



# **The Missing People: Accounting for Indigenous Populations in Cape Colonial History**

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# The Missing People: Accounting for Indigenous Populations in Cape Colonial History

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## Abstract

Because information about the livelihoods of indigenous groups is often missing from colonial records, their presence usually escapes attention in quantitative estimates of colonial economic activity. This is nowhere more apparent than in the eighteenth-century Dutch Cape Colony, where the role of the Khoesan in Cape production, despite being frequently acknowledged, has been almost completely ignored in quantitative investigations. Combining household-level settler data with anecdotal accounts of Khoesan labour, this paper explores the effect of including Khoesan farm labour estimates in earlier calculations of slave productivity, societal inequality, and GDP growth in the Dutch East India Company period

## 1 Introduction

African economic history has undergone an impressive revitalization over the past decade. What is significant about this body of scholarly work is the systematic use of quantitative data to shed new light on the African past.<sup>1</sup> One strand of this renaissance of research uses aggregated macro-economic variables – production, taxation, and exports – published in colonial reports and available in the archives of the colonizer.<sup>2</sup> These contributions are important but

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<sup>1</sup>Anthony Hopkins, ‘The new economic history of Africa’, *Journal of African History*, 50, 2009, pp. 155–77; James Fenske, ‘The causal history of Africa: replies to Jerven and Hopkins’, *Economic History of Developing Regions*, 26, 2011, pp. 125–31; Morten Jerven, ‘A clash of disciplines? Economists and historians approaching the African past’, *Economic History of Developing Regions*, 26, 2011, pp. 111–24.

<sup>2</sup>Ewout Frankema, ‘Colonial taxation and government spending in British Africa, 1880–1940: maximizing revenue or minimizing effort?’ *Explorations in economic history*, 48, 2011, pp. 136–49; Ewout Frankema and Marlous van Maijenburg, ‘Structural impediments to African growth? New evidence from real wages in British Africa, 1880–1965’, *Journal of Economic History*, 72, 2012, pp. 895–926; Leigh Gardner, ‘Decentralization and corruption in historical perspective: evidence from tax collection in British colonial Africa’, *Economic History of Developing Regions*, 25, 2010, pp. 213–36; Morten Jerven, ‘African growth recurring: an economic history perspective on African growth episodes, 1690–2010’, *Economic History of Developing Regions*, 25, 2010, pp. 127–54.

hampered by some limitations: because the figures are aggregated, often at the country level, they lack regional variation; because they provide only one observation annually and many confounding factors are usually at work at the national level, they rarely allow for hypothesis testing that identifies causes; and because primacy is given either to figures for settler activities, or, in non-settler colonies, to figures for the formal colonial economy, such as cash crop production or urban workers, they fail to circumvent the biases of the colonial authority. Needless to say, information about the activities of the broad masses is more or less absent.

The emphasis is now shifting towards understanding the colonial experience from below. Economic historians of the continent are increasingly turning to African archives – in French West Africa,<sup>3</sup> British Africa,<sup>4</sup> and Dutch South Africa<sup>5</sup> – to extract microdata: large datasets at the individual or household level. These are not survey data in the typical sense. Often, information was collected for administrative purposes diametrically opposed to its use for current researchers. Attestation records of soldiers and police officers, for example, which list the individuals' heights and other biographical information, are used as proxies for investigating living standards,<sup>6</sup> and marriage records in mission station archives, which list age-at-marriage of converts, are used to investigate changing demographics and social trends, such as urbanization, during colonial times.

While the greater interest in African economic history from below is welcome, it should be noted that the use of quantifiable micro-level evidence also raises important questions about those groups not active in the colonial economy. Meier zu Selhausen and Weisdorf, for example, use marriage records from Anglican parishes in Kampala, which they recognize may introduce an urban

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<sup>3</sup>Elise Huillery, 'The impact of European settlement within French West Africa: did pre-colonial prosperous areas fall behind?' *Journal of African Economies*, 20, 2011, pp. 263–311; Gareth Austin, Joerg Baten and Bas van Leeuwen, 'The biological standard of living in early nineteenth-century West Africa: new anthropometric evidence for northern Ghana and Burkina Faso', *Economic History Review*, 65, 2012, pp. 1280–1302; Denis Cogneau and Léa Rouanet, 'Living conditions in Côte d'Ivoire and Ghana, 1925–1985: what do survey data on height stature tell us?' *Economic History of Developing Regions*, 26, 2011, pp. 55–82.

<sup>4</sup>Alexander Moradi, 'Towards an objective account of nutrition and health in colonial Kenya: a study of stature in African army recruits and civilians, 1880–1980', *Journal of Economic History*, 69, 2009, pp. 719–54; James Fenske, 'Land abundance and economic institutions: Egba land and slavery, 1830–1914', *Economic History Review*, 65, 2012, pp. 527–55; Phillip Osafo-Kwaako, 'Long-run effects of villagization in Tanzania', Unpublished working paper, Harvard University.

<sup>5</sup>Sophia du Plessis and Stan du Plessis, 'Happy in the service of the Company: the purchasing power of VOC salaries at the Cape in the 18th century', *Economic History of Developing Regions*, 27, 2012, pp. 125–49; Johan Fourie, 'The remarkable wealth of the Dutch Cape Colony: measurements from eighteenth-century probate inventories', *Economic History Review*, 66, 2013, pp. 419–48; Johan Fourie and Dieter von Fintel, 'The dynamics of inequality in a newly settled, pre-industrial society', *Cliometrica*, 3, 2010, pp. 229–67.

<sup>6</sup>Joerg Baten and Matthias Blum, 'Growing tall but unequal: new findings and new background evidence on anthropometric welfare in 156 countries, 1810–1989', *Economic History of Developing Regions*, 27, 2012, pp. S66–S85; Richard Steckel, 'Stature and the standard of living', *Journal of Economic Literature*, 33, 1995, pp. 1903–40.

bias into their results.<sup>7</sup> Even within urban Kampala, their data would exclude Ugandans who married in traditional ceremonies outside the Anglican Church. Anthropometric investigations, too, may suffer from sample selection bias. The main concern is that the selectivity associated with, for example, soldier records may introduce a bias into the estimates that cannot be reconciled econometrically.<sup>8</sup>

The main drawback of using individual- or household-level colonial data is thus that people are missing. Economic historians have found ways to sidestep this problem: they can ignore it, or they can narrow the inference drawn from the results to apply to the sample only. These strategies are problematic for both methodological and moral reasons: by excluding the missing people, we risk reproducing the views of the colonial authorities or the European economic elite.

Missing people are not only of concern for African history. Our knowledge about the indigenous people in North America and Latin America is, for example, equally limited, especially for the pre-Columbian period. Historians have to rely mainly on archaeological evidence, with the implication that they are better equipped to analyse pre-Columbian political systems than the lives of the people whose labour upheld these systems. For the post-Columbian period it is commonly assumed that the indigenous people, especially in the hacienda-based rural economies, played a negligible role as their numbers had effectively been reduced by European ‘guns, germs, and steel’.<sup>9</sup> Perhaps the most notable recent example of a study from which people are missing is Acemoglu et al.’s analysis of European settlement in the New World and the institutions that were established.<sup>10</sup> The study neglects to take into account that as a pre-condition for establishing good institutions in North America, Australia, and New Zealand the colonizers had to prevent or limit indigenous people’s access to productive resources. In other words, to uphold their argument that the institutions in these cases were inclusive rather than extractive, these authors are obliged to partly disregard the experience of the indigenous population.

Our study analyses the extent to which the exclusion of indigenous populations distorts our quantitative analysis of the past. We use the case of the Dutch Cape Colony to show that accounting for groups excluded from colonial records matters in explaining sub-Saharan Africa’s earliest episode of European colonization. Since the early 1980s, following the 1970s cliometric revolution

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<sup>7</sup>Felix Meier zu Selhausen and Jacob Weisdorf, ‘European colonialism and African gender inequality: evidence from Ugandan marriage registers, 1895–2012’, Unpublished working paper, Department of Economics, University of Southern Denmark.

<sup>8</sup>Howard Bodenhorn, Timothy Guinnane and Thomas Mroz, ‘Problems of sample-selection bias in the historical heights literature: a theoretical and econometric analysis’, Working paper 1023, Yale University.

<sup>9</sup>The title of the popular transdisciplinary book by Jared Diamond, New York: Norton, 1997. See Eric Wolf, *Europe and the people without history*, 1982, Berkeley: University of California Press, pp. 58ff.

<sup>10</sup>Daron Acemoglu, Simon Johnson and James Robinson, ‘The colonial origins of comparative development: an empirical investigation’, *American Economic Review*, 91, 2001, 1369–401.

in the US, historians have used the rich resource of Cape slave records to estimate productivity and profitability and to discover the determinants of prices.<sup>11</sup> These studies, while noting the existence of the Khoesan, exclude them in their quantitative analyses. We argue that the neglect of the Khoesan population in earlier accounts of the Cape economy has produced a distorted account of colonial life that tends to be self-reinforcing. Just because they are missing from tax censuses, inventories, and other colonial documentation does not mean that the Khoesan did not matter for labour productivity and economic growth, or for estimates of Cape inequality.

