

On the causes of the African Slave Trade

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Abstract

This paper offers an integrated analysis of the forces shaping the emergence of the African slave trade over the early modern period. We focus our attention on two questions. First, why most of the increase in the demand for slaves during this period came exclusively from western Europeans. Second, and of most relevance for present-day development outcomes, why was the overwhelming majority of slaves of African origin. Technological differences in manufacturing technology, the specificities of sugar (and other crops') production, and the cultural fragmentation of the African continent all play a role in the analysis. Supporting evidence for each of our claims is provided from a broad corpus of relevant literature.

Keywords: Africa; Slave trade; Long-run development.

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I. Introduction

Our understanding of the forces shaping the slave trade over the early modern period is far from perfect. There is no consensus, for instance, about why the overwhelming majority of the world's slaves originated from Africa. Equally intriguing, most of the increase in the global demand for slaves during this period came exclusively from Western Europeans. The early modern slave trade has long been recognized as a central feature of African and indeed global economic history. This importance has only been accentuated by recent scholarship suggesting a link between the intensity of the slave trade and present-day socioeconomic outcomes.² This paper attempts to fill a gap in the literature by offering an integrated analysis of the African slave trade between the 16th and the 19th century, highlighting the economic and social forces most able to explain the presence – or the absence – of slave trading in different regions of the world. The outcome, I believe, is a comprehensive explanation of why and how the African slave trade expanded to unprecedented levels during the early modern period.

This paper can be related to the large and influential literature on the role of institutions in long-run economic development.³ While most of this literature has focused on the institutional consequences of colonialism, the rise of the slave trade in early modern Africa constitutes a prime example of pre-colonial events affecting institutional settings up to our days. Moreover, as I would like to argue below, the rise of the African slave trade is also a clear example of an institution whose evolution is endogenous to the socioeconomic environment. It should then be regarded as both cause and effect of Africa's relative backwardness.

The rest of the paper is organized as follows. The next section provides an overview of the African slave trade and discusses a number of available explanations for the characteristics it took. Section 3 focuses on the demand side of the market and explains why Europeans became the main buyers of African slaves. Section 4 turns to the supply side of the market and analyses why Africans were both

² Nunn (2008), Nunn and Wantchekon (2011).

³ See Acemoglu et al. (2001) and the subsequent literature. For arguments against the pre-eminence of institutions see Glaeser et al. (2004), Angeles (2011) and McCloskey (2010, chapters 33-36). For analyses focusing on institutions in Africa see Green (2011) and de Groot (2011).

the main sellers and victims in the slave trade. The final section summarizes the paper and offers some concluding remarks.

II. The African slave trade: facts and some existing explanations

Although slavery is as ancient as the first large civilizations and has been present in some form or another in most if not all human societies until the late 19th century, several characteristics set the Trans-Atlantic slave trade of the early modern period apart from all previous experiences. First, its magnitude. It is estimated that about 12.5 million Africans were embarked as slaves towards the Americas between the turn of the 16th century and 1866. Figure 1 illustrates the rise of this trade over time, which at its peak reached levels of 80,000-100,000 slaves exported per year. A recent calculation estimates that for the West and West Central coasts of Africa the probability of being sent as a slave to the Americas at some point during one's lifetime was an astonishing 9.3 percent during the period 1701-1850.⁴ Many slaves were never exported, so the probability of being enslaved would have been significantly higher. This means that slavery was a much more prevalent feature of life at this time in Africa than anywhere else in the world during any historical period.

[Figure1]

This order of magnitude required a system for ensuring the capture and supply of slaves which was another feature setting the African slave trade apart. Through most of history, slaves were a traditional by-product of wars - a convenient source of revenues but not the main motive for starting an armed conflict in the first place. This changed in Africa, where wars were increasingly fought with the sole objective of obtaining slaves and thus became more common.⁵ Most of the damage was probably inflicted by smaller operations, slave raids and kidnappings, which multiplied as slavery evolved into a central feature of many African societies. At a time when the risk of being enslaved disappeared or was greatly reduced in most parts of the world, Africa evolved into a society where enslavement was pervasive. In the words of Martin Klein, 'slave trading and slave production became the most important economic activities for many African states'.⁶

⁴ Whatley and Gillezeau (2011a).

⁵ Lovejoy (1983, pp. 66-87).

⁶ Klein (2003, p. 504).

Just as the magnitude of the Trans-Atlantic slave trade is without precedent in history, it is also remarkable that during the early modern period the origin of both slaves and slave buyers became increasingly homogenous. Africans constituted the overwhelming majority of the world's slaves, and at the height of the trade about 9 out of 10 slaves coming out of Africa were bought by western Europeans. Although slaves were exported towards Muslim lands since the Middle Ages, this trade remained relatively constant and represented between 5 and 10,000 persons exported per year.⁷ The other major civilizations of Eurasia, India and China, do not seem to have participated in the African slave trade at all.

Do we understand why this happened? Was there a change during the early modern period leading to the dramatic expansion of a practice that had existed since the dawn of civilization? We will offer our interpretation of the forces shaping the African slave trade in the next sections of this paper, but a good way to begin our analysis is by reviewing a number of alternative explanations that don't quite work.

On a first instance we may dismiss explanations based on military power or military technology. Bar a number of trading posts along the coast and patches of territory in a few places, Europeans did not make conquests in Africa until the late 19th century – after the end of the Trans-Atlantic slave trade. Slave capturing was essentially an African venture, with Africans playing the roles of enslavers and enslaved. European and Muslim buyers would meet African slave providers in trading posts and market towns and only rarely engaged in slave capture themselves. While it is true that European guns flowed into the African continent in great numbers, it is not at all clear that slave trading would have been smaller in their absence. Guns induced an arms race among African nations, whereby their acquisition by a rival group led to an understandable urge to do likewise. Had everyone been armed with clubs and swords, however, the outcome in terms of enslaving would likely have been the same.

The same evidence also leads us to dismiss explanations based on racism towards black people. Of course, Europeans were racists and commentaries on the black man's assumed inferiority are common enough throughout the period. But as Eric Williams stated early on, 'Slavery was not born

⁷ Lovejoy (1983, p. 24).

of racism: rather, racism was the consequence of slavery.⁸ Europeans never faced the choice between, say, African, Middle Eastern and Chinese slaves and chose the first ones because of skin colour. African slaves were available for sale, in large numbers, all along the coast of Africa and on its northern frontier. This was simply not the case anywhere else in the world. As a matter of fact, Europeans had no second thoughts about enslaving Muslims during the many wars they fought against them – and the feeling was mutual. But the cheapest, and indeed the only option for obtaining slaves in the tens of thousands every year turned out to be the African continent.

