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# “Impending ruin” or “remarkable wealth”? The role of private credit markets in a settler colony

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## Abstract

Credit markets develop hand in hand with a market economy. Pre-industrial credit markets, like credit (and capital) markets today, developed in order to smooth consumption, ease trade, and enable long-term investment. Yet in the eighteenth century Cape Colony, a Dutch settlement at the southern tip of Africa, commentators of the day were skeptical about what an active credit market could contribute to the economy: for them, borrowing was a sure sign of poverty. Historians have expressed the same view. We present a different picture of the Cape Colony. We use 4,160 probate inventories, listing 12,637 credit transactions and 12,580 debt transactions, to show that the main reason for borrowing was long-term capital investment in property through bonds, and that a particular driver of the Colony’s extensive use of credit was slave ownership. We also show that those who benefited from the Colony’s thriving credit market were rich, not poor.

## 1 Introduction

In 1795, shortly before the British annexed the Cape Colony from the Dutch, Johannes Frederik Kirsten wrote to the British government to describe the economic circumstances at the Cape. He painted a grim picture of poverty and debt: “By far the greater part of the Farmers and the Inhabitants of the Town are Bankrupts, the rest have their property under Sequester, and every individual looks forward to impending ruin.” In his view, “the Farmer” was “in every aspect a looser [sic], and had nothing to look forward to but unavoidable poverty” (Muller 1960).

To understand his sentiment, it is necessary to look more closely at his life. Born in 1759, he received a good education and, through his father’s connections, obtained a position in the Dutch East India Company (*Vereenigde Oostindische Compagnie* – VOC). His social status rose further when he married the widow

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of Marthinus Melck, son of Martin Melck, at that time the richest man in the Colony. Using his Company connections to set up lucrative private ventures, Kirsten himself became a rich man, with a capital stock, to name a few items, of 100 slaves, 674 oxen, 130 horses, 1400 sheep, and 388 morgen of land. His gloomy prognostication is therefore surprising, until we discover that his brother, Jan Pieter Kirsten, owed a total of 6,000 gulden (2,000 rijksdaalders or £500) and was on the verge of collapse.

It is anecdotal evidence like this that has led historians to describe the Cape farmers, and the Colony's economy as a whole, as impoverished. Guelke (1980, pp. 81–82) describes the poor, small farmers as “tied to wealthier ones by debts” and Schoeman (2011, p. 293) says “most survived on the basis of debt, credit and borrowing”. Yet several scholars have recently challenged such accounts of poverty and deprivation on the grounds that they lack empirical support. Fourie (2013a), for example, finds “remarkable wealth” in the probate inventories of Cape Colony households.

This new interpretation of Cape economic history has implications for how we judge the contribution of credit markets. It is timely that recent research on Western European pre-industrial societies shows that credit markets were used not only by the poor to smooth consumption, but also by the wealthy for short-term trade (Schofield and Lambrecht 2009, p. 14) and for long-term investment in capital goods to improve productive capacity (Matthews 2009, p. 246). Credit markets reduced transaction costs and created wealth (Ogilvie *et al.* 2012). It appears that, rather than indicating poverty, an active credit market in a pre-industrial society is a sign of a thriving economy.

We add to this new literature by investigating the credit market in the eighteenth- and nineteenth-century Cape Colony. We aim to ascertain whether a large credit market was a sign of settler poverty and destitution, as claimed by historians, or whether it indicated a prosperous economy like those of Western Europe, where most of the Cape settlers originated from. We use 4,160 probate inventories from the Master of the Orphan Chamber in the Cape (MOOC 8) to document 12,637 credit transactions and 12,580 debt transactions between settlers, the VOC, and the Church. Instead of the large role attributed to the VOC and the Church by historians, we find that more than 80 percent of these transactions were between settler men. Credit transactions are also closely correlated with slave ownership, which suggests that slaves could have been used as collateral in debt transactions. We merge the probate inventories with genealogical records of settler families to investigate the characteristics of borrowers at the Cape. Household debt, it seems, was used mainly for long-term investment in property through bonds.

## 2 Early credit markets: Who saved, who borrowed and for what purpose?

The primary purpose of financial markets is to allocate resources (Merton and Bodie 1995, p. 5). Credit transactions were recorded as early as 3000 BCE in Mesopotamia, and more formally in the banking sector in twelfth-century Genoa. Much is known about the formal credit market, borrowing and saving through financial intermediaries like banks, but the informal credit market between individuals or even within a family is a more recent research area.

Historically, credit was predominantly used for consumption smoothing, especially in early agricultural economies with large seasonal variations (Holderness 1976), but as credit markets developed they were increasingly used to facilitate trade and long-term capital investment (Matthews (2009, p. 245). In Western Europe, which suffered from chronic cash shortages, informal credit markets often developed in an attempt to increase the physical money supply (Schofield and Lambrecht 2009, p. 14).

The extent to which these three uses of credit contributed to poverty or improved productive capacity remains contested. Often the answer depends on the wider social structure of the economy. For example, in the coastal region of eighteenth-century Flanders individuals were excluded from the credit market because of loss of property rights and high taxes, while the inland region was able to sustain the peasant economy with secure property rights and continual subdivision of land (Thoen and Soens 2009, p. 34). In Italy, productive investment and poverty reduction both types of borrowing happened through Jewish lenders. Botticini (2000, p. 176) provides evidence that the poor in medieval Florence borrowed for consumption smoothing, while the affluent borrowed to invest in productive capacity. In Nuits St. Georges, in eastern France, a highly concentrated credit market, with notaries and merchants as intermediaries, developed in response to the outside threat of government intervention. However, it excluded the poor, since most of its borrowers and lenders came from the social elite (Rosenthal, 1994).

In a study of early modern Germany, Ogilvie *et al.* (2012) challenge the view that borrowers were mainly the destitute. They found that the inhabitants of Wildberg, a town in the Württemberg region, used credit markets more to build productive capacity than not to smooth consumption. These authors used probate inventories, as we did, to discover who took part in credit transactions. They show that the borrowers and lenders in the market came from both the poor and the rich and were bound together through guilds, churches, charitable foundations, hospitals, and even groups of heirs and children in guardianship (Ogilvie *et al.* 2012, p. 162).

Guilds, churches, and militias also played a role in the credit market in Amsterdam, but here these networks were insufficient and gave notaries an opening to play a greater role in this market. The notaries developed standardized loan forms, which lowered transaction costs and increased the volume of credit transactions (van Bocheve and Kole, 2013). Notaries also played a role in the credit

market in eighteenth-century Paris. Here, notaries were privy to private information about borrowers, mainly from the social elite, and their creditworthiness. This enabled them to reduce asymmetric information and complete more credit transactions (Hoffman *et al.* 2000, pp. 299–300).

Across the Atlantic, the positive correlation between credit markets and economic growth has been demonstrated by Rothenburg (1985) and Lamoreaux *et al.* (2003). Both these studies focus on the importance of networks and show that the development of capital and credit markets preceded economic growth in the regions. Lamoreaux *et al.* (2003, p. 411) further show that the networks were built by repeated trade between settlers. Because these transactions often happened on credit, the repeated action ensured repayment and contract enforcement.

### 3 The Cape Colony and the market for credit

In 1652, Jan van Riebeeck was charged by the VOC to establish a refreshment station at the southern tip of Africa. The Dutch built a fort where they grew wheat and fruit and vegetables; for meat, they traded with the indigenous Khoesan for cattle. However, with the increased ship traffic at the Cape bringing up to 6000 sailors and soldiers to the Cape each year, production fell short of demand and the Company released nine servants to become free farmers (Boshoff and Fourie 2010). The process of colonization at the Cape had begun.

The plan for these free farmers was to have small-scale farms around Cape Town with intensive agriculture, similar to Dutch agriculture. However, the soil in and around Cape Town was not suitable for wheat cultivation, and harsh weather conditions, particularly the south-easterly winds, often caused young crops to fail. Trade in cattle with the Khoesan also became increasingly hostile.