In this paper we investigate the role of Khoesan as labourers on settler farms. Scattered anecdotal evidence indicates that they played an important role as farm labourers throughout the eighteenth century. The question is how we can account for their role in the Cape economy when no quantifiable sources are available. To answer this, we constructed an annual population estimate of the Khoesan and estimated their farm labour by combining anecdotal traveller accounts with household-level tax records. Including these new figures not only reinterprets Cape economic life, providing better estimates of eighteenth-century slave productivity, inequality, and economic growth; it demonstrates how important it is to account for missing people in studies using colonial archival records. Our approach is exploratory and we do not claim to have created a definitive data series for the Khoesan. However, we can show that even under very conservative assumptions the inclusion of the Khoesan makes a big difference to previous interpretations of the Cape economy.

## 2 How can we find the Khoesan?

When Dutch East India Company employees first settled on the shores of Table Bay in the mid-seventeenth century, they encountered diverse groups of peoples, whom they identified as ‘Bushmen’ (San) and ‘Hottentots’ (the Khoe, also Khoi or Khoikhoi). The territory of the hunter-gatherer San was beginning to be occupied by the Khoe, a nomadic, pastoral people descended from migratory groups who arrived in the Western Cape around the year 1000 CE. By the time Europeans arrived, the San were living mostly in the rugged areas and often in a servant relationship to the Khoe. We must stress that anthropological research makes it clear that the two groups are not discrete racial categories.<sup>12</sup> The Dutch did not distinguish between them by physical appearance; instead, they classified them according to their socio-economic systems: those classified as Khoe would own cattle, those classified as San would not.<sup>13</sup> This occupational distinction is also problematic, as historians have recognized. In this paper we

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<sup>11</sup>Johan Fourie, ‘The quantitative Cape: A review of the new historiography of the Dutch Cape Colony’, *South African Historical Journal*, forthcoming, provides a comprehensive overview of this early literature.

<sup>12</sup>A comprehensive discussion can be found in Richard Elphick, *Kraal and castle: Khoikhoi and the founding of white South Africa*, New Haven: Yale University Press, 1977.

<sup>13</sup>Shula Marks, ‘Khoisan resistance to the Dutch in the seventeenth and eighteenth centuries’, *Journal of African History*, 13, 1972, pp. 55–80.

refer to the indigenous people as ‘Khoesan’, while acknowledging that this was not a homogeneous group.

Colonial expansion was not the reason the Dutch came to the Cape: the orders of the Lords XVII in Amsterdam, the shareholders of the Dutch East India Company (*Vereenigde Oost-Indische Compagnie*, hereafter VOC, or the Company), were to found a small refreshment station to supply its ships on the way to the East and back with fresh produce, fuel, and water. But soon after arrival the commander of the station, Jan van Riebeeck, realized that trade with the Khoesan would not provide adequate supplies to satisfy the demand from the passing ships. In 1657, then, he authorized the release of nine Company workers to become free burghers and begin farming close to the fort that had been constructed between Table Mountain and the shore. Progress was initially slow: the sandy soil of the region combined with the strong south-easterly winds and the constant threat of conflict with the Khoesan made life difficult for the early farmers. While van Riebeeck had hoped for intensive cultivation of wheat and vegetables, the farmers instead opted for extensive pastoral farms. It was only when Commander Simon van der Stel extended the area under European control to the fertile regions immediately west of the first mountain ranges that wheat cultivation, and viticulture, began to be lucrative.<sup>14</sup>

Aside from the difficulties of soil, weather, and skirmishes, the settler farmers lacked capital, in the form of seeds and implements, and labour. The Company decided to provide both: it made generous loans to farmers at 6% interest (and farmers could also rely on the tight social networks that had developed from early on). Providing labour was more difficult. Company servants, or *knechts*, were available, but their wages were daunting for the farmers, given that all output had to be sold to the Company at low, predetermined prices. So, in the early eighteenth-century, following the advice of the Council of Policy in Cape Town, the Company decided to import slave labour. These slaves, more than 60,000 of whom were imported from the Company’s Indian Ocean networks in India, Madagascar, Mozambique, and the Indonesian archipelago over the course of the eighteenth- and early nineteenth-centuries, constituted the most important supply of labour on farms until emancipation in 1838.<sup>15</sup> To rely on indigenous labour was never seriously considered, for two reasons: the low numbers of Khoesan living in the area and the Company’s unwillingness to increase the supply of indigenous labour by using coercive methods.<sup>16</sup>

The initial relationship between the Khoesan and the Europeans is often described as a semi-cooperative symbiosis: the Europeans depending on a reliable supply of cattle, the Khoesan lured into trading for those two most beguiling of

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<sup>14</sup>Johan Fourie and Dieter von Fintel, ‘Settler skills and colonial development: the Huguenot wine-makers in eighteenth-century Dutch South Africa’, *Economic History Review*, forthcoming.

<sup>15</sup>Robert Shell, *Children of bondage: a social history of the slave society at the Cape of Good Hope, 1652–1838*, Hanover, Wesleyan University Press, 1994; Nigel Worden, *Slavery in Dutch South Africa*, Cambridge, Cambridge University Press, 1985.

<sup>16</sup>Erik Green, ‘The economics of slavery in the eighteenth-century Cape Colony: revising the Nieboer-Domar hypothesis’, *International Review of Social History*, forthcoming.

colonial products, tobacco and alcohol.<sup>17</sup> In the face of European advancement, and suffering from the deadly smallpox epidemics that swept the Cape in the eighteenth-century, the Khoesan were forced to retreat to the more arid regions of the interior. Their numbers declined but they never disappeared. Many, unable to move into the interior, were drawn to the colonial way of life, settling on or in the vicinity of colonial farms.

The Khoesan have received much attention in the historical literature.<sup>18</sup> But we lack a systematic series of their population size, for the simple reason that none of the colonial records that have been digitized and transcribed provides annual estimates of the Khoesan population for the eighteenth century. Similarly, records of individuals, households, and farms, such as tax censuses, probate inventories, and estate accounts, are void of any reference to the Khoesan – evidence that the group was largely ignored in any quantitative analysis of the Dutch period.

### 3 Anecdotal evidence of Khoesan farm labour

The absence of quantitative evidence of the Khoesan in colonial records does not mean they were unimportant for colonial farmers. By most accounts, Khoesan labour on farms was already widespread towards the end of the seventeenth century. Already in 1660, Van Riebeeck and his Council were attempting to employ Khoesan as Company servants.<sup>19</sup> Guelke and Shell note that in 1688 the Khoesan were so much in evidence that Van der Stel compared them to the influx of migrant workers from Westphalia into the Netherlands.<sup>20</sup> In 1695, Johannes Willem de Grevenboeck referred to Khoesan labour with enthusiasm:

They train oxen for use in ploughing ... and are found exceedingly quick at inspanning or outspanning or guiding teams. Some of them are very accomplished riders, and have learned to break horses and master them .... They make trusty bearers, porters, carriers, postboys and couriers. They chop wood,

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<sup>17</sup>Nigel Penn, *The forgotten frontier: colonist and Khoisan on the Cape's northern frontier in the eighteenth century*, Chicago, Double Storey Press and University of Ohio Press. One should not exaggerate the level of cooperation between the intruders and the indigenous people. Tension, social conflict, and even minor warfare were common between the Khoesan and the Dutch in the seventeenth and eighteenth centuries. In 1659 the first of two seventeenth-century wars broke out. The Khoes stole plough oxen and conducted guerrilla warfare on rainy days when the Dutch muskets could not fire. The strategy was partly successful as almost half of the Company servants and burghers tried to escape by stowing away on passing vessels (see Marks, 'Khoisan resistance', pp. 60–3).

<sup>18</sup>H.J. le Roux, 'Die toestand, verspreiding en verbrokkeling van die Hottentotstamme in Suid-Afrika, 1652–1713', Master's dissertation, Department of History, University of Stellenbosch, 1945; Richard Elphick and VC Malherbe, 'The Khoisan to 1828', in Richard Elphick and Hermann Giliomee, eds., *The shaping of South African society, 1652–1840*, Cape Town: Macmillan; Penn, *The forgotten frontier*; Elphick, *Kraal and castle*; Marks, 'Khoisan resistance'.

<sup>19</sup>J.C.H. Grobler, 'Die arbeidersvraagstuk aan die Kaap, 1652–1662', Master's dissertation, Department of History, University of Stellenbosch, 1969, p. 127.