Any account of the African slave trade where racism plays a causal role would need to explain why racism appeared precisely during the early modern period. Indeed, through most of their history Europeans did not regard Africans as more deserving of slavery than any other foreign people. Ancient Greeks and Romans, for instance, thought of Africans as one among many tribes of barbarians that could be traded as slaves. During the Middle Ages the image of African kingdoms was one of unlimited wealth, as befits the land where so much gold originated, not one of uncivilized savages. And even in the early stages of the Trans-Atlantic slave trade we see that plantation work was not regarded as only fit for Africans: indentured white servants were regularly used alongside black slaves. Europeans developed a sense of superiority towards Africans, and eventually towards the rest of the world, as their global influence increased and it is probable that racism reinforced their willingness to engage in slave trading. But it was most likely an endogenous reaction, not an exogenous cause.

The economics literature has centred its efforts on the analysis of slavery in the Americas, with work concerning slave plantations in the southern United States taking a prominent place.⁹ Analyses of the causes of the slave trade are much more rare, and the best known contribution is probably due to Evsey Domar.¹⁰ Domar's thesis is simply that slavery or serfdom, which are used interchangeably in his work, develop where land abundance and labour scarcity would not allow the creation of rents for a land-owning elite. As population grows and the marginal productivity of labour decreases, slavery becomes unnecessary as the elite will be able to secure cheap labour inputs through the market. The idea is clearly of some use, and it may be part of the explanation for the permanence of

⁸ Williams (1944, p.7).

⁹ Seminal works are Conrad and Meyer (1958) and Fogel and Engerman (1974).

¹⁰ Domar (1970).

serfdom in Russia as opposed to its dismissal in Western Europe. Even there, however, the thesis has difficulties with some historical events: the great depopulation that followed the Black Death should have led to reinforced serfdom throughout Europe; as Domar admits, it didn't. And Domar's thesis is of even more limited usefulness for the African case.

A first problem is that Domar's thesis is more appropriate for the analysis of serfdom, not slavery. Most experts on slavery would make a clear distinction between these two concepts - even if some similarities are no doubt present. As Moses Finley put it, 'Societies have never been reluctant to reduce substantial sections of their own people to debt bondage, serfdom, and the rest, but I know of no society that has tolerated the enslavement, at home, of its own people'.¹¹ Serfs lack some important rights, in particular the right of free movement to seek a better remuneration for their work, but they are otherwise considered a part of society and can have a family, own property, and are not sold individually but only as part of the land. Slaves enjoyed none of these privileges. Serfs existed in Eastern Europe throughout the early modern period but the question of using them in American plantations was never raised.

A second, more substantial, objection to Domar's thesis is that it only applies to domestic slavery, not to the slave trade. It is, if we are allowed the expression, a "closed economy" theory of slavery whereas the African slave trade clearly requires an "open economy" explanation.

The African slave trade was a profitable economic activity for both African sellers and European buyers.¹² Analyzing the economic forces at play is therefore a natural starting point. An explanation along such lines was put forward by Patrick Manning, who argued that Africa's low productivity of labour in agriculture, a consequence of the continent's underdeveloped agricultural technology, offered important arbitrage possibilities. 'As long as African agricultural technology, constricted by the limits of the hoe, was trapped at a level of productivity below that of Europeans, European buyers were able to pay consistently more than the value of an African person's produce at home'.¹³

¹¹ Finley (1980, p. 299).

¹² The early literature on the subject claimed that only Europeans profited from the slave trade. Once actual evidence was unearthed, the reality of important profits on the African side became obvious; see Evans and Richardson (1995) and Klein (2010, p. 99-103).

¹³ Manning (1990, p. 34).

Manning says that Europeans could offer to buy a slave for more than the value of its production in African agriculture, and the deal would be profitable for both parts since slaves would be put to work using the advanced, plough-based, European agriculture.

Manning's thesis is a step in the right direction, and we will come back to the role of technological differences in this context in the next section. But a number of problems imply that, as it stands, the thesis needs revision. Notice that, with a few exceptions before the beginning of the Trans-Atlantic slave trade, African slaves were not put to work in European agriculture. Moreover, for all their technological differences, there are good reasons to think that *labour* productivity in agriculture was not very different between pre-industrial Africa and Europe.

There is indeed no contradiction between the well-established fact that African agriculture was less technologically advanced than its counterpart in Europe and Asia and the claim that labour productivity in agriculture was similar in both regions. Labour productivity, the marginal change in total production due to an increase in labour, depends not only on technology but on the availability of all factors of production such as land, capital and labour itself. A long-standing theme among economic historians of Africa is precisely its relative labour scarcity - in other words, the abundance of land with respect to labour.¹⁴ This land abundance was clearly reflected in a land-intensive choice of techniques such as slash-and-burn agriculture and very long periods of fallow. The large availability of land could then compensate for a less advanced agricultural technology.

The situation is best understood from the perspective of the Malthusian model. As is well known, Malthusian forces transform technological advances into larger populations - leaving production per capita unchanged because of decreasing returns in the presence of a fixed factor of production, in this case land. We would thus advance that the labour scarcity that economic historians have always emphasized in Africa was an endogenous response to the less advanced agricultural technology of the continent (and, we may add, to the constraints that climate and the availability of plants and animals imposed).

¹⁴ Austin (2008a, 2008b).

Direct evidence on labour productivity in agriculture for pre-colonial Africa is essentially inexistent, but good indirect evidence can be found in the literature on human heights as a measure of economic well-being. If labour productivity in agriculture is interpreted as the real wage in terms of agricultural goods, higher labour productivity would translate into a better-nourished, and thus taller, population. As it turns out, available evidence shows that Africans and Eurasians had similar heights well into the 19th century; clearly suggesting no large differences in labour productivity in agriculture. Gregory Clark, for instance, reports heights of between 163 and 167 centimetres for Africans during the early 19th century, to compare with heights of 163 cm. for Indians, 164 cm. for the Chinese and 167 cm. for western Europeans.¹⁵ And Roderick Floud reports the heights of various southern European nations during that same period as 162 cm. for Italy, 163 cm. for Portugal and 164 cm. for Spain.¹⁶ Thus, if arbitrage opportunities existed these were in all likelihood not related to Europe's use of the plough in agriculture – which, by the way, did not set Europe apart as it was used everywhere in Eurasia.

III. Why Europe? On the determinants of the demand for slaves

African slaves were bought almost exclusively against manufactures.¹⁷ Not all of these manufactures were produced in Europe, with Indian textiles of paramount importance even after the advent of the Industrial Revolution. Europeans thus supplied the African continent with manufactures, their own and Asia's, and got slaves in return. This indicates that technological differences between Europe and Africa did indeed play a role, but it was differences in the manufacturing sector, not agriculture, that were critical.

As was the case in agriculture, Europe was well in advance of Africa in most or all industrial technologies.¹⁸ Crucially, this technological gap was not counterbalanced by Malthusian forces, as was the case in agriculture. The Malthusian model works in full swing in agriculture due to the fixity of land, whereas capital - the counterpart of land in industrial production - is indefinitely expandable

¹⁵ Clark (2007a, p. 57).