These events caused the colonial government, especially under Simon van der Stel, to expand the colony to more fertile areas nearer the mountain ranges. The soil here was better suited to wheat and barley cultivation and the settlers even invested in vines. The French Huguenots who arrived at the Cape in the 1680s added to the fledgling farming community in this region. Yet conditions remained tough – agriculture was labor-intensive venture and labor was in short supply at the Cape. The settlers also lacked capital to start their operations and few had the means to bring capital from Europe. The Company decided to provide basic loans for initial purposes and imported slaves (also provided on credit to the settlers) to increase the supply of labor. But the settlers relied on each other for trade and skills development.

As a result of this mutual dependence, by the end of the seventeenth century a private and informal credit market had developed. From what has previously been written, we know that the VOC, the Orphan Chamber, and the Dutch Reformed Church, which had a monopoly on organized religion until the establishment of the Lutheran Church in 1780, provided early loans, but as Ross (1989, pp. 258–261) argues, large contributions came from Company employees such as Joachim von Dessin. Apart from what has been gathered from biograph-

ical sketches, to date very little has been known about the size and structure of the Cape's credit market. The present study aims to give us a fuller picture.

One reason for the development of the private, informal credit market was the lack of currency at the Cape. The location of the Cape in the global trade network of the Dutch Empire caused various currencies to float in the area. Among these were the Dutch rijksdaalder and gulden, the English pound and even some Spanish coins. The farmers resorted to trading on credit to reduce transaction costs rather than use currency, which was difficult to trade with under these circumstances. Currency remained in short supply throughout the eighteenth century, with the shortage becoming most acute in 1792. When the British took control of the Cape in 1795, the pound became a dominant medium of exchange. After the second British takeover in 1806, the rijksdaalder depreciated sharply against the pound and was finally fixed against the pound at one shilling and sixpence.

The depreciation of the rijksdaalder coincided with the establishment of the first bank at the Cape, the Lombard Bank (Havemann and Fourie 2015). Based on the structure of banks in London's Lombard Street, this bank provided loans to settlers against pledged items. It remained the only institution of its kind until the arrival of the Imperial Banks with the discovery of minerals in the north during the second half of the nineteenth century. Our focus is the private and informal credit market before the establishment of banks and outside this financial institution after 1793.

Between 1660 and 1795, the settler population at the Cape expanded from a dozen to 14,000, including women and children, and by 1860 there were nearly 380,000 whites living in the Colony. According to long-established views, these early settlers were poor, living just above subsistence levels. The Cape economy, it was said, was small, and it expanded only because of the high fertility rate of the settlers. The young generation of economic historians who are challenging these views have observed that wages were on a par with those of other regions of the world, particularly Holland and Britain, for this period (Du Plessis and Du Plessis 2012; De Zwart 2012) and that the average wealth of Cape farmers was equal to, or even higher than, that of Europe and the North American colonies (Fourie 2013a).

What reasons can we find for this high level of wealth? Low labor costs, skilled settlers, and a steady demand for Cape produce certainly contributed, but so too did capital. The settlers borrowed not only from the Company but, like their compatriots in Holland, also from each other. The networks that developed, like those in sixteenth- and seventeenth-century Holland, were fundamental in creating a sophisticated financial system and may have been even more important for the Cape's development than those in Holland (Fourie 2014, p. 162).

Until now, the extent, structure, and characteristics of this credit market have remained hidden in the source documents. Using 4,160 probate inventories, we have begun to document the rise of the Cape Colony's credit market and investigated the factors that explain its growth. This has made it possible to discover whether the Cape credit market was similar to those fashioned in

Western Europe, where the Cape settlers came from, or whether it developed unique characteristics in response to the Cape's geographical isolation and its particular institutions, of which the most notable was slavery.

## 4 The settlers and the private credit market between 1672 and 1834

The source most often used, by historians and economic historians alike, to investigate the level of wealth and debt at the Cape is the probate inventories, or the MOOC 8 series. This series captures all the assets, credits, and debts of members of Cape households after their death. The households included in the series are those with children younger than 25 years, those with no last will and testament, or those where heirs were overseas or absent (TANAP, 2012).

The monetary unit most often used at the Cape was the Dutch rijksdaalder, abbreviated to rds, and one rijksdaalder was worth 8 stuivers or 48 shillings. We converted all other currencies, usually gulden and pounds, to rijksdaalder. The gulden most often found at the Cape was the Batavian gulden, worth 16 stuivers and one stuiver was worth 20 shillings. Following Fourie (2013a, p. 435), we fix the rijksdaalder : gulden exchange rate at 1 : 3. The pound was equal to 20 shillings and 1 shilling was equal to 20 pence. Because the pound floated against the rijksdaalder, we used Denzel's (2010, p. 607) exchange rate between the two currencies to adjust for the effect of appreciations or depreciations.

A second source of information on the early settlers at the Cape is the genealogical records. To gather more information on settler demographics, we combined the MOOC series with genealogical records for Cape families. The genealogical records include information on age, number of children, and occupation (Cilliers and Fourie 2012). We matched more than 2,100 probate inventories with individuals from the genealogies. Table 1 provides descriptive statistics on the variables captured from the probate inventories that are necessary to study the development of the credit market at the Cape, and shows the differences between the full MOOC sample, the matched sample (in both the MOOC series and genealogical records), and the unmatched sample (only in the MOOC series).

As in all countries, property was one of the Cape settlers' most valuable assets. In 37 percent of the inventories in the series, property was present, at an average value of 1,882.03 rds and an average size of 6180.35 m<sup>2</sup>. The proportion of inventories that include property is higher in the matched sample (40 percent) than in the unmatched sample (35 percent), and the properties in the matched sample are larger and have higher values. But we encounter a problem with property as captured in the probate inventories: no distinction is made between farms and town property, and values and sizes are included only sporadically.

Because of this problem with property, scholars have turned to slave ownership as a proxy for wealth (Guelke and Ross, 1983; Fourie, 2013a). More than half of the inventories, in the full sample and the matched sample, record slave

ownership, and this declines to 40 percent in the unmatched sample. In the households where slaves were present, the average number of slaves owned was 6.45 in the full sample, 7.05 in the matched sample, and 5.65 in the unmatched sample. Following Armstrong and Worden (1989, p. 136), we divide the inventories into groups according to the number of slaves they owned. Table 2 shows the groups and the proportions of each group found in the different samples. As with the averages found in Table 1, more individuals in the unmatched sample owned zero slaves and less than 1 percent owned more than 25 slaves, while only 44 percent of the matched sample owned zero slaves and 2.41 percent owned more than 25 slaves.

Do the differences between the unmatched and matched samples matter? Across both wealth (property and slave ownership) and financial measures (cash, credits, and debts), the unmatched sample appears poorer than the matched sample. This difference is on account of selection bias, because genealogies are more likely to exclude individuals without descendants. This means that we are less likely to be able to link the probate inventories of single men or young couples without children to the genealogical records. These households would tend to be poorer, biasing the unmatched sample. In contrast, Fourie (2013a, p. 428) shows that the MOOC 8 series used here would also have excluded many of the colonial elite, who had the capacity to draw up their own wills. This suggests that both the matched and unmatched samples would be biased towards the poorer part of the population. We therefore believe that our matched sample constitutes a portion of the settler population who were neither the richest nor the poorest, but between these two extremes. Proof of this is found when we compare the distribution of slave ownership of our matched sample to the tax records digitized by Hans Heese in the 1970s, and reported by Fourie and Von Fintel (2011). Table 3 compares the distributions of the matched and unmatched sample with those of the tax records (*opgaafrolle*) when zeros are excluded; because of differences in how households were defined in the two samples, including zeros biases the comparison. It is clear from Table 3 that the matched sample and tax censuses match almost perfectly across the distribution, supporting our claim that the matched sample is an accurate reflection of Cape society.