<sup>20</sup>Leonard Guelke and Robert Shell, 'An early colonial landed gentry: land and wealth in the Cape Colony, 1682–1731', *Journal of Historical Geography*, 9, 1983, pp. 265–86.

mind the fire, work in the kitchen, prune vines, gather grapes, or work the wine press industriously . . . . Without relaxation they plough, sow, and harrow.<sup>21</sup>

These observations were made before slavery took off at the Cape, as it would in the next century. There is, however, evidence that Khoesan labour continued to play an important role throughout the eighteenth century. In 1706 it was reported that the Khoesan moved in gangs from farm to farm in search of temporary wage employment.<sup>22</sup> Farmers regularly complained that the VOC's employment of huge numbers of Khoesan caused labour shortages on their farms. Wheat farmers on large landholdings were complaining as early as 1744 that they were being forced to limit the size of their crops because of shortages of Khoesan labour.<sup>23</sup>

Cape historians acknowledge that the Khoesan worked on the pastoral farms in the interior, where they outnumbered slaves.<sup>24</sup> However, court records show that the Khoesan were often permanently attached to the arable farms in the south-western part of the colony, notably in Stellenbosch and Drakenstein, two districts where the use of slaves is known to have been widespread. The Khoesan must have lived and worked alongside the slaves.<sup>25</sup> This suggests that there is little evidence to warrant the exclusion of Khoesan from earlier quantitative estimates.

The absence of sources makes it difficult to discover what type of contracts regulated Khoesan farm labour. In 1706, roving gangs of Khoesan labourers were working for monetary wages. In 1705 Adam Tas, a prominent and affluent colonist, noted in his diary: 'In the afternoon I paid off eleven Hottentots for the corn cutting. They were about to go on from here to Mr. Rochefort'.<sup>26</sup> There is also ample evidence of coercive contracts. The first formal mention of indigenous labourers being turned into slaves can be seen in a 1721 request by eight of the wealthiest farmers in Stellenbosch and Drakenstein for a decree allowing them to enslave the children of a number of Hottentots who had 'come to seek shelter among the free burghers'.<sup>27</sup> The request was turned down by the Company, but historian Nigel Penn has found evidence of a Khoesan woman and her three children being captured and placed in serfdom in 1731.<sup>28</sup> In 1775 the practice of enslaving indigenous people was partly recognized by the VOC as the Company allowed for indentured labour (locally known as *inboekstelsel*), though it was only applicable to the progeny of male slaves and female Khoesan.<sup>29</sup> These servants did more than just fulfil the colonists' labour requirements: those who could handle firearms were called up for military service in 1781.<sup>30</sup> Yet formal

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<sup>21</sup> Elphick and Malherbe, 'The Khoisan', p. 17.

<sup>22</sup> Shell, *Children of bondage*, p. 27.

<sup>23</sup> Worden, *Slavery in Dutch South Africa*, pp. 33–6.

<sup>24</sup> *Ibid.*, p. 36.

<sup>25</sup> *Ibid.*, p. 35.

<sup>26</sup> Shell, *Children of bondage*, p. 24.

<sup>27</sup> Shell, *Children of bondage*, p. 25.

<sup>28</sup> *Ibid.*, p. 31.

<sup>29</sup> Russel Viljoen, *Jan Paerl: a Khoikhoi in Cape colonial society, 1761–1851*, Leiden: Brill, 2006, p. 18.

<sup>30</sup> Johannes de Villiers, 'Hottentot-regimente aan die Kaap, 1781–1806', Master's disserta-

contracts for any labour longer than three months were only required from May 1803.<sup>31</sup>

Our study concerns the Khoesan farm labourers who were not enslaved and thus were not present in the official records. We look at three crucial aspects of the Cape Colony's economy – productivity, societal inequality, and economic growth – to show how the exclusion of the unquantified Khoesan creates a distorted view of Cape Colony's economic performance. We provide a short review of earlier estimates of productivity, inequality, and growth, before presenting our alternative method for documenting the role of the Khoesan in the eighteenth-century Cape economy.

## 4 Productivity, inequality, and economic growth

The only attempt to calculate the productivity of slave labour that we are aware of is in Worden's classic work *Slavery in Dutch South Africa*. Worden rightly argues that it seems unlikely, at face value, that the profitability of Cape slave labour was high in comparison with better-known slave societies such as the Roman *latifundia* and the New World plantation complexes. The slave population at the Cape was not large enough to reproduce itself and farms were on average quite small, with a fairly small labour demand per unit of land. Moreover, the slave supply system was erratic, and although the internal slave market developed in the eighteenth century, slaves were not systematically bred in one region for sale to an expanding rural economy in another. Yet Worden's analysis of the profitability of slave labour at the Cape reveals profits comparable to those calculated for the British Caribbean or the southern United States.<sup>32</sup> The question is whether his findings are biased.

Worden discusses two major problems with measuring the productivity of slave labour at the Cape: the census returns do not record the use of hired indigenous labour, and the absence of monoculture and wide range of prices for each crop or livestock type in any one year mean that values vary for the units of slave productivity.<sup>33</sup> Historical witnesses offer some insight. Some *burghers*, complaining to the VOC that they could not afford to accept reduced prices for their produce, estimated that an average farmer needed 15 slaves to produce 300 *mudden* of wheat. In 1746 a Cape *burgher* who was considering buying a farm calculated that he needed to purchase 16 slaves to produce 300 *mudden*. Worden acknowledges that the farmers had an incentive to exaggerate the cost of their production. Van Ryneveld estimated in the late eighteenth century that 30 slaves were needed to produce a combined total of 800 *mudden* of corn and 400 *mudden* of wheat.<sup>34</sup> Assuming the existence of economies of scale, these estimates correlate fairly well with those made by the farmers in the middle of

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tion, Department of History, University of Stellenbosch, 1969, p. 122.

<sup>31</sup>Ben Liebenberg, 'Die Kaapse Hottentotte (1795–1806)', Master's dissertation, Department of History, University of Stellenbosch, 1941, p. 120.

<sup>32</sup>Worden, *Slavery in Dutch South Africa*, p. 65.

<sup>33</sup>*Ibid.*, pp. 65–67.

<sup>34</sup>*Ibid.*, 66–67

the century. On the other hand, John Barrow claimed that a farmer needed only six slaves to produce 300 *mudden* of wheat.<sup>35</sup> Barrow wanted to stress the inefficiency of the Cape farmers, but it is also likely, according to Worden, that the smaller grain producers included in Barrow's calculation relied more heavily on Khoesan labour.

Worden's own estimates based on the Cape census of 1741 show that farmers who only produced wheat, and kept a small quantity of livestock mainly to support wheat cultivation, needed on average one slave to produce 20 *mudden*, which correlates fairly well with the more optimistic accounts above.<sup>36</sup> Worden also accepts van Ryneveld's estimates (a return of 40 *mudden* of grain per slave) for farms where economies of scale applied. The correlation between slave input and agricultural output is weaker in the case of wine production. Johannes Colijns estimated in 1789 that he needed 52 slaves to produce 80 *leaguers* of wine, which gives a unit productivity of 1.5 *leaguers* per slave. The mean figure for Stellenbosch (the main wine district) in 1773 was 1.9 *leaguers* per slave, while at the Cape it was only 0.8.<sup>37</sup> Just as in the case of grain, the figures for Drakenstein are higher, but Worden argues that the use of Khoesan labour (not reported in the censuses) distorts the figures significantly.

All the estimates above refer to grain or wine monoculture by middle- to large-scale producers. Worden does not provide estimates of slave productivity on smaller farms, but he discusses a few estimates for farms doing mixed farming. His estimates based on the 1741 Cape census show that the productivity level of mixed farming was approximately equal to that of the monoculturalists. This he calculates simply by dividing the total quantities of wine and wheat produced by the total number of slaves employed. The method is problematic as it neglects differences in land size and slaveholdings between the farms, but given the data Worden had access to this is the best he could do. A bigger problem is the exclusion of Khoesan labour, which we believe explains why Worden's calculations show surprisingly high productivity levels for Cape slaves. We discuss this in more detail in the next section, but first we look at attempts to measure inequality at the Cape.

A number of scholars have analysed inequality in the European community in detail. It is generally concluded that the European farming community was a heterogeneous group and that increasing commercialization further increased inequality during the eighteenth century.<sup>38</sup> More recently, two papers have investigated changes in the distribution of wealth and income during the eighteenth century.<sup>39</sup> The authors, Fourie and von Fintel, find high and persistent levels of inequality for the settler community, supporting the anecdotal accounts of Mentzel in his travels during the 1730s and the simple calculations of earlier

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<sup>35</sup>Ibid., 67

<sup>36</sup>Ibid., p. 67.

<sup>37</sup>Ibid., 67–68

<sup>38</sup>Wayne Dooling, 'The making of a colonial elite: Property, family and landed stability in the Cape Colony, c. 1750–1834', *Journal of Southern African Studies*, 31, 2005, pp. 147–62.