¹⁶ Floud (1994). See also Eltis (1990).

¹⁷ Eltis and Jennings (1988, p. 948).

¹⁸ Austen and Headrik (1983).

given time and resources. Thus, while African farmers managed to feed themselves as well as Eurasian ones (although at lower population densities), all indicates that the consumption of manufactured products in Africa was well below Eurasian standards and that some manufactured goods such as firearms were not available at all.

Given the above circumstances standard trade theory would predict Europe to sell manufactures against African agricultural products. Most African agricultural products, however, were not tradable over long distances during the early modern period due to their low value per unit of mass or volume (unlike the valuable spices of the East and the sugar or tobacco from the Americas). If Africans wanted to buy European manufactures they had to offer a product that could be profitably transported overseas. Gold and ivory fitted the bill but their production was geographically limited and could not be easily increased. The solution was to export the labour used in agriculture instead of agricultural products. As predicted by standard trade theory, a significant degree of specialization ensued - Africa specialized in the "production" and selling of slaves.

The question, however, is why would Europe want the slaves in the first place. Another way of formulating this question is that if technological differences in manufacturing were all that is needed to explain the slave trade then we would have seen large flows of African slaves into the rest of Eurasia, India and China in particular. After all, Europe was not the clear technological leader of Eurasia before the Industrial Revolution, which postdates the acceleration of the Trans-Atlantic slave trade by at least a century. Although early modern Europe could claim technological leadership in some industries such as firearms and shipbuilding, Asia was clearly ahead in other sectors such as textiles and porcelain. Trade between Africa and Asia had been in place for centuries before the European maritime expansion of the 15th century, and could take truly spectacular dimensions as best exemplified by the fleets of China's Admiral Zheng He. If Europe could exchange manufactures for African slaves at a profit then in principle so could China and India.¹⁹

¹⁹An extremely clear indication of this is the role played by cotton textiles. India was the world leader in the production of cotton textiles up to the late 18th century, and Europeans did not produce them at all until the early 1700s. Indian textiles constituted the single largest item of African imports as an exchange for slaves until the late 18th century, but Indians were not buying the slaves. European slave buyers found it profitable to buy Indian textiles in Europe, inclusive of all transport costs, and exchange them for slaves on the African coast. See Inikori (1992).

As many readers would have guessed already, what set Europe aside from Asia was its ownership of the Americas, where all but a handful of Europe's acquisitions in the African slave market were employed. Thus, in order to understand why Europe's demand for slaves increased during the early modern period we need to discuss the use of slave work in economic production. In other words, why were slaves not useful for domestic agriculture or industry in either Europe or Asia, but useful in the plantation agriculture of the Americas?

The issue was addressed with much clarity by Stefano Fenoaltea, who draws a distinction between effort-intensive activities and care-intensive ones.²⁰ In short, Fenoaltea asserts that the economic advantage of employing slave labour is greatest in effort-intensive activities such as sugar production, while in care-intensive activities such as manufacturing and temperate-climate agriculture slave labour would be less profitable - potentially to the point that free labour may be preferable.

The reason would be that effort can be extracted from a worker by means of pain incentives, whereas care requires the existence of rewards. Throughout history slaves have been used in care-intensive activities, as servants, concubines and even administrators, but such slaves typically enjoyed a much more comfortable living than their counterparts in mining or plantation agriculture. Rewards came not only in the form of access to goods and services but in a relatively high occurrence of manumission. It is thus cheaper to buy effort than to buy care through the slave market, which is why the advantage of slaves over free labour would be greatest in highly physical activities.

Sugar production, the single largest employer of slave labour in the Americas, can surely be characterized as effort-intensive. The main tasks involve cutting, chopping, and transporting the cane stalks; followed by a crushing process to extract its juices. The time between cutting and juice extraction must be minimized in order to avoid desiccation or fermentation. In tropical countries cane sugar grows almost continually throughout the year so that the labour-intensive process of harvesting and crushing actually takes place year-round (as opposed to what happens in temperate agriculture).

²⁰ Fenoaltea (1984).

Fenoaltea's explanation may be complemented by noting that agriculture and industrial production in Europe and Asia required not just care – which can be elicited from anybody – but also forms of human capital which Africans did not possess. Until well into the 19th century most manufacturing was the work of craftsmen who had learned their trade through years of apprenticeship - factories and uniformized production are largely outcomes of the Industrial Revolution. Similarly, a large amount of knowledge was necessary in European agriculture, for tasks such as ploughing, planting, rotating crops, manuring, keeping animals and so on. If the cost of inducing care would not have rendered African slave labour uneconomical, the cost of acquiring these forms of human capital certainly would.

The need for care and human capital in European agriculture and industry is a necessary assumption given the enormous price advantage that African slave labour had over European wages. To put some specific numbers in this claim, consider the price of a slave towards the end of the 17th century - when Britain started expanding its sugar industry in the Caribbean in earnest. Eltis, Lewis, and Richardson set the average price of an African slave over the period 1674-1699 at £19.61. This price bought about 25 years of slave work. Using an annuity formula and a market interest rate for the period of 8% we obtain a price of slave labour of £1.84 per year.²¹ To this we should add maintenance costs, which we estimate at about £1.70 per year.²² A year of (effort only) slave labour could then be bought for about £3.54 per year.

Next to this, the wage of an agricultural labourer in England, as calculated by Gregory Clark, was about 10.66 pence per day over the period 1670-1699.²³ Pre-industrial agricultural labourers may have worked as little as 260 days per year²⁴, but slaves would certainly have worked more. Assuming a rather conservative 300 days of work per year for a slave we obtain a yearly wage of £13.32 when

²¹ See Eltis et al. (2005, p.681) on the interest rate used and the number of years of work from a slave.

²² Eltis et al. (2005) assume that maintenance costs are about half the marginal productivity of labour. With a Cobb-Douglas production function the marginal productivity of labour equals production per worker times the share of labour. In plantation economies most production was exported, so we may equate production per worker to the value of exports per slave. Eltis et al. (2005) estimate this last magnitude at £6.80 per year (for the Caribbean in 1770) and assume a share of labour in production of about 0.5 (tables 1 and 3). This leads to a figure of £1.70 per year per slave for maintenance costs (£6.80x0.5x0.5).

²³ Clark (2007b, table 1, p. 100).

²⁴ Angeles (2008).

using English free labour - close to four times the cost of slave labour.²⁵ If European landowners could have cut their labour costs by four they would have done so.

Thus, slaves were used exclusively in the Americas because climate made the Caribbean, north-eastern Brazil and the south of the present-day United States ideal for the production of cash crops such as tobacco, cotton, coffee, cocoa, and, by far the most important one, sugar cane. The production of these crops required minimal levels of human capital and not much in terms of care – brute effort was the essential element.