The financial measures shown in the inventory series are cash, credits owed to the individual, and debts owed by the individual. The inventories show remarkably low levels of cash – only 1,516 of the whole sample had some cash – 714 in the matched sample and 802 in the unmatched sample (see Table 1). The low levels of cash in the inventories can be attributed to chronic cash shortages and the different currencies which floated at the Cape, which needed to be converted to rijksdaalder before it could be used for another transaction. These low cash levels also of course explain the high levels of credit. Similar situations have been found in other countries of the time: in England: “most buying and selling was done on credit” (Muldrew 2011, p. 391), and in the early Nantucket “cash never dominated trade in the settler community” (Vickers 2011, p. 425). Across all three samples, more than 65 percent of inventories showed evidence of household involvement in the credit market, with an average of three credit



and/or debt transactions, and more than 40 percent being both lenders and borrowers. The highest amount owed to a single individual, Pieter Johannes Petrus Serrurier (MOOC 8/33.2), was 256,425 rds. Given the average price of slaves at 345 rds between 1790 and 1793 (Armstrong and Worden 1989, p. 140), this was equal to 743 male slaves. Serrurier, a minister of the Dutch Reformed Church, was born at the Cape in 1735, married once, and had six children, and died in 1819 at the age of 84. Besides the large amount owed to him, he also had various currencies in his inventory, totaling 7,198.75 rds and 29 slaves.

The individual with the largest debt, and whose records could be matched to the genealogical records, was Johannes Paulus Eksteen (MOOC8/38.61). He owed 135,755 rds, but also had 10,300 rds of credit, 60 rds in cash, and 73 slaves. He was the father of Hendrik Oostwald Eksteen, whom Groenewald (2009) describes as an “early modern entrepreneur” at the Cape. The individual with the largest debt, but who is unmatched in our records, was Tobias Christiaan Rönnekamp (MOOC8/46.28), who owed 164,640 rds. Rönnekamp was an auctioneer (*onderkoopman*) for the Company and secretary of the Orphan Chamber. He had not only the largest debt but also 180,679 rds of credit, 37 slaves, and 163 rds in cash.

The descriptive results already point towards an active and broad credit market in the eighteenth- and early nineteenth-century Cape Colony, with little reliance on cash. But this is only a foretaste of what we know from the inventories about the credit market and the role it played in the Cape’s economy. Whether this extensive credit market was used for consumption smoothing or wealth creation is the question we turn to next.

## 5 Credit for consumption smoothing or wealth creation?

The probate inventories have proven to be a valuable source of information regarding the financial interaction between settlers at the Cape. Most of the settlers whose inventories are captured in the MOOC 8 series were involved in some form of debt transaction and many relied on slave ownership to gain access to the market. But the historical literature suggests the high levels of debt were an intolerable burden for the settlers; Guelke (1980, p. 82), for example, writes that “many small farmers were deeply in debt and left no assets at all”. Our evidence, however, shows that the settlers used their capital, in the form of slaves, to gain access to the credit market and that the credit market was used for long-term investment in property through bonds. We do not find a picture of debts being incurred for consumption purposes, in order to cover basic needs for survival.

Our probate inventory data reveal many unwarranted assumptions of the historical literature. Historians claim, for example, that the VOC, the Church, and the Orphan Chamber were substantial creditors at the Cape. This was not the case: most credit and debt transactions, as Table 4 shows, were carried out

between male settlers, and less than 10% by the three institutions combined.

This is already an important finding, as settlers would presumably have different motives for borrowing from the VOC, the Church, or the Orphan Chamber than they would for borrowing from a neighbor. This is a hypothesis that needs testing. To discover the purpose of debt at the Cape, we follow the methodology used by Ogilvie *et al.* (2012). The economy of Wildberg relied on the textile industry for development; in contrast, the Cape's economy relied on agriculture. This has consequences for how we classify the more than 12,000 transactions in our dataset. For example, we exclude categories such as buildings and cloth from the analysis and add categories such as agricultural output and slaves. The descriptions are divided into three broad categories: consumption, production, and mixed. More than one-third of the debt transactions in the inventories had specific purposes recorded, lower than 45 percent found by Ogilvie *et al.* (2012), but still a good indication of why settlers approached the credit market for loans. The results are reported in Table 5.

The first important observation from Table 5 is the small share of debt made for consumption purposes. This finding challenges the claims by writers of the day, and later by historians, that the settlers mostly got into debt because they were poor and needed to borrow to survive. As Table 5 shows, only 20 percent of debt was incurred for consumption (or non-productive purposes). In fact, the highest proportion of debt incurred for this reason is in the household expenditure category, which includes consumables such as candles, a product that the settlers often made themselves. It was likely richer settlers who would buy candles on credit rather than make them.

Our second observation from Table 5, and a surprising one, is that the debts with the highest average value per transaction were inheritance debts. Under Roman-Dutch law at the Cape, the estate would be equally divided between the spouse and children. In the context of the probate inventories, these debts would be the inheritance owed to the minors, whose parents often died before their adulthood. For example, Margaretha Gildenhuijsen owed each of her children 3,763 gulden, or 1,254 rds, for their portion of their father's estate. At the time of her death, three of her children were younger than 16, and only one daughter was married. The Orphan Chamber would have been in charge of the estate until these children came of age, when these inheritance debts would be paid to them. Adult heirs could also not be resident at the Colony, which forced the Orphan Chamber to take charge of the assets. Because sea-faring was dangerous, many of the individuals who traveled to the Cape from Western Europe would have been young unmarried men. For example, one inventory records the case of the brothers Dirk and Hendrik Olivier (MOOC 8/4.99), who died without any children (according to the genealogical records) and the heirs to the estate were absent at the time. In these cases, the estate would be managed by the Orphan Chamber until the heirs could be located.

Yet although inheritance debts had the highest values, we find only 238 of them. They are far outnumbered by land debts, with 1,139 transactions and an average value of 1,206.8 rds that include 826 bonds at an average value of 1,398.5 rds. These bonds were securitized loans witnessed by an official (a *land-*

*drost*, or magistrate, or a notary or secretary), with the land being used as collateral for the debt. Almost all bonds were used for property, although in a few instances they were used for acquiring slaves. There are four types of bonds in the inventory series: mortgage bonds (*scheepenkenis*), notarial bonds (*notarieel obligaties*), secretarial bonds (*secretrieel obligaties*), and private bonds (*onderhandsche obligaties*). The bonds often listed an interest rate as well, almost always six percent.

The bond market offers a perfect illustration of the way settlers at the Cape adopted the credit institutions of Western Europe. By 1620 the bond market in Amsterdam was completely market-based, or driven by personal contact between creditors and borrowers (Gelderblom *et al.* 2013, p. 6). This meant that even individuals could buy and sell bonds such as *scheepkennisse* and *obligaties*, as long as they had some form of collateral, such as property. The same was true at the Cape. Bonds were brought and sold between individuals. These transactions were almost certainly market driven and personalized – most were unique in terms of creditor, debtor, and amount, and many of the probate inventories show bonds as both credits and debts. For example, Jacob Minnaar had three bonds as credits in his inventory, with three different individuals, but he also had two other bonds that were debts to another two individuals. The biggest difference between Western Europe and the Cape was the form of collateral. The property involved in the Dutch market was usually shops, where the property at the Cape was farms.

If property was important for the type of transactions in the credit market, were property and bonds also important for the individuals' overall level of debt? We can test this by running a Tobit regression model on the inventories. This model allows for truncation at the bottom of the distribution, to exclude settlers who had zero recorded debts. We include other variables which might be considered important for the settlers' debt levels, such as other wealth indicators, demographic variables, and decade controls. We also report the results with inflation-adjusted values for a shorter sub-period, 1699 to 1793, for which a price series is available.