<sup>39</sup>Fourie and von Fintel, 'The dynamics of inequality'; Johan Fourie and Dieter von Fintel, 'A history with evidence: Income inequality in the Dutch Cape Colony', *Economic History of Developing Regions*, 26, 2011, 16–48.

historians.<sup>40</sup> Notably, Fourie and von Fintel claim that within-group inequality, particularly in the farmer population, was higher than between-group inequality, which included VOC employees and slaves.<sup>41</sup> This, they argue, suggests that social tables, which are often used in the absence of micro-level evidence, may underestimate the extent of inequality in a society.

While their reasoning that significant within-group inequality may invalidate the use of social tables is sound, their claim that within-group inequality was more important than between-group inequality at the Cape now needs revising, as they failed to account for one group of Cape Colony inhabitants – the Khoesan. They explain that their inability to reconcile Dutch records with rough estimates of the size of the Khoesan population, and the lack of reliable micro-level information on Khoes and San lifestyles, gave them ‘little alternative but to focus on *the population under European influence at the Cape*’ (emphasis in the original), and where Khoesan were recorded as slaves in their sample, to include them as part of Cape society – where they were not, the authors had no way of estimating their income vis-à-vis other members of Cape society.<sup>42</sup>

Presumably between-group inequality will be significantly higher if we include the Khoesan at the bottom of the income distribution. We therefore need an estimate of the size and growth of the Khoesan population if we are to make an accurate assessment of changes in the income distribution of the eighteenth-century Cape Colony.

We also need this estimate if we are to measure economic growth in the colony. Van Duin and Ross were the first to publish annual output figures for the major Cape commodities of wheat, wine, and cattle.<sup>43</sup> Their analysis shows an expanding economy, although the extremely high population growth rates offset the large increases in production. Using wages paid to European labour at the Cape, de Zwart and du Plessis and du Plessis have documented the rising living standards of Cape wage earners throughout the eighteenth century.<sup>44</sup> And Fourie has used probate inventories to show remarkably high levels of settler wealth.<sup>45</sup> Yet none of these investigations includes estimates for Khoesan production.

Only very recently has some progress been made in assessing the size of the Khoesan population. Fourie and van Zanden have constructed a GDP series for the Cape Colony based on the consumption patterns of four population groups: settlers, VOC employees, slaves, and the Khoesan.<sup>46</sup> They used a

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<sup>40</sup>Otto Mentzel, *A geographical-topographical description of the Cape of Good Hope, Part II*, Reprint series 6, Cape Town: Van Riebeeck Society, 2008; Guelke and Shell, ‘An early colonial landed gentry’.

<sup>41</sup>Fourie and von Fintel, ‘A history with evidence’, p. 35.

<sup>42</sup>*Ibid.*, p. 22.

<sup>43</sup>Pieter van Duin and Robert Ross, *The economy of the Cape Colony in the 18th century*, Leiden: Centre for the History of European Expansion, 1987.

<sup>44</sup>Pim de Zwart, ‘Real wages at the Cape of Good Hope: a long-term perspective, 1652–1912’, *Tijdschrift voor Sociale en Economische Geschiedenis*, 10, 2013, pp. 28–58; du Plessis and du Plessis, ‘Happy in the service’.

<sup>45</sup>Fourie, ‘The remarkable wealth’.

<sup>46</sup>Johan Fourie and Jan Luiten van Zanden, ‘GDP in the Dutch Cape Colony: the national accounts of a slave-based society’, *South African Journal of Economics*, 81, 2013, 467–90.

novel technique to estimate the size of the Khoesan population: the number of Khoesan in the colony, they posit, is proportional to the number of Khoesan who appeared before the Court of Justice in Cape Town. By counting the number of Khoesan in the Court of Justice records, published by Heese and digitized by Baten and Fourie, they were able to estimate the size of the Khoesan population that was within the ambit of colonial society.<sup>47</sup> Figure 1 shows estimates for the four population groups, with two series for slaves from different sources. Fourie and van Zanden’s Khoesan population figures are included: until the early eighteenth-century Khoesan numbers are much lower than those of the other three population groups though their growth rate is much the same. By the mid-1720s, however, Khoesan population growth increases considerably, declines slightly between 1740 and 1750 and then continues to increase to reach more than 10,000 in 1795.

Although these estimates for the Khoesan population are a big improvement on what was available before, they are not perfect. The effects of the smallpox epidemics, for example, are not reflected in the series. We believe that, rather than being a proxy for the size of the Khoesan population, these estimates grasp the *involvement* of the Khoesan in the colonial economy. The numbers reveal a large presence of Khoesan in the Cape economy and, especially towards the end of the eighteenth century, suggest that excluding the Khoesan would bias any estimate of productivity, inequality, and economic growth.

## 5 Another way to count the Khoesan

Apart from Fourie and van Zanden’s proxy estimates, our knowledge about Khoesan numbers in the seventeenth- and eighteenth-century Cape is very limited. What we need are estimates for the size of the Khoesan population and, more importantly, the number of Khoesan employed as farm labourers. We discuss the latter below. Regarding the former, only two rough estimates are available. One comes from Elphick’s ground-breaking work on the Khoesan people.<sup>48</sup> Elphick argues that when the VOC arrived, about 50,000 Khoesan people lived in an area of roughly 130,000 square kilometres, which gives a population density of 0.38 people per square kilometre.<sup>49</sup> The Khoesan depended solely on hunting and cattle herding; the only crop they were recorded as growing was *dagga* (cannabis). Iliffe argues that the Khoesan pastoral societies were inherently fragile because they were exposed to droughts and loss of livestock

<sup>47</sup>Hans Heese, *Reg en onreg: Kaapse regspraak in die agtiende eeu*, Bellville: Instituut vir Historiese Navorsing, 1994; Joerg Baten and Johan Fourie, ‘Numeracy of Africans, Asians and Europeans during the early modern period: evidence from Cape Colony court registers’, *Economic History Review*, forthcoming.

<sup>48</sup>Elphick, *Kraal and castle*.

<sup>49</sup>*Ibid.*, pp. 3–4. This resembles estimates by earlier historians, notably Theal and Le Roux, of between 40,000 and 50,000 Khoesan; see, George McCall Theal, *History of Africa south of the Zambesi: from the settlement of the Portuguese at Sofala in September 1505 to the conquest of the Cape Colony by the British in September 1795*, Allen & Unwin, London, 1927, p. 126, and Le Roux, ‘Die toestand’, p. 5.

from diseases.<sup>50</sup> The estimated low population density thus seems reasonable. The other figure is provided by Guelke, who argues that about 20,000 Khoe and 3,000 San were still living at the Cape by 1780, constituting about half of the total population of the Cape.<sup>51</sup>

Given the long-term colonial political and social development, and what we know about the demographics of pastoral societies in pre-colonial Africa in general, it seems likely that the indigenous population stagnated or even declined over the period, not only as a consequence of mortality rates but also because of continuous out-migration of the Khoesan from the Western Cape. The Khoesan population also experienced a major shock in 1713 owing to the outbreak of smallpox. Settler expansion intensified in the first half of the eighteenth century, leading to renewed conflicts between the settlers and the pastoral Khoesan communities. By the mid-eighteenth century the settler economy had expanded to the point where no further growth was possible without destroying Khoesan society. Worden argues that the processes of primitive accumulation caused the supply of indigenous labour to decrease because these processes led to demographic collapse, which worsened with the 1713 smallpox outbreak that Worden says killed almost 90% of the Khoesan population.<sup>52</sup> Ross shows convincingly that this figure is exaggerated. He argues that the outbreak was unlikely to have killed more than 30%,<sup>53</sup> and Penn argues, also in contrast to Worden, that the processes of primitive accumulation caused an *increase* in the supply of indigenous labour.<sup>54</sup> Investigating the effect of smallpox on Native Americans, Carlos and Lewis also show that earlier estimates of 50% mortality rates are exaggerated. They estimate that mortality was probably under 20%.<sup>55</sup>

Given the destructive effects of the settlers on the local population (such as the diseases they brought, and some outright murder) we believe it is reasonable to assume that the Khoesan population living outside the colony decreased, while the numbers of those who settled on the colonists' lands, whether of their own volition or not, increased. As this distinction is important, we attempted to measure both populations, although counting the settled population was more feasible and will be more useful. As a measure of the size of the Khoesan population living beyond settler influence, we have only Guelke and Elphick's rough estimates. We therefore constructed a simple series, beginning with a figure

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<sup>50</sup> John Iliffe, 'The South African economy, 1652–1997', *Economic History Review*, 52, 1999, pp. 87–103.

<sup>51</sup> Leonard Guelke, 'The early European settlement of South Africa', PhD thesis, University of Toronto, 1974.

<sup>52</sup> *Ibid.*, p. 82.