This, however, is not the end of the story because many of these crops, and sugar cane in particular, were grown in large quantities throughout Asia. Sugar was in fact an Asian invention, its refining process being probably invented in India sometime before the year 500 AD from where it spread to Muslim lands and China before finally reaching Europe after the eight century AD.²⁶ Once considered a luxury product reserved for medicinal uses, the consumption of sugar edged upwards over time - not just in Europe but in many parts of Eurasia. The total production of sugar in China, most of which was internally consumed, was about the same (250,000 tons per year) as the entire output of sugar reaching the world market in the year 1800, which we may roughly equate to Europe's consumption. Indeed, the per capita consumption of sugar in pre-industrial China was about 2 pounds per year, quite in line with that of France at 2.2 pounds per year.²⁷

Sugar production in China was at least as labour-intensive as in the Americas. The major labour-saving innovation in pre-industrial sugar production, the vertical-roller mill for crushing the cane, was most likely an American invention later adopted in China. Worthy of notice is the fact that China employed cheaper and less advanced versions of this key piece of equipment, essentially choosing a more labour-intensive mix of production factors.²⁸ Thus, a technologically advanced society such as Qing China or Mughal India would have found it profitable to exchange manufactures for slaves to

²⁵ Bear in mind that the pound contained 240 pence before the adoption of the decimal system in 1971. Twelve pence made a shilling, and twenty shillings made a pound.

²⁶ Mintz (1985, p.23).

²⁷ Mazumdar (1998, p. 49).

²⁸ For instance, China used two-roller mills instead of the better performing three-roller ones and used animal power to operate them instead of water power; see Mazumdar (1998, pp. 138 and 171-172).

be used in sugar production. Trade was commonplace between the different parts of Asia and Africa, and middlemen such as Muslim and indeed European seafarers would have been quick to exploit such a market. Why did we not observe this trade at all?

A first plausible explanation lays in the way that sugar and other crops' production was organized in the Americas as opposed to Asia. Although the technical aspects of sugar production were quite similar throughout the world the same cannot be said about its institutional aspects. Europe is the only major region of Eurasia where the absence of tropical climate makes sugar production difficult.²⁹ Tropical lands came under European control in the early 16th century in unique circumstances: the local population was decimated or, in the case of the Caribbean, exterminated, and all previous claims to the land disappeared. The new lands were an ocean's away from Europe making migration extremely difficult – and heavily regulated. Europeans were thus able to create a system of large plantations for the production of cash crops unlike the systems of production prevalent elsewhere in the world.

Indeed, in China 'sugarcane was grown on thousands of small landholdings by producers who owned some, if not all, of the land on which they cultivated cane'.³⁰ Chinese data suggests an average plot size of just 5.38 mu, which equals 0.89 acres or 3589 square meters.³¹ These plots would be used for the cultivation of a multitude of crops, sugar cane being just one of them. This was a far cry from the plantation economy of the Caribbean and Brazil. In the Americas, 'The ideal sugar plantation seemed to be about 750 acres, certainly not less than 300 acres. The enterprise was best carried out with, say, 120 slaves, 40 oxen, and a great house in the center, surrounded by the specialist buildings and slaves' quarters'.³² In Barbados, a small island of the Lesser Antilles where plantations should have been considerably smaller than in the Greater Antilles or Brazil, a median plantation size of 220 acres has been reported.³³

²⁹ Difficult, but of course not impossible. Sugar was grown in Mediterranean islands such as Cyprus or Sicily and in the south of Spain since the Middle Ages. But the climate of the Caribbean and northeastern Brazil is far more adequate for sugar cane and quickly replaced these earlier places of production. See Mintz (1985) and Solow (1987).

³⁰ Mazumdar (1998, p. 2).

³¹ Mazumdar (1998, p. 232).

³² Thomas (1997, p. 136).

³³ Klein (2010, p. 32).

The small scale of Chinese farms would have made it difficult to engage in expensive and indivisible capital investments, such as the acquisition of a slave. Assuming constant returns to scale, Thomas' ideal sugar plantation would have employed one slave per 6.25 acres. An average Chinese plot, even if entirely dedicated to sugar cane, would then require one seventh of a slave's labour. Pooling resources among several producers to "share" a slave may imply large transaction costs rendering the whole operation uneconomical. Incidentally, this may also explain why China used smaller and less costly versions of mills in sugar production.

A second explanation, which can also be applied to all of Asia, would be the large differences in nominal price levels between Asia and Europe. During the early modern period Europeans were constantly amazed by the cheapness of products in Asia. Statements such as Father Diego de Pantoia's, a Jesuit visiting Beijing in 1602, are commonplace: "All things are very cheape, without comparison cheaper than in our Countrey".³⁴ Indeed, when transformed into silver, the basis of most pre-industrial monetary systems, Asian wages and prices are far below those observed in Europe. Robert Allen reports wages for unskilled labour of 3.44 grams of silver per day for Northern Italy and 7.42 grams per day for England; both during the second half of the 18th century. Compare this with an unskilled wage of 1.55 grams of silver per day for China and 0.83 grams for India.³⁵ Goods were similarly cheaper, so standards of living were not necessarily lower, but the Europeans' enthusiasm when encountering Asian markets seems easy to understand. Incidentally, Europe's higher prices were most likely another consequence of its American conquests - the largest silver mines in the world having been found in present-day Bolivia and Mexico.

What is important for us, however, is that these price differences offer a straightforward justification for the absence of African slaves through most of Asia: European demand had rendered them unaffordable. At 1.55 grams of silver per day, and considering that the British pound sterling was worth 120 grams of silver through most of the early modern period, a year's worth of Chinese unskilled labour could be bought for £3.87 - quite in line with the £3.54 derived above for African slave labour. And this is before incorporating the more considerable costs that transportation between Africa and China would entail.

³⁴ Cited in Mazumdar (1998, p. 53).

³⁵ Allen (2005).

Notice, however, that Asians would have been able to offer an attractive price for African slaves in terms of manufactures had the Europeans not been there. This is what standard trade theory would predict given Asia's advanced manufacturing technology. But the situation changes in a world economy where Europeans had a comparative advantage in the production of silver. Europeans could offer a much higher silver price than the Asians, so from an African perspective the most profitable alternative would be to trade slaves for silver with the Europeans and use the resulting gains to buy Asian (and European) manufactures. This is arguably what actually took place, with Europeans acting as intermediaries for Asia's manufactures and being able to offer Africans a direct exchange of slaves for Eurasian manufactures - as best exemplified by the importance of Indian textiles in this context.