Our first important result from the regression in Table 6 is the non-significance of the farmer dummy. This result serves to dismiss claims by the contemporaneous commentators and the historians that farmers had the highest levels of debt in the colony (see Section I). In fact, there is no significant difference between the debt levels of farmers and those with other occupations, including doctors, Company employees, and soldiers. Other demographic variables also have no significant impact on the debt level of individuals.

To further investigate the demographic variables, we divide the loans into small, medium and large values – derived from the purpose of debts as presented in Table 4. The small loans category consists of loans smaller than 100 rds, which includes almost all of those for consumption and non-productive purposes; the medium loans are between 100 and 300 rds and include working capital and wares; and the large loans are those worth more than 300 rds, such as those for slaves and land. Figures 1 and 2 show these debt types by age groups and occupations.

Both these figures show remarkably similar proportions across the different groups. Older households had as many debts as younger ones. Occupation does seem to matter to some extent; for example, sailors had more small debts and physicians had more large debts. This may be because sailors did not stay long enough at the Cape to incur large debts, and physicians were probably the wealthiest and trusted individuals in the society.

But when we consider debts by slave group (Figure 3), we find remarkable differences. Individuals with more wealth and collateral in the form of slaves had the ability to borrow larger amounts, while those at the bottom of the distribution with zero slaves borrowed only small amounts.

In Western Europe, bonds were correlated with private wealth (Gelderblom *et al.* 2013, p. 6). This was the case in the Cape as well: richer individuals were more likely to have collateral for a bond. As Table 6 makes clear, higher levels of debt are positively associated with all wealth indicators. The positive and significant effect, for both regressions, of bonds being present in the inventory serves to dispel the myth of Cape settlers being impoverished by debt.

Despite our earlier evidence that the VOC, the Church, and the Orphan Chamber had a minor role in total debts, our regression results do suggest that when a person borrowed from the Church and/or the Orphan Chamber the level of debt was higher. One reason for these higher debts could be that these two institutions were more involved than individuals were in providing mortgage bonds.

The number of properties is positively associated with nominal debt level, but the significance disappears when we consider inflation-adjusted debt values. Cash has only a marginal positive effect on the individual's overall debt level and it loses significance when we consider the inflation-adjusted regression. The number of slaves remains significant and positive for both regressions and supports newer evidence, such as that provided by Fourie (2013a), that slaves were an important source of wealth in the Cape Colony and are thus a more accurate means of estimating this wealth than property. It also reflects the underlying nature of the Colony's economy: it was an economy based on slave labor.

These results have implications for how we consider the private credit market at the Cape. If slaves were associated with wealth and larger debts, this supports our claim that the Cape credit market was used to generate wealth and not as a last resort for poor farmers. Settlers without slaves lacked the collateral for the loans that they desired – loans that were used mainly used for long-term investment. We find marked differences between the different groups of slave ownership and their level of debt. The wealthiest settlers, those with more than 25 slaves, dominated the credit market, in terms of both their level of debt (Figure 4) and the level of credit they extended to others (Figure 5).

Yet despite the large role for the elite, the poor settlers were by no means excluded from the credit market. Some of them even had debt levels similar to those of the wealthy – more than 1,750 rds – and most had some debts with values below 1,000 rds. And some of the wealthy settlers had little or no debt at the time of their death. Figure 6 shows that more than 60 percent of the households with zero slaves had at least some debt, while more than 15 percent

of the households that owned more than 25 slaves had no debt at all.

Of course, this might simply be the result of measurement error or missing data. There are three possible reasons why a zero debt value was recorded: a debt might not have been recorded in the inventory, the individual might have chosen not to get into debt, or the individual might have been excluded from the credit market. Unfortunately, there is no way to tell which of these carries the most weight, which would allow us to correct for the measurement error, but we do not believe this influences the overall trend. The different proportions of debt among slave ownership groups suggest that the settlers at the Cape made rational decisions within the debt market and that the Cape's credit market functioned as well as those in Western Europe.

## 6 Conclusions and consequences

These results support more recent evidence by Fourie (2013a), De Zwart (2012), Du Plessis and Du Plessis (2012), and Fourie and van Zanden (2013), who have all argued that the Cape was far from being the poor and backward society described in travel journals of visitors to the Cape, a theme picked up by later generations of historians.

We argue that the Cape had a fully functioning credit market which provided both wealthy and poor settlers at the Cape with the opportunity to borrow the necessary funds to expand their productive capacity and to use bonds for long-term investments. Instead of using property, such as shops (Gelderblom *et al.* 2013) or buildings (Ogilvie *et al.* 2012) as collateral for debt, the settlers at the Cape turned to their most valuable asset – slaves.

The slave basis of the credit market had long-term consequences. The investment in slavery enabled the Cape settler farmers to replace work hours with leisure hours. Their living standards were extraordinarily high. But the investment in slaves also meant that investment in other technologies and other capital goods was discouraged (Fourie 2013b). Spilling over into the capital market, the reliance on slaves for production and collateral meant there was little depth to the capital market and the development of financial markets remained slow, with little financial innovation. At an early date in colonial history Adam Smith (1776 IV.7, p. 33) was observing, in reference to the Dutch colonies, that: “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, had been languid and slow in comparison with that of the greater part of the colonies.”

This lack of financial sophistication came to the fore during the Cape Colony's first financial crisis of 1788–1793. Havemann and Fourie (2015) describe the crisis as a “perfect storm” of domestic and foreign events: large fiscal deficits were monetized by printing money, domestic wars on the frontier affected land rights and collateral, international wars resulted in a sharp depreciation of the currency, raising inflation, and an unregulated merchant house, run by the Brothers Van Reenen, collapsed, bringing ruin to its creditors. It was to these Van Reenen

brothers that Johannes Frederik Kirsten's brother owed substantial sums.

But to judge the entire eighteenth century on the basis of this isolated event in the final decade does an injustice to the widespread and flourishing informal credit market that had developed at the Cape, a market, as we show, that brought the settlers not to the verge of ruin but rather to remarkable wealth.

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We thank Joost Jonker, Jan Luiten van Zanden, and Grietjie Verhoef for valuable comments on an earlier draft of this paper. We also thank participants at the LEAP (Laboratory for the Economics of Africa's Past) sessions at Stellenbosch University and the ERSA (Economic Research Southern Africa) workshop in Johannesburg (January 2015) for helpful suggestions. All errors are of course our own.

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## Tables

Table 1: Descriptive statistics of wealth information of full and matched samples – excluding zeroes