<sup>53</sup> Robert Ross, 'Smallpox and the Cape of Good Hope in the eighteenth century', in C. Fyvie, and D. McMasters, eds, *Africa historical demography*, Vol. 1, Edinburgh: Centre for African Studies, University of Edinburgh, 1977, pp. 416–28. Since no data are available, Ross derives his figure by combining an in-depth understanding of the epidemiology of smallpox with an empirically detailed analysis of its effect on white settlers and slaves.

<sup>54</sup> Nigel Penn, 'Labour, land and livestock in the Western Cape during the eighteenth century: the Khoisan and the colonists' in James G. Wilgot and Mary Simons (eds), *Angry divide: social and economic history of the Western Cape*, David Philip, Cape Town, pp. 2–19

<sup>55</sup> Ann M. Carlos and Frank D. Lewis, 'Smallpox and Native American mortality: the 1780s epidemic in the Hudson Bay region', *Explorations in economic history*, 49, 2012, pp. 277–290.

of 50,000 Khoesan in 1652 that declines through linear interpolation to 23,000 in 1780. Following Ross, we allowed for a 20% decline in Khoesan numbers in 1713 during the first smallpox epidemic and another 5% in 1755, a second but smaller epidemic. Accounting for the smallpox epidemics suggests a negative growth rate of 0.4% per annum. We use this growth rate to extend the population estimate linearly after 1780, as shown in Figure 2.

This series provides a baseline estimate, but is largely unsatisfactory because of the few points of observation available and the strong assumption of linear interpolation. The first main contribution of our study, then, is the second series we constructed, to estimate the number of Khoesan employed as farm labourers. The series is based on a combination of anecdotal evidence which informs the assumptions used to estimate Khoesan labour from the *opgaafrolle*, the tax records collected annually by the Company. These records for settler households provide detailed evidence of the number of cattle, horses, sheep, vines, weapons, and slaves owned, the number of *knechts* (European wage labourers) employed, and the amount of wheat, barley, rye, and wine produced.<sup>56</sup>

To calculate the number of Khoesan on each farm, we needed to make strong assumptions about the number of Khoesan labourers per unit of cattle. We based these assumptions on anecdotal evidence reported in traveller accounts. Carl Peter Thunberg, for example, travelling in the Cape Colony interior in 1771, notes that Jacobus Bota, a farmer who lived near the Pisang River, employed an entire Khoesan clan of about 50 people.<sup>57</sup> We were interested to see whether we could find this farmer in the *opgaafrolle*.

Fortunately for us, we found several Bothas (the usual spelling of this surname) in the *opgaafrol* of 1773, living in the Swellendam district. We assumed that the farmer to whom Thunberg referred would be the wealthiest one; and indeed, Jacobus Botha (senior), a farmer in the Swellendam district, is recorded in the *opgaafrol* of 1773 as married, having no children (under the age of 16) living in the household, and owning 20 male slaves, 3 female slaves, 19 horses, 250 head of cattle, and 900 sheep. There is no evidence of cultivation. It seems that ‘Bota’ was a rancher, using not only slaves, as recorded by the *opgaafrol*, but almost certainly also Khoesan labourers, probably as herders. Combining the two sources enabled us to calculate the ratio of Khoesan employed to cattle owned, to extrapolate the ratio to the other farmers, and then estimate the number of Khoesan who may have been employed in the Colony.

To do this we assumed that only farmers employed Khoesan, and that they employed them only for herding. We therefore ignored all households that did not produce any of the commodities included in the *opgaafrolle*, and constructed a new variable which depended only on the value of the cattle, sheep, and horses owned. We acknowledge that this is a strong assumption, as Khoesan were almost certainly also employed in viticulture and wheat farming, but it was necessary if we were to construct as conservative an estimate of the Khoesan population as possible. Our assumption is not entirely invalid, though, as

<sup>56</sup>A full description of the data is available in Fourie and von Fintel, ‘The dynamics of inequality’.

<sup>57</sup>Viljoen, *Jan Paerl*, p. 39.

Khoesan were predominantly used as herders. As Liebenberg points out, ‘while the Hottentots were less important than slave labour, they provided valuable services to cattle farmers in the frontier regions’.<sup>58</sup>

Following the Bota example, therefore, we assumed that one Khoesan was employed for every 67.5 rix dollars of herd value (Bota owned Rds 3,375 worth of cattle, sheep and horses) for households owning more than five slaves and living in the Swellendam district. It is likely that Khoesan labour substituted for slave labour in this district, and we therefore decreased this ratio by Rds 10 for households owning between one and five slaves, and by another Rds 10 for households owning no slaves. For households in the districts of Stellenbosch and Drakenstein, we assumed double these rates, that is, Rds 135 of herd value per Khoesan for households with more than five slaves, Rds 115 for households with between one and five slaves, and Rds 95 for households with no slaves. Here we relied on Adam Tas’s diary.<sup>59</sup> In 1709, Tas owned Rds 2,041 of herd value (and 20,000 vines and 20 slaves). Dividing the herd value by the 11 Khoesan he employed four years earlier, we arrived at a rough estimate of Rds 185 per Khoesan, slightly higher than the Rds 135 per Khoesan we had assumed. In 1702, three years before the diary statement quoted above, Tas owned no cattle, horses, or sheep and had planted no vines.

For households in the Cape district, the region bordering Cape Town, we assumed that no Khoesan were employed in cattle herding.

Table 1 provides our first approximation of the number of Khoesan labourers using our method. It shows that the number increased from 122 in 1685 to 6843 by 1773, a growth rate of 3.8% per annum, equivalent to that of slaves over the same period. The regional distribution also shows that, as we expected, Khoesan labour was concentrated Swellendam district in the interior, where pastoral farming was most popular.

Are these numbers realistic? Firstly, they support the anecdotal evidence cited above. Improving on our earlier estimates, we find, for example, evidence of a decline in the Khoesan population after the severe smallpox epidemic of 1713 and, in the Cape, Stellenbosch and Drakenstein region, during the 1757 epidemic. Other scattered empirical evidence also seems to support these numbers. Viljoen notes that in 1806 ‘nine Khoesan labourers were employed for every slave in the interior part of the country’.<sup>60</sup> This ratio is higher, but not unexpectedly so, than the Khoesan-to-slave ratio we calculate for the Swellendam region (6,783 Khoesan to 738 male slaves, a ratio of 6.6:1).

Secondly, we also found estimates of population and production of 1790 in an account of the Cape of Good Hope, a ‘general description’ published at the end of the eighteenth century. These estimates are shown in Table 2.<sup>61</sup> The

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<sup>58</sup>Liebenberg, ‘Die Kaapse Hottentotte’, p. 104 (authors’ translation).

<sup>59</sup>Shell, *Children of bondage*, p. 24.

<sup>60</sup>Viljoen, *Jan Paerl*.

<sup>61</sup>*Een generale beschrijving van de Colonie de Kaap de Goede Hoop* [A general description of the Colony of the Cape of Good Hope], Part I, VC 104, Cape Town Archives Repository. A general description of the Colony of the Cape of Good Hope. Unfortunately the author’s name is missing.

account gives the number of Khoesan living in the Cape district as zero, which fits our assumption. The total for the Stellenbosch district is a rough estimate of 5,000, which is slightly above our (conservative) estimate of 3,296 in 1773. The numbers for Swellendam are much lower, though. This can be explained if we include a large territory to the east of Swellendam, around the town of Graaff Reinet, founded in 1786. The Graaff Reinet figures support Viljoen's suggestion that nine Khoesan were employed for every slave. Once the figures for Swellendam are added to these, the ratio falls to 3.1 Khoesan for every slave. Our assumptions, therefore, fit the general description's evidence quite well, although they are still somewhat conservative.

A third source to support our claim that our numbers are realistic is the 1806 census, the first census to include Khoesan labourers. It reveals that Khoesan labourers accounted for about 30% of the total labour force in the Stellenbosch and Drakenstein districts, which is slightly higher than our own estimates. Worden argues that this might indicate a higher percentage use of Khoesan labourers than was normal for the eighteenth century because of increased shortages of slaves at the beginning of the nineteenth century, a result of the ban on slave trading in 1806. On the other hand it is possible that, as part of a strategy to avoid taxes, farmers under-reported the number of day labourers they employed.<sup>62</sup>

To further strengthen our estimates we collected *opgaafrolle* on Khoesan labour in the Stellenbosch district for the 1830s, the period of emancipation.<sup>63</sup> We expected this would give us the most conservative estimate of Khoesan numbers, as there was an incentive to report slaves because of the payments associated with emancipation. For this estimate we looked only at the Stellenbosch district<sup>64</sup>, as most farmers here had large landholdings and large numbers of slaves and presumably relied mainly on slave labour (an assumption also supported by anecdotal evidence). Between 1830 and 1840, the Khoesan still represented 10 to 23% of the total labour force. They seem to have been an important source of labour, even in those districts where slaves were in high demand.