To summarize, the present section has advanced several explanations for the characteristics taken by the African slave trade during the early modern period. First, the existence of a large technological gap between Africa and Eurasia in the production of manufactures meant that large gains from trade were to be made if Africans could offer an attractive and tradable product for Eurasian buyers. This product turned out to be slaves. The reason for there being mainly European buyers, and none from other technologically advanced civilizations like China or India, can be understood by analyzing the type of work for which African slaves were an economical solution. As we have argued, nowhere across Eurasia would African slaves have been employed profitably in domestic agriculture or manufacturing; the care and human capital that these activities required would have rendered them too expensive. African slaves were bought as luxury goods in Muslim lands and, on a much larger scale, as raw labour for the production of cash crops in the Americas. Cash crops, and in particular sugar, were produced throughout Asia in large quantities - but under a different organization of production which meant no room for slave labour. Europe's tropical lands were located overseas and Old World diseases had rendered them sparsely settled, conditions which were largely the opposite of what occurred in the rest of Eurasia and led to the creation of a system of plantation agriculture for which slave labour was perfectly adequate. In addition to this, Europeans had an advantage in the production of the global currency of the period, silver, which meant they would outbid Asian buyers if required to.

Put together, the above arguments explain the buyers' side of the market – but what about the sellers' side? Why would only Africa find it profitable to match Europe's demand? We turn to this question in the remainder of the paper.

IV. Why Africa? On the determinants of the supply of slaves

On the face of it, the almost complete dominance of Africa in the provision of slaves over the early modern period should be regarded as surprising. We have established that at the basis of this trade was a large technological gap in manufacturing between European buyers and African sellers. But just as Europe was not the only technologically advanced society of the time, Africa was not the only technologically backward one: Central Asia, Southeast Asia and Eastern Europe could also be described likewise. And indeed, slaves had originated from these regions in earlier times – the very word slave derives from Slavs, the dominant ethnic group of Eastern Europe and the Balkans and subject to enslaving by its western neighbours throughout the Middle Ages. In addition to this, Europe would also have been able to buy slaves from India or China. European manufacturing was probably not in advance with respect to these places, but Europe had a large comparative advantage in the production of silver. Over the three centuries of the early modern period Europeans exchanged mountains of silver against Asian spices and manufactured products, so why not slaves? The wages for Indian and Chinese agricultural labour quoted in the previous section suggest that Europeans could have been able to outbid local landowners, at least in the Indian case.

A potential explanation for this would be transport costs, if we could establish that important savings could be made by buying slaves in African ports as opposed to Asian or Eastern European ones. For the Eastern European option that seems unlikely: a return trip from Western Europe to the eastern Baltic would take just a couple of weeks in the early modern period, to which we would then add an Atlantic crossing of about 2 months. Sailing between Europe and the African trading posts took between 3 and 4 months, and the Atlantic crossing from there a further 2 months – so the total was longer.³⁶

³⁶ Klein (2010, pp. 90 and 95).

More surprising, it is not even certain that Africa would have saved in transport costs with respect to an Asian alternative. Of course, sailing from Europe to Asia and from there to the Americas would have been much longer – about twice as long as the African route – but other elements of the total transport bill would have been lower in Asia. First, the total time between a slaving ship leaving Europe for Africa and its return from the Americas was between 15 and 18 months. Thus, actual navigation was only a part of the total duration of the trip, and the single longest element was the process of buying slaves off the African coast: this would usually take between 5 and 6 months. Slaves arrived from the interior in small numbers so numerous transactions were needed – pooling slaves at the coast waiting for European buyers would have increased their cost substantially. The process of buying slaves should have been faster in Asia because a higher population density would translate into a larger flow of slaves per unit of time. For instance, India’s population in the year 1700 was about three times that of sub-Saharan Africa for an area that is about six times smaller.³⁷ And in any case, waiting at the African coast was a particularly costly operation given the notoriously high risk of sickness to both crew and slaves. The more salubrious Asian environment would have saved on these costs.

A second, even more significant element was that buying slaves in Asia would have saved on internal transport costs – the transport of slaves from the point of capture to the point of sale. Asian lands are on average closer to the sea and there are many navigable rivers running through the most densely settled areas. Internal transport costs may have been the largest element of the total bill in Africa, for the gruesome reason that between 20 and 40 percent of slaves captured died on their way to the African coast.³⁸ Thus, a shorter internal journey would have reduced costs considerably.³⁹

Finally, we must note that starting in the late 18th century a large number of slaves were shipped to the Americas from the eastern coast of Africa, mainly present-day Mozambique. The area accounted for 14 percent of all African slave exports during the 19th century.⁴⁰ Sailing times would not have

³⁷ Population data from Angus Maddison, area from the World Bank, World Development Indicators online. India’s land area calculated as the sum of India, Pakistan and Bangladesh.

³⁸ Cohn (1998, p. 290).

³⁹ On the other hand, more slaves would have died on board between Asia and America. Mortality on slave ships, however, was relatively smaller: 12 to 16 percent of those boarded would die in the Atlantic crossing (Cohn 1998, p. 290).

⁴⁰ Klein (2010, p. 72).

differed much between Mozambique and India: the crossing of the Indian Ocean could be achieved in about one month by catching the Monsoon winds.

If transport costs do not appear to have been prohibitive, what stopped the rest of the Old World from selling slaves to the Europeans against either manufactures or silver? Nowhere in the world was the legitimacy of slavery much in question before the 19th century; slavery existed everywhere although only in the Americas was most of the economic production in the hands of slaves. Europeans did buy the odd slave in Asian ports, but the practice never expanded. Given that European willingness to buy is not in doubt, the difference with respect to Africa must have lied in the willingness to sell, i.e. in the profitability of the business of slave capture and selling. Why was this business so profitable only in Africa?

The main method for obtaining slaves, in Africa or elsewhere and at all times, was through wars and slave raids – the dividing line between the two being increasingly muddled in early modern Africa. A noteworthy aspect of this process is that slaves were mainly obtained from outside the society of the enslavers. This is a feature of the slave trade that has been regarded as critical in the literature. In the words of Moses Finley, "... the slave was always a deracinated outsider - an outsider first in the sense that he originated from outside the society into which he was introduced as a slave".⁴¹ Absence of kin relations was a fundamental difference between slaves and other forms of labour such as serfs which, although under some form of coercion, had always a social identity and rights that could be upheld.

Slaves, then, were usually outsiders and the concept of an outsider is a cultural one - a person who behaves differently, talks a different language, prays to different gods. In what follows we put forward the following argument: the almost universal practice of not enslaving people who are culturally similar to ourselves together with differences in who was considered culturally similar within Africa and within the rest of the Old World led to smaller costs of slave capturing, and therefore a more profitable slave trade, in the African continent.

⁴¹ Finley (1980, p. 143).

One aspect that set Africa aside from Eurasia during the early modern period was a higher degree of cultural fragmentation. By this we mean that cultural areas, regions within which people would share some essential cultural elements and recognize each other as similar, were smaller in Africa as compared to Eurasia. How this would translate into lower costs for obtaining slaves is not very difficult to see. If we assume, in accordance with Finley, that the enslaving of one's own people was pretty much forbidden in all societies then would-be slave traders need to run their operations against societies other than their own. Eurasia's large cultural areas meant that this required long-distance operations and large-scale military actions, rendering the capture of slaves very costly. Africa's cultural fragmentation, on the other hand, implied that raids of even a few dozen men attacking villages from a nearby region would be a cheap and acceptable way to obtain slaves.