	<i>Full sample</i>									
	Obs.	Mean	Std. dev.	Min	5 <sup>th</sup> percentile	25 <sup>th</sup> percentile	50 <sup>th</sup> percentile	75 <sup>th</sup> percentile	95 <sup>th</sup> percentile	Max
Number of inventories	4160									
Property present	1555	0.37								
Value of property	854	1822	4874	3	35	200	800	2000	6000	100000
Size of property	94	6180	10813	6	17	511	1926	6069	25548	68822
Number of slaves	4160	3.21	6.33	0	0	0	0	4	15	73
Value of cash	1516	334	1373	0	6	14	56	192	1280	36652
Value of credit	2020	2540	12645	2	14	30	182	840	8954	256425
Number of credit transactions	12637	423	1792	0	3	14	37	200	2000	80600
Value of debt	2866	1751	6719	2	14	80	317	1131	6900	164641
Number of debt transactions	12580	411	2098	0	5	14	52	228	1805	110188
Both lender and borrower	4160	0.41								
	<i>Matched sample</i>									
	Obs.	Mean	Std. dev.	Min	5 <sup>th</sup> percentile	25 <sup>th</sup> percentile	50 <sup>th</sup> percentile	75 <sup>th</sup> percentile	95 <sup>th</sup> percentile	Max
Number of inventories	2117									
Property present	839	0.40								
Value of property	512	1883	4236	3	50	200	800	2000	6000	50000
Size of property	56	7202	12320	6	17	511	3806	6958	31002	68821
Number of slaves	2117	3.93	7.17	0	0	0	1	5	18	73
Value of cash	714	398	1254	0	8	14	82	240	1775	13539
Value of credit	1058	3290	14626	3	14	50	273	1170	12396	256424
Number of credit transactions	6706	549	2165	0	4	14	51	300	2670	80600
Value of debt	1544	2021	6991	4	14	107	384	1335	8035	135755
Number of debt transactions	7094	460	2083	0	5	15	64	270	2000	100098
Both lender and borrower	2117	0.43								
	<i>Unmatched sample</i>									
	Obs.	Mean	Std. Dev.	Min	5 <sup>th</sup> percentile	25 <sup>th</sup> percentile	50 <sup>th</sup> percentile	75 <sup>th</sup> percentile	95 <sup>th</sup> percentile	Max
Number of inventories	2043									
Property present	716	0.35								
Value of property	512	1884	4236	3	50	200	800	2000	6000	50000
Size of property	38	4673	8022	17	17	485	727	4412	25548	34379
Number of slaves	2043	2.47	5.22	0	0	0	0	3	13	61
Value of cash	802	277	1470	0	5	14	42	142	1000	36652
Value of credit	962	1716	9966	2	14	16	115	570	5914	200853
Number of credit transactions	5931	280	1226	0	3	12	24	126	1333	44950
Value of debt	1322	1436	6373	2	14	53	235	972	5103	164641
Number of debt transactions	5486	349	2116	0	5	14	45	200	1400	110188
Both lender and borrower	2043	0.40								

Source: Probate inventories, own calculations.

Table 1 (cont.): Descriptive statistics of wealth information of full and matched samples – including zeroes

	<i>Full sample</i>									
	Obs.	Mean	Std. dev.	Min	5 <sup>th</sup> percentile	25 <sup>th</sup> percentile	50 <sup>th</sup> percentile	75 <sup>th</sup> percentile	95 <sup>th</sup> percentile	Max
Number of inventories	4160									
Property present	4160	0.37								
Value of property	4160	374	2327	0	0	0	0	0	2000	100000
Size of property	4160	140	1860	0	0	0	0	0	0	68822
Number of slaves	4160	3.21	6.33	0	0	0	0	4	15	73
Value of cash	4160	122	844	0	0	0	0	400	418	36652
Value of credit	4160	1234	8901	0	0	0	0	162	3795	256425
Number of credit transactions	12637	423	1792	0	3	14	37	200	2000	80600
Value of debt	4160	1206	5636	0	0	0	99	620	4862	164640
Number of debt transactions	12580	411	2098	0	5	14	52	228	1805	110188
Both lender and borrower	4160	0.41								
	<i>Matched sample</i>									
	Obs.	Mean	Std. dev.	Min	5 <sup>th</sup> percentile	25 <sup>th</sup> percentile	50 <sup>th</sup> percentile	75 <sup>th</sup> percentile	95 <sup>th</sup> percentile	Max
Number of inventories	2117									
Property present	2117	0.40								
Value of property	2117	456	2232	0	0	0	0	0	2335	50000
Size of property	2117	191	2298	0	0	0	0	0	0	68821
Number of slaves	2117	3.93	7.17	0	0	0	1	5	18	73
Value of cash	2117	134	752	0	0	0	0	15	442	13539
Value of credit	2117	1644	10468	0	0	0	0	273	5435	256424
Number of credit transactions	6706	549	2165	0	4	14	51	300	2670	80600
Value of debt	2117	1474	6037	0	0	0	0	813	6478	135755
Number of debt transactions	7094	460	2083	0	5	15	64	270	2000	100098
Both lender and borrower	2117	0.43								
	<i>Unmatched sample</i>									
	Obs.	Mean	Std. dev.	Min	5 <sup>th</sup> percentile	25 <sup>th</sup> percentile	50 <sup>th</sup> percentile	75 <sup>th</sup> percentile	95 <sup>th</sup> percentile	Max
Number of inventories	2043									
Property present	2043	0.35								
Value of property	2043	290	2418	0	0	0	0	0	1500	100000
Size of property	2043	87	1251	0	0	0	0	0	0	34379
Number of slaves	2043	2.47	5.22	0	0	0	0	3	13	61
Value of cash	2043	109	930	0	0	0	0	14	400	36652
Value of credit	2043	808	6891	0	0	0	0	99	2450	200853
Number of credit transactions	5931	280	1226	0	3	12	24	126	1333	44950
Value of debt	2043	929	5174	0	0	0	48	433	3674	1644641
Number of debt transactions	5486	349	2116	0	5	14	45	200	1400	110188
Both lender and borrower	2043	0.40								

Source: Probate inventories, own calculations.

Table 2: Slave ownership groups – frequency and proportion by samples

Groups	<i>Full sample</i>		<i>Matched sample</i>		<i>Unmatched sample</i>	
	Obs.	%	Obs.	%	Obs.	%
0 slaves	2087	50.17	935	44.17	1152	56.39
Between 1 and 5 slaves	1312	31.54	715	33.77	597	29.22
Between 6 and 10 slaves	389	9.35	232	10.96	157	7.68
Between 11 and 24 slaves	305	7.33	184	8.69	121	5.92
More than 25 slaves	67	1.61	51	2.41	16	0.78
Total	4160	100.00	2117	100.00	2043	100.00

Source: Probate inventories, own calculations.

Table 3: Distribution of samples, and comparison with *opgaafrolle*

	Obs.	Mean	Std. Dev.	Min	25th	50th	75th	Max
Full sample (probates)	2073	6.4	7.7	1	2	4	8	73
Matched sample (probates and genealogies)	1182	7.0	8.4	1	2	4	9	73
Unmatched sample (probates only)	891	5.7	6.7	1	1	3	7	61
<i>Opgaafrolle</i> (tax censuses)	6932	7.42	8.43	1	2	4	9	66

Table 4: Gender of lenders and borrowers at the Cape

	<i>Full sample</i>				<i>Matched sample</i>				<i>Unmatched sample</i>			
	Lenders		Borrowers		Lenders		Borrowers		Lenders		Borrowers	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Male	5834	95.59	4993	83.79	5001	95.22	4374	83.58	4444	95.92	3341	83.99
Female	186	3.05	300	5.72	156	2.97	293	5.60	133	2.87	243	6.11
VOC	36	0.59	196	3.74	6	0.11	90	1.72	2	0.04	82	2.06
Church	8	0.13	94	1.79	39	0.74	247	4.72	21	0.45	130	3.27
Orphan Chamber	23	0.38	212	4.04	30	0.57	196	3.73	18	0.39	154	3.87
Other	16	0.26	48	0.92	20	0.38	33	0.63	15	0.32	28	0.70

Source: Probate inventories, own calculations.

