slaves over the period of the study. Slave use was highly concentrated in wealthier households. As such, utilising a sheep and cattle wealth proxy may be more useful. In Figure 6 I utilised a sheep and cattle variable to estimate the wealth mobility over the period of study. It is clear that the decline in social mobility over time is much less severe than in the total wealth measure used. Total sheep and cattle wealth mobility decreases much slower over the 1805 to 1828 period. Another robust result is the fact that wealth mobility increases immediately after 1815, similar to the case where the broader wealth measure is utilised. This also shows the significant impact of the Fourth Frontier on Graaff Reinet wealth mobility.

Figure 6: Wealth Mobility (Cattle and Sheep) Graaf Reinet District 1805 to 1828



Ultimately, wealth mobility at Graaff Reinet declined rapidly, early on reducing the opportunity for frontiersmen who arrived later to find their fortunes. The eastern Cape colonial frontier became a highly stratified unequal society relatively early on. The frontier closure had a marked impact on wealth mobility within the immigrant settler population, creating a pseudo-elite group within the eastern frontier societal structure. Dooling (2005) notes that the frontier regions of the Cape were highly stratified, with some settler families in these regions possessing wealth that rivalled that of the wine and wheat farmers of the south-western Cape. Nevertheless, wealth inequality on the frontier grew over the course of the eighteenth century (Dooling 2005:150). Phenomena such as the formation of commandos on the border areas to combat the aggressive or *oorlams* native groups played a significant role in this social stratification. The leaders of commandos were often the heads of the most powerful and wealthy families on the frontier and resulted in the concentration of power viz-a-viz weapons and cattle holdings around certain individuals (Penn 2005). As such, the commando system was pivotal in shaping the elite group which would be the heaviest lobbyists for maintaining institutional arrangements that would reinforce their privilege.

There is no doubt that the Roman-Dutch laws of inheritance which were applicable to the 18th and 19th century Cape had a substantial mitigating impact on elite formation. A combination of

partible inheritance and large families made holding onto land, slaves or cattle over extended periods of time exceedingly difficult (Dooling 2005:154). Nevertheless, through a complex system of strategic marriages, especially to wealthy widows, the stratification of Cape colonial society with a clearly defined elite group started to take shape (Dooling 2005).

6. Concluding Remarks

The Turner Frontier hypothesis presents a plausible alternative explanation for the shaping of early colonial institutions. The theory, originally applied to the American Western frontier, essentially attributed American institutions to the interaction between the physical frontier environment and the frontier closure process. An adapted version of this theory may be applicable to the Cape colonial frontier. In fact, this study hypothesises that the interaction between the physical environment and the frontier closure process on the eastern frontier shaped the in-egalitarian society that gave birth to the growth destroying institutions that would ultimately hamper South Africa's long term economic growth trajectory.

The extended longitudinal dataset for the Graaff Reinet district spanning 21-years allowed for the observing of the evolution of Graaff Reinet frontier wealth mobility over the first two decades of the 19th century. We find that wealth mobility declines rapidly during the first decade of the panel dataset. The opportunities for newly settled frontiersmen therefore dissipated quite rapidly early on. The Graaff Reinet frontier district therefore became a society that was quite rigidly socially stratified quite early on. However; it does appear that events of conflict such as the Forth Frontier War had a somewhat reversing impact on social immobility. Ultimately the destabilising conflict would not be sufficient to upset the growth in long-term inequality that would come to characterise the settler community at Graaff Reinet.

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