As an example, Christians could enslave Muslims but this happened in large numbers only after major military operations such as the Crusades. In the absence of military conquests on a scale last seen in Europe during the Roman Empire, the only possible way for obtaining slaves regularly in the tens of thousands was by outsourcing the job to another region. Asian societies would not take such job: their cost of obtaining slaves was equally high. Africans, precisely because they did not see other Africans as similar to themselves, were willing to do it at a much lower price.

As it turns out, the literature has uncovered a strong positive correlation between present-day measures of ethnic fractionalization (a good proxy for cultural diversity) and slave exports. The relationship has been found at the level of African countries by Nathan Nunn and for points along the western coast of Africa by Warren Whatley and Rob Gillezeau.⁴² The interpretation given by these authors, however, is the reverse of the one put forward here: they argue that the slave trade led to higher ethnic fractionalization.

In order to decide which of these alternative views is closer to historical reality we would require measures of cultural or ethnic diversity going far into the distant past. Only if we could observe diversity either preceding or following the slave trade would we be able to reach a fully convincing conclusion. Of course, measures of ethnic diversity are only available for the recent past and no new sources should be expected from pre-colonial Africa given the almost complete absence of written

⁴² Nunn (2008) and Whatley and Gillezeau (2011b).

records. Thus, we turn to other forms of evidence to make the case that a high level of cultural fragmentation was a cause, and not a consequence, of the Trans-Atlantic slave trade.

The core of our argument is that Eurasia's comparatively large cultural areas were the result of two mutually reinforcing structures that have proved particularly efficient in giving vast and disparate peoples a common cultural background: the state and religion. Eurasia saw a progressive strengthening of these two structures over the centuries and millennia preceding the Trans-Atlantic slave trade. Africa, on the other hand, did not experience such developments.

States are powerful forces for the spread of cultural elements from their core to the areas they conquer. Even short-lived empires could have long-lasting consequences on the culture of large areas: Alexander's empire did not survive his death in 323 BC but Greek culture was hugely influential from Egypt to Bactria for centuries to come. All of Eurasia's great empires, Rome, China or the Umayyad Caliphate, spread cultural elements through the provinces they conquered.

Moreover, the cultural consequences of state formation are not limited to what we may term high-level cultural practices like the arts and literature - they affect the everyday life of the common people. Sub-state political entities such as bands, tribes and chiefdoms are in a constant state of warfare with each other. States, on the other hand, have an interest in ensuring a certain level of internal peace - if for no other reason than to guarantee the production on which taxes depend and to better direct violence towards external enemies.⁴³ Scholars such as Charles Tilly and Steven Pinker have made the point that, over the very long run, deaths due to homicides (i.e. at the hands of civilians) have decreased enormously - and advance the rise of the state as a major cause.⁴⁴ It seems thus likely that a given population of, say, a few million people, would experience much less internal violence if ruled by a single state rather than by a number of chieftaincies or tribes. In addition to this, trade and communication have always been among the first beneficiaries of state and empire formation. The surge in such peaceful types of interaction, and the decline in violent ones, would naturally lead large populations to see each other as being part of a whole, as "insiders".

⁴³ Olson (2000).

⁴⁴ Tilly (1990, pp. 67-68), Pinker (2011).

As it turns out, states were much less prevalent in Africa south of the Sahara than in any of the core areas of Eurasia. By the year 1500 AD the vast majority of Eurasia's population lived within states, whereas much of Africa was ruled by sub-state entities or by very small states. Only along the Sahel and in the Ethiopian highlands could we find long-lasting political entities roughly comparable to their Eurasian counterparts, and no empire of the magnitude of Rome, China, or the Umayyad Caliphate had ever existed in Africa. The historian of Africa John Thornton is unambiguous on this point: 'one can say with confidence that political fragmentation was the norm in Atlantic Africa. [...] the "typical" Atlantic African probably lived in a state that had absolute sovereignty but controlled a territory not exceeding 1,500 square kilometers [...] it could control as many as 20,000-30,000 people'.⁴⁵

The phenomenon can be illustrated with the help of Figure 2, which uses the index of state development put together by Bockstette, Chanda, and Putterman. The index is calculated for every present-day country and every 50-year period since the year 0 AD until the year 1950 AD, and takes values between 0 and 50 - larger values denote that larger fractions of the territory in question are ruled by a state.⁴⁶ We compute simple averages for Sub-Saharan Africa and for the four main Eurasian regions of Europe (where we include Eastern Europe, Russia and the Caucasus), the Muslim World (from Morocco to Central Asia), the Indian Subcontinent and China. The overall pattern is, we believe, very clear. States are rare in Africa over the last two millennia, and particularly so in the 1500 years before the beginning of the Trans-Atlantic slave trade when the index is well below a value of 10 for most of the period. Most of Eurasia, on the other hand, has been ruled by states over this period - with China leading the way and Europe being the laggard given the relative retard of Eastern Europe.

[Figure 2]

Like I do here, Warren Whatley and Rob Gillezeau argue that states foster cultural and ethnic homogenization. Where I differ, however, is by stressing that small and in-existent states clearly precede the rise of the early modern slave trade whereas Whatley and Gillezeau see weak states as a consequence of the slave trade. In the words of these authors, 'increase in demand price [of

⁴⁵ Thornton (1998, p. 105).

⁴⁶ Bockstette et al. (2002). The data are available at http://www.econ.brown.edu/fac/Louis_Putterman/.

slaves] reduce the incentive to build states and increase the incentive to raid for slaves. The immediate effect is smaller states and a greater number of independent villages'.⁴⁷ But the evidence suggests otherwise. Another look at Figure 2 makes clear that state formation was in no way reversed, not even slowed down, with the development of the Trans-Atlantic slave trade. Quite to the contrary, state formation in Africa appears to accelerate from the 15th century onwards and does not decrease at any point until the 20th century. Indeed, arguments can be made for the slave trade to foster, not hamper, state formation. For one, states depend on taxable sources of revenue which were scarce in Africa. Slave exports were ideal for this purpose, and the literature makes clear that a profusion of taxes were paid by European buyers: a royal tax on the right to trade, payments for handling transactions, payments for official interpreters, privilege prices on royal slaves, and a final export tax.⁴⁸

States, however, are not the whole story. Some regions in Europe were divided among a myriad of very small states, like Germany and Italy before the 1870s, but slavery was absent in them like everywhere else in Europe. And in general we find that European states fiercely waged war against each other yet enslavement was not an acceptable treatment of conquered peoples or war prisoners. The reason, of course, was that Europeans belonged to a common cultural community which crossed political boundaries - Christianity.