Table 5: Purpose of debt: Frequencies, mean nominal values and proportions of debt by samples

Purpose of debt	<i>Full sample</i>			<i>Matched sample</i>			<i>Unmatched sample</i>		
	Freq.	%	Mean value	Freq.	%	Mean value	Freq.	%	Mean value
Child care	31	0.70	137.71	18	0.71	199.94	13	0.70	51.56
Clothing and shoes	31	0.70	35.37	17	0.67	49.15	14	0.75	18.63
Food	193	4.37	55.03	102	4.00	82.67	91	4.87	25.86
Funeral expenses	383	8.67	52.21	176	6.91	49.49	207	11.07	54.52
Household expenditure	203	4.59	220.94	86	3.38	346.90	117	6.26	124.48
Medical expenses	55	1.24	27.71	25	0.98	36.41	30	1.60	19.66
Wedding expenses	1	0.02	50.00	1	0.04	50.00	16	0.86	140.92
Other consumption	26	0.59	149.59	10	0.39	163.45	0	0.00	0.00
<i>Consumption total</i>	923	20.89	91.07	435	17.07	122.25	488	26.10	54.45
Land	1139	25.78	1206.85	717	28.14	1334.31	422	22.57	988.90
Land bought with bond <sup>1</sup>	826	18.70	1398.85	527	20.68	1557.24	299	15.99	1120.75
Agricultural output	126	2.85	49.60	79	3.10	49.84	47	2.51	49.19
Cattle	366	8.28	83.75	214	8.40	81.58	152	8.13	86.85
Slaves	87	1.97	785.39	56	2.20	518.72	31	1.66	1241.29
Wages	222	5.02	55.14	121	4.75	57.95	101	5.40	51.71
Working capital	146	3.30	125.86	95	3.73	135.01	51	2.73	108.81
Other production	387	8.76	1059.88	211	8.28	947.82	176	9.41	1194.24
<i>Production total</i>	2473	55.98	480.92	1493	58.59	585.31	980	52.41	605.22
Accounts	108	2.44	273.33	69	2.71	241.11	39	2.09	330.35
Auctions	102	2.31	1434.73	61	2.39	484.71	41	2.19	2883.50
Taxes	12	0.27	225.14	7	0.27	117.86	5	0.27	375.34
Wares	335	7.58	121.33	199	7.81	142.89	136	7.27	89.54
Donations	8	0.18	1083.34	5	0.20	302.50	3	0.16	2124.44
Inheritance	238	5.39	1788.12	155	6.08	2083.46	83	4.44	1229.87
Other mixed	219	4.96	165.05	124	4.87	111.52	95	5.08	234.92
<i>Mixed total</i>	1022	23.13	727.29	620	24.33	508.67	402	21.50	984.15
<i>Specific purpose given</i>	4418	34.96	1374.52	2548	35.79	1216.23	1870	33.90	1643.82
<i>General purpose given</i>	651	5.15	469.71	399	5.60	471.51	252	4.57	466.86
<i>No purpose given</i>	7567	59.88	289.90	4172	58.60	332.86	3395	61.54	237.10
<i>Total</i>	12636	100	711.38	7119	100	673.53	5517	100	782.59

Source: Probate inventories, own calculations.

<sup>1</sup>Very little information on these bonds is available, but as most were backed by land as collateral they are included in the land category.

Table 6: Tobit model of settlers' borrowing at the Cape

	Value of individual debt in rijksdaalders	
	Nominal values, 1673-1834	Inflation-adjusted values, 1699-1793
Age	-0.005 (-1.310)	-0.000 (-0.050)
Male	-0.233 (-0.799)	-0.474* (-1.884)
Married	-0.041 (-0.088)	-0.122 (-0.384)
Number of children	-0.007 (-0.365)	0.012 (0.478)
Farmers	0.199 (0.945)	-0.242 (-1.134)
Number of slaves	0.087*** (5.852)	0.081*** (5.947)
Number of properties	0.193*** (5.225)	0.045 (0.516)
Cash in inventory	0.000** (2.380)	0.000 (0.219)
Bonds present in inventory	1.072*** (2.642)	1.310** (2.522)
Both borrower and lender	-0.273* (-1.925)	-0.110 (-0.512)
VOC	0.271 (0.728)	0.341 (0.966)
Church	0.679** (2.310)	0.628* (1.956)
Orphan Chamber	1.253*** (5.452)	0.818*** (3.300)
1700	1.384*** (2.616)	-1.532*** (-4.089)
1710	-0.645 (-1.125)	-0.986** (-2.428)
1720	0.120 (0.190)	-1.792*** (-4.021)
1730	-0.523 (-0.817)	-1.134*** (-3.242)
1740	0.309 (0.517)	-1.926*** (-5.137)
1750	-0.531 (-0.838)	-1.337*** (-4.460)
1760	0.164 (0.304)	-2.153*** (-6.997)
1770	-0.353 (-0.647)	-2.046*** (-6.190)
1780	-0.264 (-0.476)	-1.563*** (-5.577)
1790	-0.118 (-0.216)	7.925*** (16.251)
1800	-0.189 (-0.349)	
1810	0.047	

1820	(0.086)	
	-0.467	
	(-0.873)	
1830+	-1.583***	
	(-2.818)	
Constant	6.209***	1.100***
	(8.195)	(17.934)
N	570	178
Pseudo R <sup>2</sup>	0.1102	0.1356

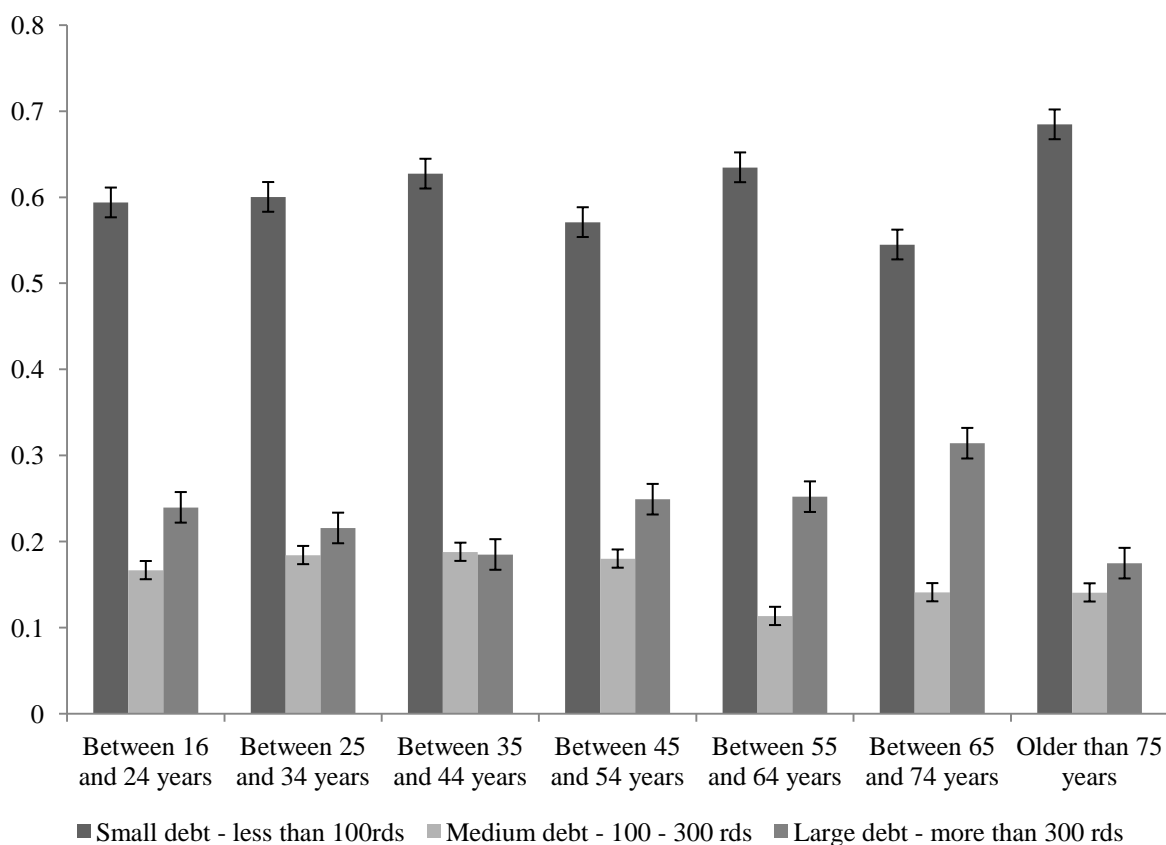
Source: Probate inventories, own calculations.