These numbers, together with our reconstructed Khoesan figures, are plotted in Figure 2. Note that our estimate of the Khoesan population in 1773 is lower than the estimate provided by the 'general description' in 1795. Had we interpolated our estimates for the tax census years linearly, we would have obtained a figure that is not statistically different from the 1795 estimate. Even if we compare our 1773 estimate to the Khoesan numbers in the slave-holding Stellenbosch district during the 1830s – a region where the Khoesan were the least likely to be employed on farms, and slaves were possibly over-reported for emancipation payments – our estimates are biased towards the conservative.

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<sup>62</sup> Worden, *Slavery in Dutch South Africa*, p. 35.

<sup>63</sup> J294, J296, J298, J300, J302, J305, J306, J311, Cape Town Archives Repository.

<sup>64</sup> Because new districts were promulgated after the arrival of British administration in 1806, the borders of the Stellenbosch district in the 1830s were much smaller than in the eighteenth century.

## 6 Why the Khoesan matter

Our Khoesan estimates have implications for our interpretation of slave productivity, societal inequality, and GDP growth.

### *Slave productivity*

We first considered slave productivity. Worden uses the tax records to calculate the output per slave for two commodities, wheat and wine.<sup>65</sup> He first considers only monocultural farms, but then expands his analysis to include mixed farms, noting that their yields were much the same as those of monoculturalists.<sup>66</sup>

We used an expanded version of Worden’s source data: he refers only to the tax censuses of 1741 and 1773; we were also able to measure slave productivity using the censuses of 1719, 1723, 1931, 1738, 1741, 1757 and 1773. But first we tried to replicate his results.

According to Worden, farmers in the Cape district producing only grain – who had livestock at ‘a level to support grain farming’ and who had, presumably, planted no vines – held one adult male slave for every 24 *mudden* produced.<sup>67</sup> Unfortunately, Worden does not define the necessary level of livestock. We therefore ran several checks, at a herd value of Rds 100 (roughly four head of cattle and three horses), and increments thereof. None of these checks provided us with an estimate to match Worden’s. The closest we found was at a herd value of Rds 400, where one adult male slave adds 22.3 *mudden*. At this level of herd value, and excluding all farmers who had either no slaves or no viticulture, our sample was reduced to only four farmers that fitted the criteria, which is perhaps the reason for the high level of output per slave that Worden calculated. When we expanded the definition to include more livestock (at a herd value of Rds 1,000), we found 17 farmers producing 16.0 *mudden* for every male adult slave, which is perhaps a more accurate reflection of the productivity of slaves during this period.

We then expanded this analysis to cover all seven tax census years, and three districts (Swellendam, the fourth district, falls away, because the censuses do not record any wine or wheat being produced there). The third column of Table 3 shows the results.

As a second step, we recalculated the output per slave if we include Khoesan labour as part of the equation (see the fourth column of Table 3). Slave productivity numbers for the Cape district stay the same, because we assumed that the Khoesan were not active there. However, when we include our estimates for Khoesan in the Stellenbosch and Drakenstein districts, the output per slave declines significantly. In Stellenbosch, productivity falls from 18.4 *mudden* per slave to only 8.1; in Drakenstein, the percentage decline is even larger, from 15.1 *mudden* per slave to 5.6.

But perhaps this scenario is unique to wheat farmers. We know that wine farmers were the predominant users of slave labour and we could therefore ex-

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<sup>65</sup> Worden, *Slavery in Dutch South Africa*.

<sup>66</sup> *Ibid.*, p. 68.

<sup>67</sup> *Ibid.*

pect to find a smaller effect in the wine industry, or even no effect. Again we began with Worden's estimates. Using the 1773 census, Worden calculated that farmers in the Stellenbosch district produced 1.9 *leaguers* of wine per slave.<sup>68</sup> In the Cape district, this number was 0.8. Redoing Worden's estimations for 1773, we find a considerably higher number: 4.8 *leaguers* per male slave for the Stellenbosch district. This is much closer to the 5.3 *leaguers* per slave calculated by Barrow.<sup>69</sup> When we expand the estimation to again include the seven censuses between 1719 and 1773, we find productivity levels are slightly lower, although still considerably higher than Worden's. Table 4 again splits the results by district.

Here, too, we calculated slave productivity with and without the contribution of Khoesan labour. Predictably, the results in the Cape district remain the same, and also similar to the productivity level calculated by Worden for 1773. But productivity levels in Stellenbosch and Drakenstein fall significantly once we include Khoesan labour. Note that nowhere did we calculate the number of Khoesan per farmer on the basis of the farmer's arable assets; conservatively, we only considered herd value when estimating the labour participation of the Khoesan population. Yet the productivity of slave labour in both the wheat and wine growing sectors falls significantly once we take our new Khoesan figures into account.

Finally, mixed wheat and wine production was common on Cape farms. We therefore broadened the scope of our analysis to calculate productivity rates for all arable farmers (see Table 5). Again, the results reveal large differences in the productivity of arable farming, even if we estimate the number of Khoesan labourers only on the basis of the farmer's herd size. Instead of 9.7 and 9.5 *mudden* per slave on Stellenbosch and Drakenstein farms, we find that wheat productivity falls to 4.9 and 3.7 *mudden* per slave, much lower than before. Wine output per slave falls too, although to a smaller extent than wheat.

Such changes in our estimates of the productivity of slaves have important consequences for our interpretation of slave profitability. Worden notes, for example that 'slave production seems to have been most profitable when the scale of the production unit was large'.<sup>70</sup> We find little corroborating evidence for this claim. Table 6 shows the same calculations as Table 5, but now split between farmers owning between one and five slaves, and those owning more than five slaves. It is clear that across all measures – but especially where Khoesan are not included – the average slave productivity is larger on smaller farms than on larger ones. More importantly, this gap narrows once Khoesan are added to the equation. The wheat output per slave across all districts falls from 10.8 to 6.3 in the absence of Khoesan, for example, but only from 5.2 to 5.0 when Khoesan are included. Similarly, wine productivity falls from 1.7 to 1.0 when Khoesan are excluded, but only from 0.9 to 0.8 when they are included. This suggests that, as Worden suspected, the poorer farmers did indeed employ more Khoesan labourers than the wealthier ones. It also supports the notion

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<sup>68</sup>Worden, *Slavery in Dutch South Africa*, p. 67.

<sup>69</sup>Ibid.

<sup>70</sup>Worden, *Slavery in Dutch South Africa*, p. 83.

that, if farmers acted rationally, the wealthier ones probably found alternative uses for their slaves, such as leasing them to poorer farmers (to increase their return on investment, but this of course is not included in our data), or using them in proto-industries on farms, resulting in economies of scope.<sup>71</sup>

One clear implication of our calculations is this: if we consider simply the agricultural output of slaves together with the presence of a large Khoesan labour force, it seems that slavery was not as profitable an enterprise as earlier historians have claimed. Ironically, this opinion was shared by travellers at the Cape in the eighteenth and early nineteenth centuries. Barrow (1806) noted, for example, that:

There is not, perhaps, any part of the world, out of Europe, where the introduction of slavery was less necessary than the Cape of Good Hope . . . . To encourage the native Hottentot in useful labour, by giving them an interest in the produce of that labour, to make them experience the comforts of civilized life, and to feel they have a place and value in society . . . would be the sure means of diminishing and, in time, of entirely removing the necessity of slavery.<sup>72</sup>

*Societal inequality*

The failure to measure the Khoesan population may also distort estimates of inequality. High levels of early inequality are not only interesting historically, but, according to recent development theories, may also inhibit long-run development. Engerman and Sokoloff, for example, argue that severe initial inequality would, through elite capture of education and migration policies, result in lower levels of development over time.<sup>73</sup> To test these theories, it is essential to measure early inequality as accurately as possible.

Fourie and von Fintel provide estimates of wealth and income inequality for the Cape Colony. Both estimates exclude Khoesan labour.<sup>74</sup> Using their method, we reconstructed Gini and Theil inequality coefficients with our new estimate of Khoesan labour included (see Table 7). Because we have very little information about the incomes of Khoesan labourers, we assume they were similar to the slaves' 'incomes'.<sup>75</sup>

Our findings are perhaps counterintuitive: including the Khoesan reduces the Gini coefficient from 0.74 to 0.50 in 1757. The reason for this decrease is that with no variation in the income distribution of the Khoesan – not an entirely unreasonable assumption – the variation in the total income distribution would decrease, even though incomes falling below the poverty line would increase.

The Theil index is another statistic that measures inequality, with the ad-

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<sup>71</sup>Green, 'The economics of slavery'; Johan Fourie, 'Slaves as capital investment in the Dutch Cape Colony', in Ellen Hillbom and Patrick Svensson, *Agricultural transformation in a global history perspective*, London: Routledge, 2013, pp. 136–59.

<sup>72</sup>This passage is from Nicole Ulrich, 'Rethinking citizenship and subjecthood in southern Africa: Khoisan, labour relations, and the colonial state in the Cape of Good Hope', unpublished manuscript, Department of History, Rhodes University, p. 1.