The Christian world was just one of a few major cultural areas where religion or a system of philosophical thought provided common cultural practices to a large number of people. Fasting and prayer could be observed in Muslim lands from Marrakesh to Samarkand, in a way that every devout Muslim would have found recognizable. There were periods over the last 22 centuries in which China was not a unified political entity, but arguably the cultural package of Confucianism, Buddhism and Taoism that serves as China's religion was not destroyed during those times. Buddhism was also practised by millions of Asians outside China, just as Hinduism was the religion of millions of Indians. Thus, in most parts of Eurasia an elaborate religion or system of thought gave large numbers of people a sense of common humanity and relatedness.

⁴⁷ Whatley and Gillezeau (2011b, p. 573).

⁴⁸ Klein (2010, p. 106).

Religion and the state reinforced each other: kings and emperors benefited from the legitimacy that only religious authorities could give while organized religions could expand and perpetuate themselves by becoming the official credo of a state. A people united by a common political entity and a common religion proved to be a remarkable military force, as best exemplified by the rise of Islam. It is perhaps precisely because of the paucity of states that none of the great Eurasian religions or belief systems managed to penetrate Africa beyond a belt of lands south of the Sahara and on its Indian Ocean coast. Indeed, the regions of state formation and the regions adopting Eurasian religions overlap each other very well on African soil: Abyssinia and the Nubian kingdoms were Christian, while the many kingdoms of the Sahel and the trading emporiums of East Africa were all Muslim. The rest of Africa practiced traditional religions, none of which ever reached the scale of Eurasia's major religions.

We may add that the relative absence of the world's major religions in Africa clearly precedes the slave trade and that there is no sign of the slave trade leading to a shift towards less unified religious areas. If anything, the evidence may weakly point in the opposite direction. Islam's advance in the Sahel and Eastern Africa did not reverse during the early modern period. And while Europeans' attempts at Christianization in Africa mostly failed, an important community of Afro-Portuguese merchants professing Catholicism developed along the coasts from Senegambia to Mozambique and at some points in the interior of the continent.

To summarize, states and religions give a common cultural background to people over large regions or continents, making them see each other as similar in some fundamental ways. Over the two millennia that preceded the Trans-Atlantic slave trade we see states and religions unifying the cultural landscape of large regions in Eurasia. Africa by and large did not experience this development. When economic forces created a large demand for slave labour, Africa provided a fertile ground for enslavement.

As an additional test of our thesis, consider that if cultural fragmentation results in low costs for obtaining slaves we would expect to see an active trade in slaves *within* Africa even before the arrival of an external demand from the part of Europeans. As it turns out, historical evidence supports the case. As summarized by Thornton, when referring to Africa before the Trans-Atlantic

slave trade, 'The institution of slavery was widespread in Africa and accepted in all the exporting regions, and the capture, purchase, transport, and sale of slaves was a regular feature of African society'.⁴⁹ It is not clear what the magnitude of this domestic slave trade was, with some experts such as Herbert Klein advancing that it was minor.⁵⁰ But what is clear is that Europeans, who had enslaved each other in large numbers during Roman times, saw the practise progressively shifting to the margins of society during the Middle Ages together with the advance of Christianity. Slavs, who were enslaved and sold to Muslim buyers during their pagan days, were no longer seen as potential slaves by the early modern period. No such development can be observed in Africa, although it must be admitted that our sources for the continent are far poorer.

As a final exercise, we may try to push the causal linkages even further and think about the factors leading Africa into a situation where the expansion of the slave trade seemed almost a natural outcome. Why, indeed, were states and large organized religions so scarce in Africa and therefore cultural areas relatively small? Our preferred answer would be that states and organized religion are endogenous developments to economic and technical progress, and that Africa had been lagging behind in these areas since the dawn of history essentially because of biological and geographic handicaps to agricultural production.

Readers will recognize in the last paragraph the line of argument pioneered by Jared Diamond and a few others before him.⁵¹ Diamond's thesis is that the transition towards agricultural civilizations around the world was heavily conditioned by the biological and geographical endowments of each region. Eurasia was lucky because it was richly endowed in domesticable plants and animals which could support agriculture. Geography meant that the different elements of this winning biological package, first discovered in the Fertile Crescent and China, were able to travel east and west within Eurasia and spread their benefits. In comparison, Africa was double unlucky: it had very few plants and animals that could sustain an agricultural society and its tropical climate meant that it could not import Eurasia's superior lot. As a consequence Africa's transition to agriculture took place later and

⁴⁹ Thornton (1998, p. 97).

⁵⁰ Klein (2010, p. 7).

⁵¹ Diamond (1997) and McNeill (1976). Olsson and Hibbs (2005) and Putterman (2008) offer empirical support for Diamond's thesis.

was more limited in its outcomes: it was just not possible for Africans to develop the type of highly productive agriculture that sustained Eurasia's main civilizations.⁵²

How this constrained the creation of large states and religions is not difficult to fathom. First, agricultural surpluses are necessary for the existence of a class of specialized non-agricultural workers in charge of state administration and religious services. For instance, it is quite probable that Africa had its share of highly inspired and charismatic philosophers or spiritual leaders; the equivalents of the Buddha, Confucius and Jesus. The development of Buddhism, Confucianism and Christianity, however, necessitated much more than a single inspired leader. It was through the work of an army of successors that their initial insights developed into full-scale systems of thoughts and spread to the rest of the population. Such a consistent flow of "religious specialists" is possible only in an environment of continual agricultural surpluses.

A second argument is that under the assumption of a Malthusian regime a more developed agricultural sector implies a larger total population. This increases the number of non-agricultural workers who can then dedicate their lives to the state or religion, and it also makes nation-building and religious teaching easier through higher human densities. Gareth Austin, for instance, emphasizes that one reason for the paucity of states in Africa was that 'low population density made it hard to tie people down, and relatively easy for them to emigrate to avoid taxation or other state demands'.⁵³ Low population densities make for less human interaction, which by itself should result in a less homogenous cultural landscape.

Finally, we may also note that Africa's challenging agricultural environment was also a likely cause of its general technological backwardness, which as we have seen was the first reason why Europeans could exchange manufactures for people. Besides state bureaucrats and religious specialists, non-agricultural workers could also be employed in knowledge creation and transmission. Not only that, but larger populations create more ideas for reasons that are familiar to readers of the endogenous growth literature: more people mean more potential inventors and a larger pool of resources that

⁵² The limits of Diamond's analysis should be recognized: it cannot tell us why some parts of Eurasia ended up better off than others, and it cannot say much about the transition from agricultural to industrial societies.