Notes: The dependent variable is the individual's level of debt – in log-linear terms. Age was calculated using the birth and death dates of individuals found in the genealogies; male is a dummy variable for gender and equals 1 for males; married is a dummy for if the individual was married at the time of inventory taking and the number of children; farmer is a dummy for when the individual has an occupation recorded as farmer. VOC, Church and Orphan Chamber are dummy variables for if the person ever borrowed from these institutions. Robust standard errors are in parentheses.

\*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level.

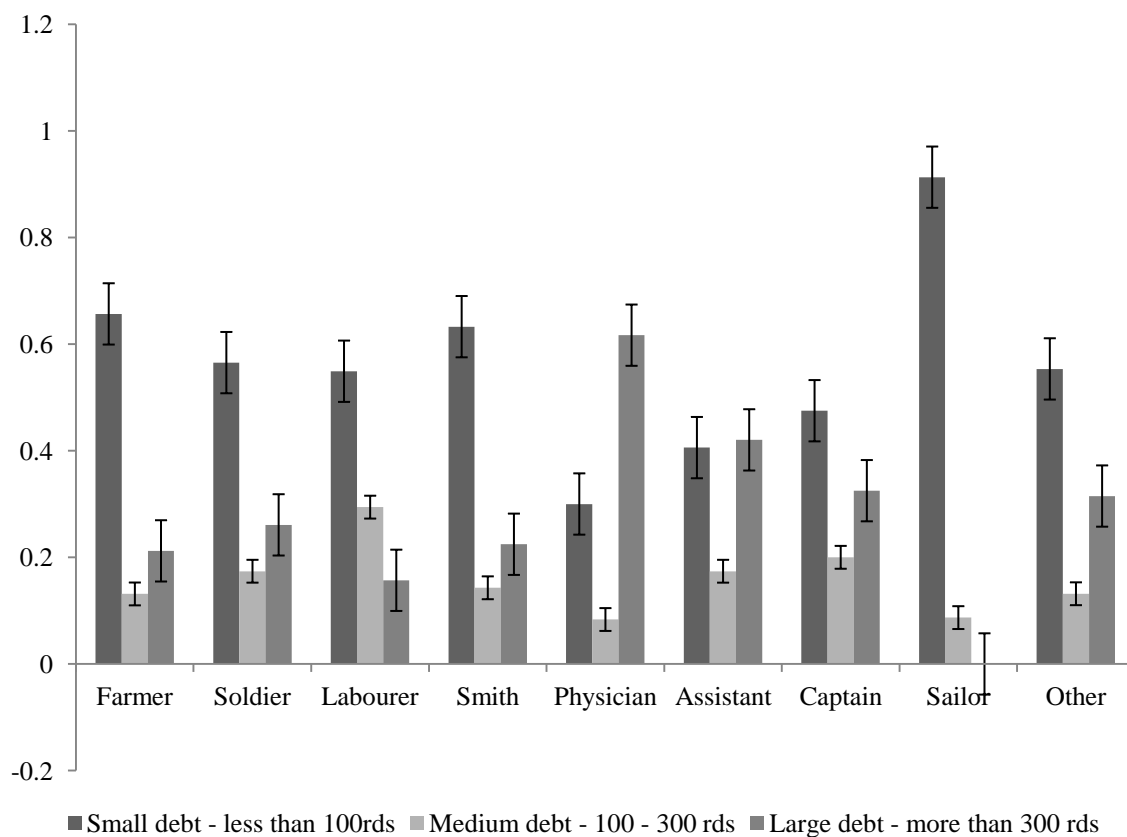
## Figures

Figure 1: Proportion of debt size by age group



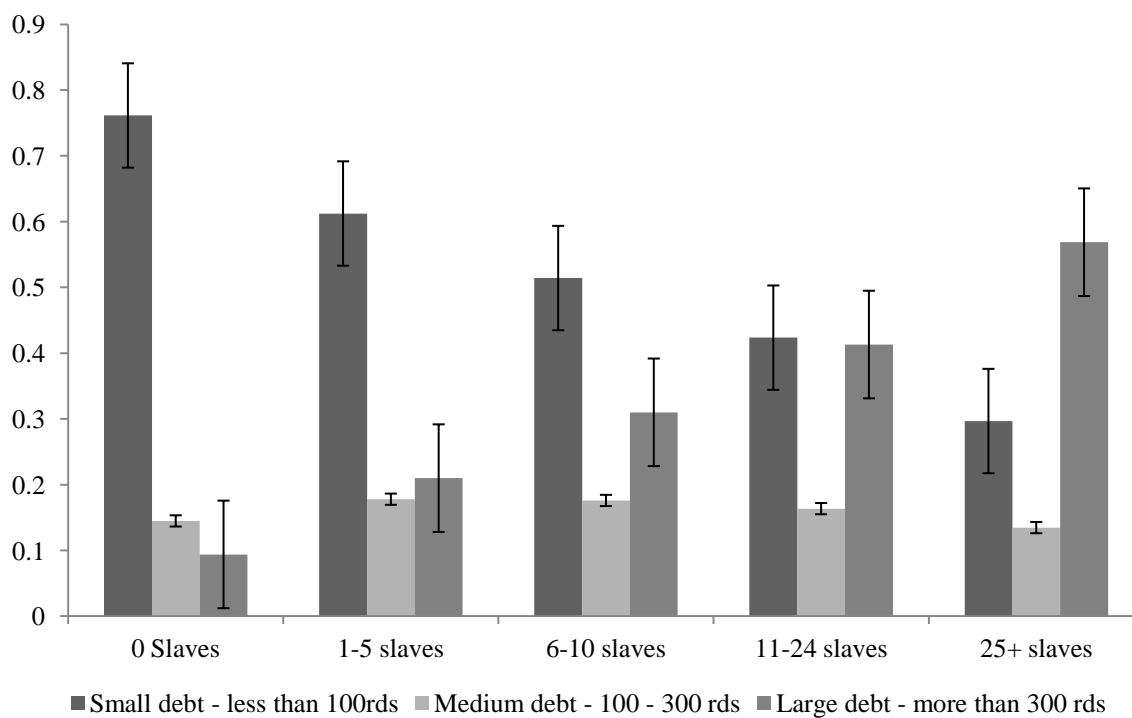
Source: Probate inventories, own calculations.