<sup>73</sup>Stanley Engerman and Kenneth Sokoloff, *Economic development in the Americas since 1500*, Cambridge, Cambridge University Press.

<sup>74</sup>Fourie and von Fintel, 'The dynamics'; Fourie and von Fintel, 'A history with evidence'.

<sup>75</sup>The sources for slave incomes are discussed in Fourie and von Fintel, 'A history with evidence'.

vantage that it allows a breakdown of inequality into two components: between groups and within groups. Table 7 shows the Fourie and von Fintel estimates, juxtaposed with our new estimates when the Khoesan are included. Unsurprisingly, including the Khoesan increases between-group inequality, although not by much. The fact that we assume that all Khoesan incomes are the same (i.e. no variation in the Khoesan sample) does have a sizeable effect on within-group inequality, though, which decreases significantly from 0.67 to 0.39, almost equalling the level of between-group inequality.

These shifts could have important consequences for interpreting the South African past. Fourie and von Fintel's first estimates suggest that inequality was severe and persistent, but that this inequality was predominantly within the settler group. Yet when the Khoesan are added as income earners, the bottom of the income distribution swells as more poor people are included, reducing overall inequality but shifting the type of inequality from within-group to between-group.

#### *GDP growth*

The new figures also enable us to reinterpret colonial economic growth. Figure 3 compares Fourie and van Zanden's GDP estimates with our new estimates of GDP per capita using our revised Khoesan population estimates.<sup>76</sup> For most of the eighteenth century we see a large, persistent drop in the GDP per capita figure for the colony, with implications for the interpretation of Cape economic performance. Fourie and van Zanden argue that per capita GDP achieved rates equal to or just below those of eighteenth-century England for most of the first half of the eighteenth century.

Our new GDP per capita estimates, however, suggest that only in the very early eighteenth century did Cape GDP per capita estimates rival those of eighteenth-century Britain. In fact, after 1710 our Cape Colony GDP per capita figures never again equal those of Britain, whereas Fourie and von Fintel's figures show Cape GDP equalling Britain's until 1750. Also, if we extend the Khoesan series (assuming a constant, linear growth rate from 1758 onwards), this somewhat mitigates the precipitous fall in GDP per capita found by Fourie and van Zanden. Our new GDP estimates still make it clear that the Cape achieved, on average, fairly high levels of prosperity, especially for the settler population.<sup>77</sup> Yet once we include the slave population and, as we show here, a more accurate figure for the Khoesan population, the prosperity of the average Cape inhabitant is less remarkable.

## 7 Conclusion

The phenomenon of missing people, especially non-sedentary pastoralists and hunter-gatherers, is not unique to Cape historical and economic accounts. There is a particular resurgence of interest among African economic history scholars in finding, digitizing, and transcribing evidence of the economic and social life

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<sup>76</sup>Fourie and van Zanden, 'GDP in the Dutch Cape Colony'.

<sup>77</sup>Fourie, 'The remarkable wealth'.

of individuals and households. Many of the new studies rely on colonial or missionary documentation, which may often neglect, deliberately or accidentally, large segments of society. Economic historians to date have found two ways to sidestep the problem: ignore it, or narrow the inference drawn from the results to apply to the sample only. These strategies are problematic for not only methodological but also moral reasons: by excluding the missing people, we risk reproducing the views of the colonial authorities or the European economic elite.

In this paper we have described an exploratory study in which we showed that excluding people who do not directly appear in historical records has implications for our understanding of social and economic change in developing regions. We used the Cape Colony as the case in point and showed, using evidence from annual Cape tax censuses and other historical sources such as contemporary traveller accounts, that previous estimates of Cape slave productivity were upwardly biased, that between-group inequality was underestimated, and that attempts to explain early Cape growth fell short. Ours is by no means the final estimate of the size and impact of the Khoesan population at the Cape: as more quantitative records are unearthed and digitised, a more accurate picture will emerge. But what our contribution makes clear is the possibility of, and indeed necessity for, a more accurate portrayal of indigenous population groups when quantifying colonial activity. In short, we have shown *how* to quantify the missing people, and *why* their inclusion matters.

**Table 1: Number of Khoesan by region**

	All regions		Cape, Stellenbosch and Drakenstein		Swellendam	
	Khoesan	Slaves	Khoesan	Slaves	Khoesan	Slaves
1663	0	19	0	19	-	-
1682	0	192	0	192	-	-
1685	122	222	122	222	-	-
1692	406	303	406	303	-	-
1695	380	533	380	533	-	-
1700	526	807	526	807	-	-
1709	1338	1582	1338	1582	-	-
1712	1298	1766	1298	1766	-	-
1719	1076	2317	1076	2317	-	-
1723	1434	2508	1434	2508	-	-
1731	2016	3590	2016	3590	-	-
1738	2724	4769	2724	4769	-	-
1741	2617	4495	2617	4495	-	-
1757	5359	5007	2123	4711	3236	296
1773	6843	7101	3296	6369	3547	732
Total	26137	35211	19354	34183	6783	1028

Source: As explained in text. Swellendam was only proclaimed as a separate district in 1754.

**Table 2: Estimates of population and production published in the General description 1790**

Population	Cape	Stellenbosch	Swellendam	Graaff Reinet	Total
Christian	6261	7256	3667	4126	21310
Slaves	11891	1073	2196	964	16124
Khoesan	0	5000	800	9083	14883
Total population	18152	13329	6663	14173	38144
Horses	8334	22661	9049	7392	47436
Cattle	20957	59567	52376	118306	251206
Sheep	61573	451695	154992	780274	1448534
Wine ( <i>leaguers</i> )	768.5	7914	220.5	187.5	9090.5
Wheat ( <i>tarwen</i> )	32962	77063	16720	11283.5	138028.5
Barley	18819	32872	10554	5193.25	67438.25
Rye	529	2053			2582

Source: 'General description', 1790.

**Table 3: Comparing slave productivity with and without the missing Khoesan, wheat farmers**

	N	Without	With
		Khoesan	Khoesan
Cape district	126	12.5	12.5
Stellenbosch	38	18.4	8.1
Drakenstein	206	15.1	5.6
Total	370	14.5	8.2

Source: Own calculations from *opgaafrolle*.

**Notes:** Slave productivity measured as mudden per adult male slave. N is the number of observations. Censuses of 1719, 1723, 1931, 1738, 1741, 1757 and 1773. This table includes only farmers with a maximum herd value of Rds 1,000 and with no evidence of viticulture.

**Table 4:** Comparing slave productivity with and without the missing Khoesan, wine farmers

	N	Without Khoesan	With Khoesan
Cape district	114	0.8	0.8
Stellenbosch	54	3.3	2.3
Drakenstein	152	4.1	2.3
Total	320	2.8	1.7

Source: Own calculations from opgaafrolle.

Notes: Slave productivity measured as leaguers per adult male slave. N is the number of observations. Censuses of 1719, 1723, 1931, 1738, 1741, 1757 and 1773. This table includes only farmers with a maximum herd value of Rds 1,000 and with no evidence of wheat farming.

**Table 5:** Comparing slave productivity with and without the missing Khoesan, all arable farmers

	Wheat productivity				Wine productivity		
	N	Without Khoesan	With Khoesan	% growth	Without Khoesan	With Khoesan	% growth
Cape district	321	7.7	7.7	0.0	0.5	0.5	0.0
Stellenbosch	207	9.7	4.9	-49.5	1.6	1.0	-34.5
Drakenstein	567	9.5	3.7	-61.0	1.8	1.0	-47.6
Total	1096	9.0	5.1	-43.4	1.4	0.9	-39.4

Source: Own calculations from opgaafrolle.

Notes: Slave productivity measured as mudden per adult male slave or leaguers per adult male slave. N is the number of observations. Censuses of 1719, 1723, 1931, 1738, 1741, 1757 and 1773.

**Table 6:** Comparing slave productivity with and without the missing Khoesan, all arable farmers split by number of slaves owned

N	Between 1 and 5 slaves				More than 5 slaves				
	Wheat productivity		Wine productivity		Wheat productivity		Wine productivity		
	Without Khoesan	With Khoesan	Without Khoesan	With Khoesan	N	Without Khoesan	With Khoesan	Without Khoesan	With Khoesan
111	10.7	10.7	0.6	0.6	210	6.1	6.1	0.5	0.5
131	12.3	5.8	1.6	1.1	76	5.2	3.6	1.6	1.2
422	10.4	3.6	1.9	1.0	145	7.1	4.1	1.5	1.0
664	10.8	5.2	1.7	0.9	432	6.3	5.0	1.0	0.8

Source: Own calculations from opgaafrolle.