Figure 2: Proportion of debt size by occupation



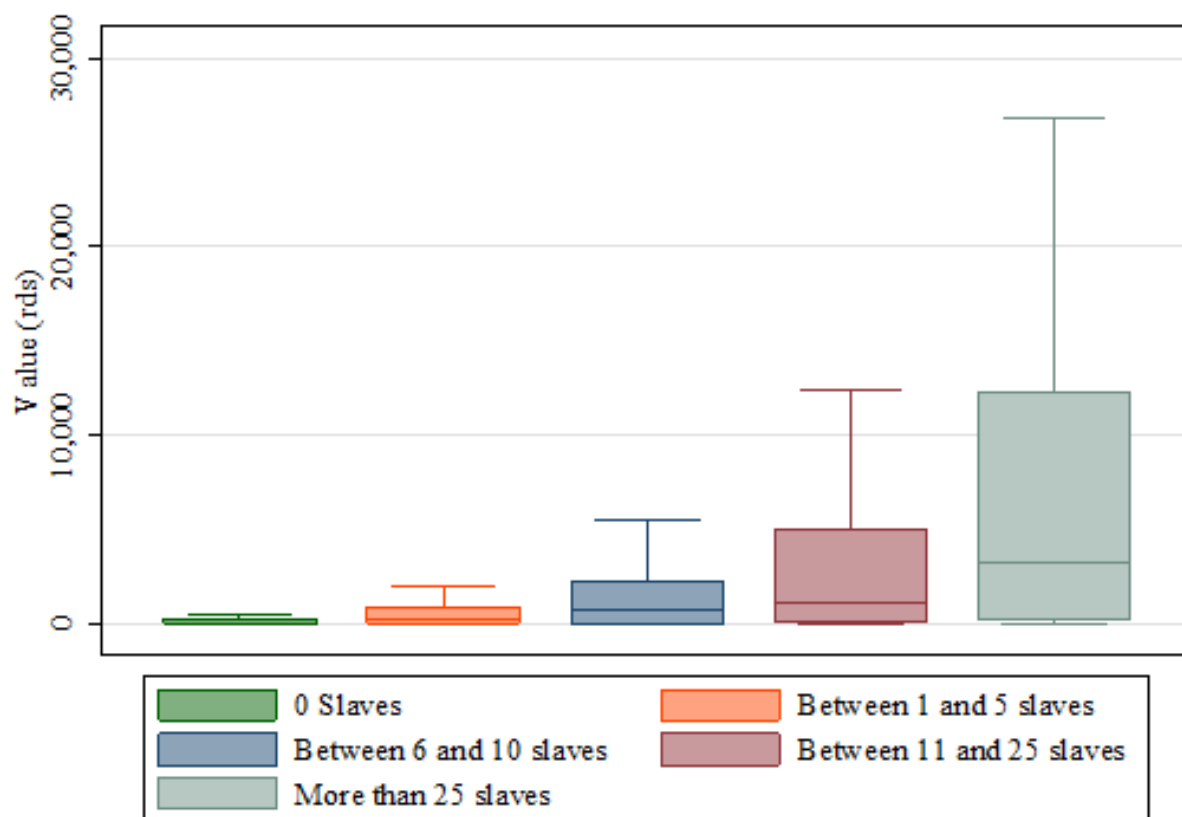
Source: Probate inventories, own calculations.

Figure 3: Proportion of debt size by slave ownership group



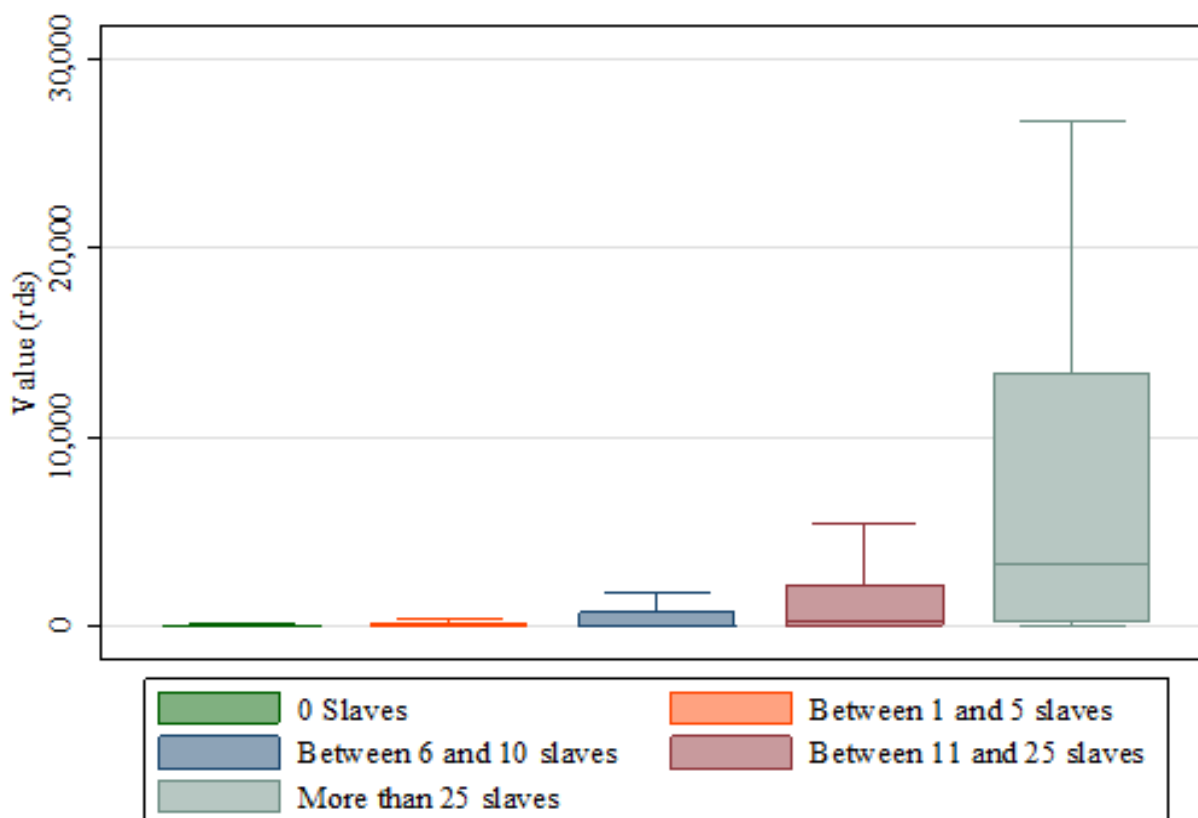
Source: Probate inventories, own calculations.

Figure 4: Debt owned, by slave ownership group



Source: Probate inventories, own calculations.  
Note: This excludes all outliers

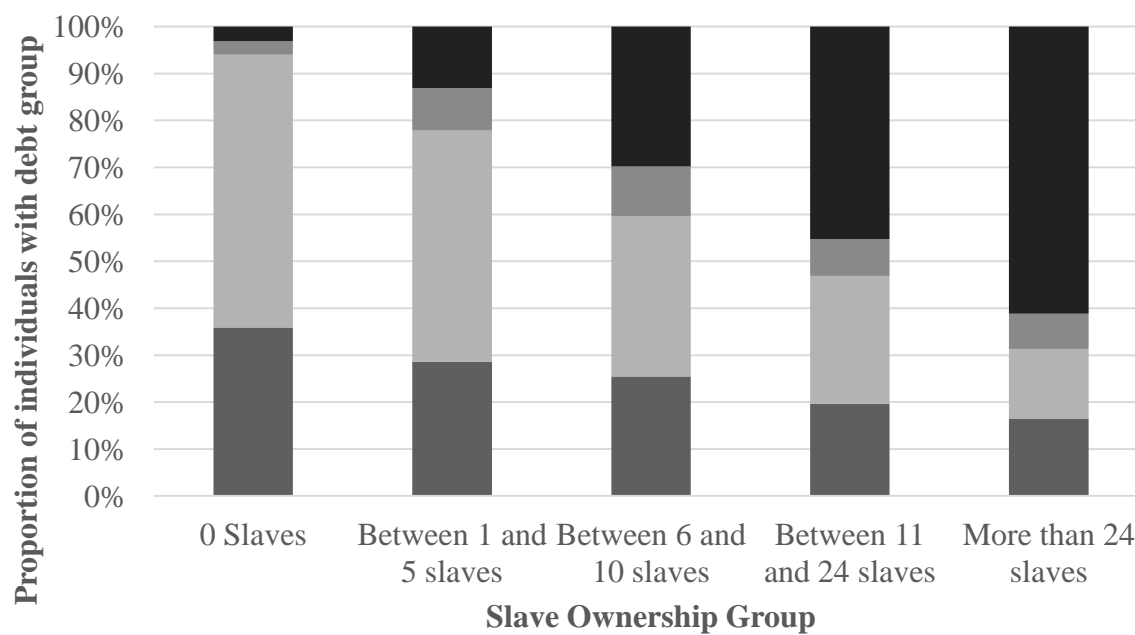
Figure 5: Credit extended, by slave ownership group



Source: Probate inventories, own calculations.  
Note: This excludes all outliers



Figure 6: Proportion of individuals in debt group, by slave ownership groups



■ Zero debt                      ■ Less than 1000 rds  
 ■ Between 1000 and 1750 rds   ■ More than 1750 rds

Source: Probate inventories, own calculations.