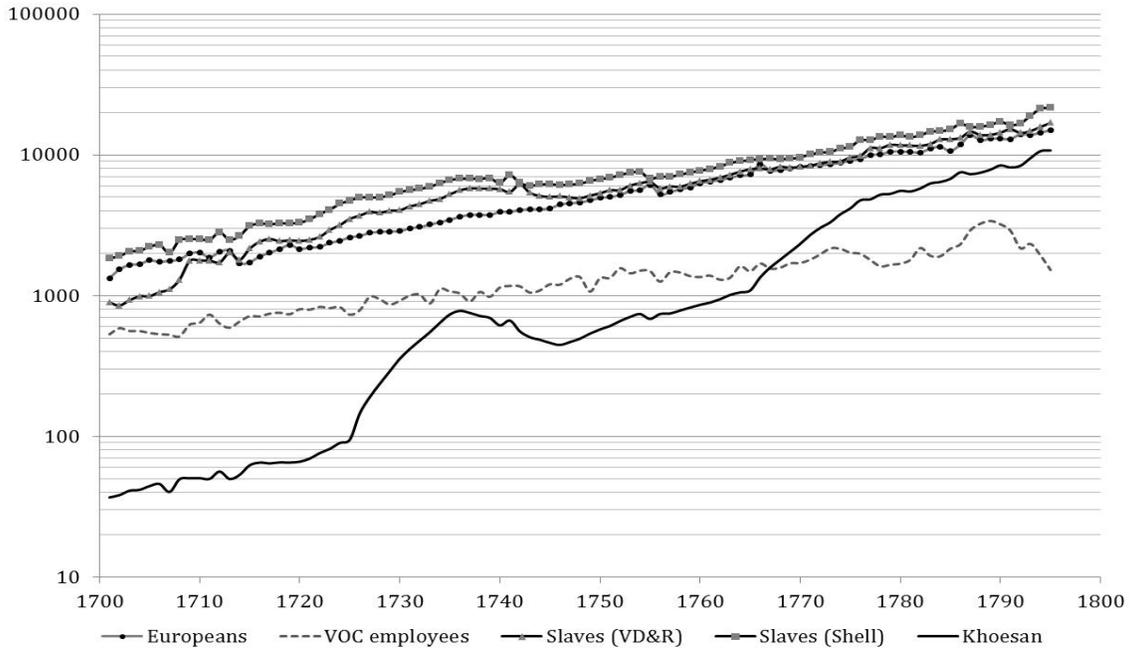
Notes: Slave productivity measured as mudden per adult male slave or leaguers per adult male slave. N is the number of observations. Censuses of 1719, 1723, 1931, 1738, 1741, 1757 and 1773.

**Table 7:** Inequality coefficients

Type	Inequality	FvF (2011) estimates	Khoesan added
Gini	All	0.74	0.50
Theil	Between-group inequality	0.33	0.35
Theil	Within-group inequality	0.67	0.39

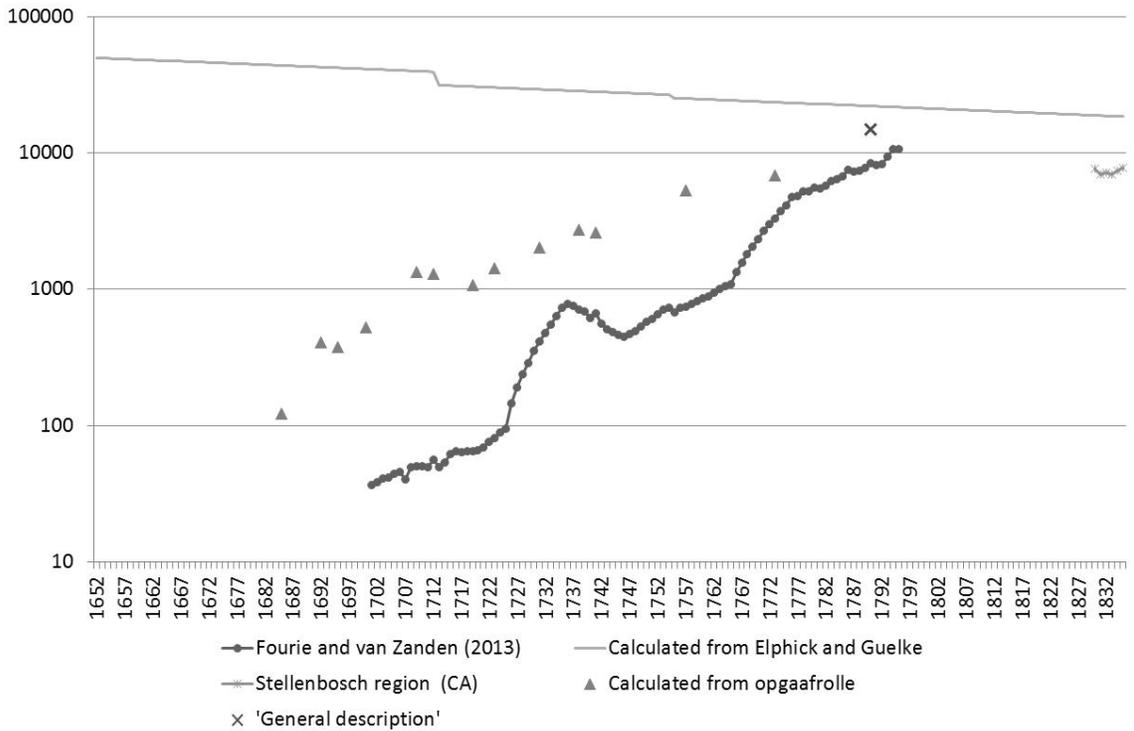
Source: Own calculations; original estimates from Fourie and von Fintel, 'A history with evidence'.

**Figure 1: Size and growth of four population groups at the Cape, 1701. 1795**



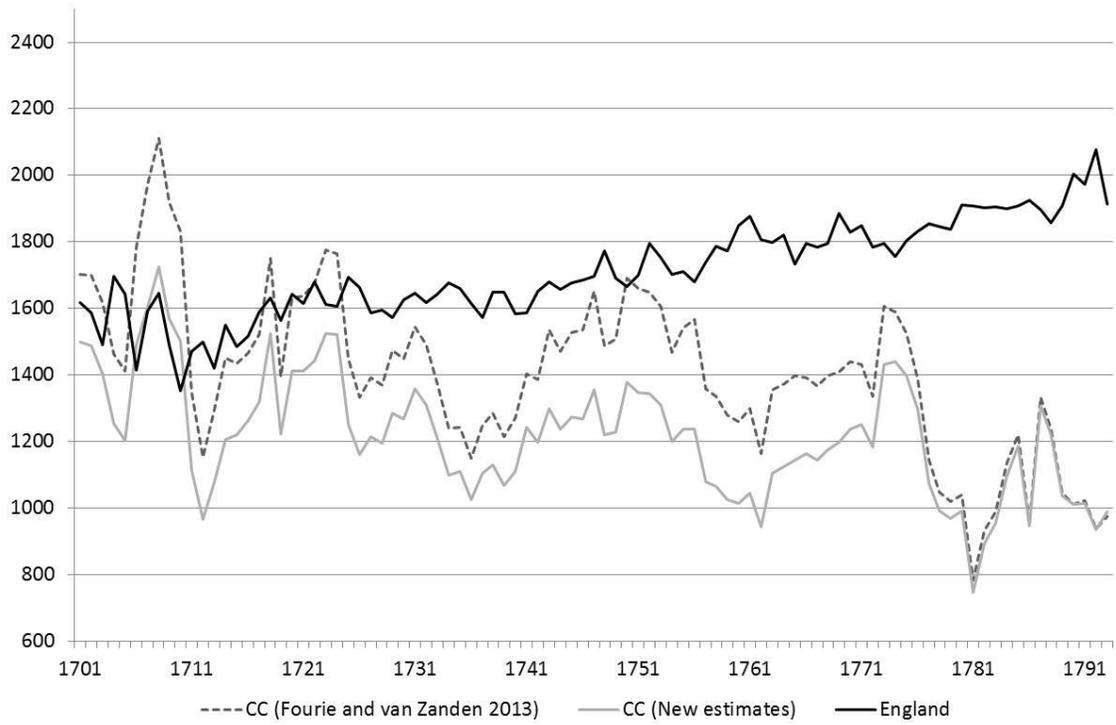
Source: The y-axis is in logarithmic scale. The estimates for Europeans (settlers and knechts), VOC employees, and slaves (VD&R) are from van Duin and Ross, *The economy*. The second slave estimate is from Shell, *Children of bondage*. The estimates for the Khoe population (that was part of the Cape economy) are from Fourie and van Zanden, 'GDP in the Dutch Cape Colony'.

**Figure 2: Four estimates of the Khoesan population, 1652. 1835**



Note: 'General description' refers to *Een generale beschrijving*, 1790.

**Figure 3:** Comparison of GDP per capita estimates, 1701. 1773



Source: Fourie and van Zanden, 'GDP in the Dutch Cape Colony'; own calculations.