⁵³ Austin (2008a, p. 1005).

can be invested in research and development. We know from the work of Michael Kremer that, on a global perspective and over the very long run, economic growth has been proportional to total population.⁵⁴

We arrive then to an overall perspective in which the different factors that determined Africa's role as the source of the world's slaves can ultimately be traced to the continent's bad hand played by Mother Nature. Africa's general technological backwardness, and its highly fragmented cultural landscape, can in principle be explained by biological and geographic factors that constrained its agricultural development. In a fascinating twist of history, the development of advanced technologies in manufacturing and long-distance travel by the core regions of Eurasia could have signalled Africa's emergence but instead they led to its doom. There is a priori no reason for Africa's biogeographic conditions to constrain the adoption of manufacturing technologies, and increased contact through long-distance travel would have made this ever more likely. Instead of that, powerful socioeconomic forces dictated the integration of Africa into the world economy as a supplier of slaves and, later, as the target of colonial powers. The outcomes would have long-lasting consequences on African development.⁵⁵

V. Concluding remarks

This paper has put forward a number of explanations for the development of the largest trade in human beings that the world has ever seen, and for the remarkable fact that most of this trade concerned two continents, Europe and Africa, and left the rest of the Old World relatively unaffected. Here we summarize our thesis and add a number of comments.

First, the expansion of the slave trade took place because a civilization with advanced manufacturing technology, namely Europe, found a use for a large amount of raw labour, namely the production of

⁵⁴ Kremer (1993).

⁵⁵ For more on the consequences of colonialism on present-day socioeconomic outcomes see Angeles (2007) and Angeles and Neanidis (2009). As already mentioned, the large literature on institutions and development cited in the introduction has also emphasized the role of colonialism.

sugar and other crops in tropical America. Thus, instead of using its own labour in effort-intensive activities in the Americas, Europe could keep that labour at home producing manufactures which were then exchanged for raw African labour. The condition of a gap in manufacturing technology had been met for centuries between Africa and Eurasia, yet the trade had been limited to the demand for slaves as a luxury product emanating from Muslim lands. Slave labour was uneconomical in most areas of economic production within Eurasia because of the need for careful work and human capital. Although sugar was produced in large quantities in many parts of Asia, only in the Americas do we find production organized around the large plantation model which fits slave labour perfectly.

But if the demand for slave labour emanating from Europe is a necessary ingredient of the story, it is hardly a sufficient one. The argument so far does not imply that Africans would have been willing to incur the costs of slave capture and transportation. Sure, Europeans could offer a better price for each slave in terms of manufactures than was otherwise possible within the continent; but was this price high enough to ensure profits and redirect Africans' resources towards the slave business? We argue that this was the case in Africa and not in any of the other potential candidates for slave exports, and that the reason was lower costs of slave capturing within Africa. We have advanced Africa's cultural fragmentation as an explanation for this, given that slaves were mainly obtained from foreign cultures. Africa's cultural fragmentation would in turn be the outcome of the paucity of large states and the limited penetration of any of the world's major religions

Incidentally, the low cost of slave capturing within Africa also offers an explanation for why indentured servitude never developed as an alternative to slavery. For an African peasant to go into voluntary servitude he would need to be assured of a lifelong income at least as high as the one he earns in Africa. Europeans could have offered this, though the magnitude of the migration would arguably have been smaller than the 12.5 million people of the Trans-Atlantic slave trade. The option never materialized, however, because a cheaper alternative was available. Low costs of slave capturing meant that Europeans could pay African slave traders a price that assured them a profit and yet remained more economical than buying indentured servants. This is in line with African incomes in terms of agricultural goods not being particularly low in international comparison as suggested by the data on human heights. Indeed, once the slave trade became prohibited, further flows of raw labour to the Americas were met largely by indentured servants from India and China,

not from Africa.⁵⁶ One cannot help noting that the Indian and the Chinese were if anything smaller than the average 19th century African, and that land scarcity was certainly a much larger issue in the two Asian giants. Had Africa been more culturally homogenous a very different pattern of migration to the Americas may have developed.

Finally, we would like to remind readers that history is a vast and varied land and that particular counterexamples may be found to every one of the arguments advanced in this paper. For instance, some slaves were obtained from within the society of the enslavers, most notably by judicial process, but wars and raids on outsiders were still the main source. African slaves could perfectly learn the trades performed by European labourers and in the largest cities of Spanish America, where European labourers were not available, they did so. It was still the case, however, that the large majority of slaves were employed as raw labour in plantations. Inversely, some slaves were employed in plantation agriculture in the Muslim world – particularly around the Mediterranean. But the large majority of Muslim slaves were used as skilled workers or luxury goods. Thus, none of our claims should be thought of as valid everywhere and every time, and we are far from pretending as much. Instead, we believe they are reasonable approximations for most cases most of the time, and that as such they offer a coherent explanation for the bulk of the African slave trade.

⁵⁶ One and a half million Indians and half a million Chinese emigrated as indentured labour to European colonies and the United States during the 19th and early 20th centuries. The corresponding number for Africans is 92,000. See Galeson (1998, p. 240).

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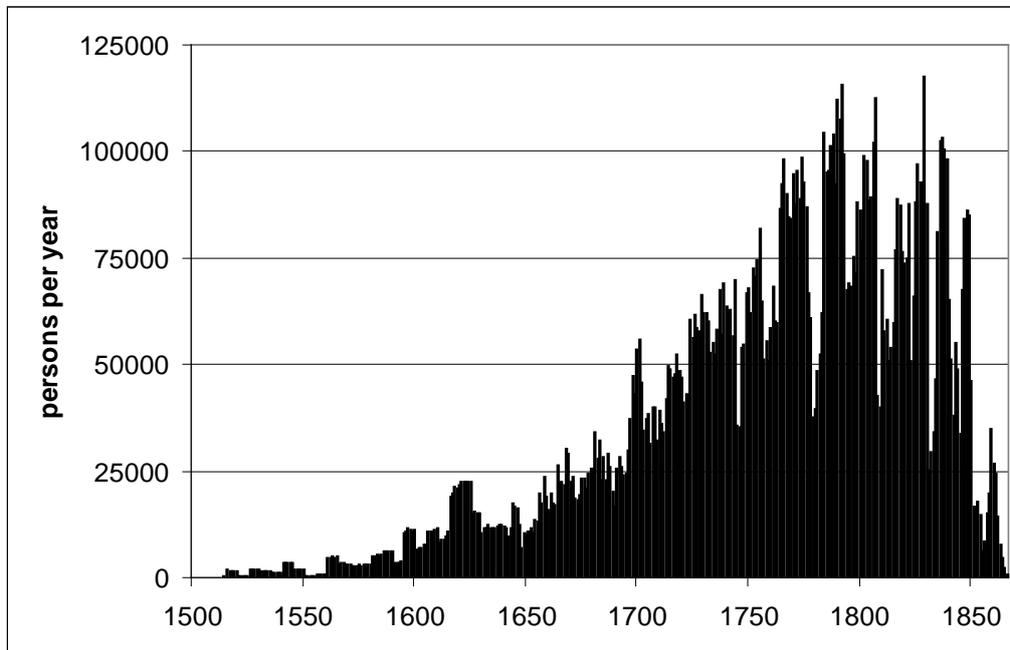
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Figure 1

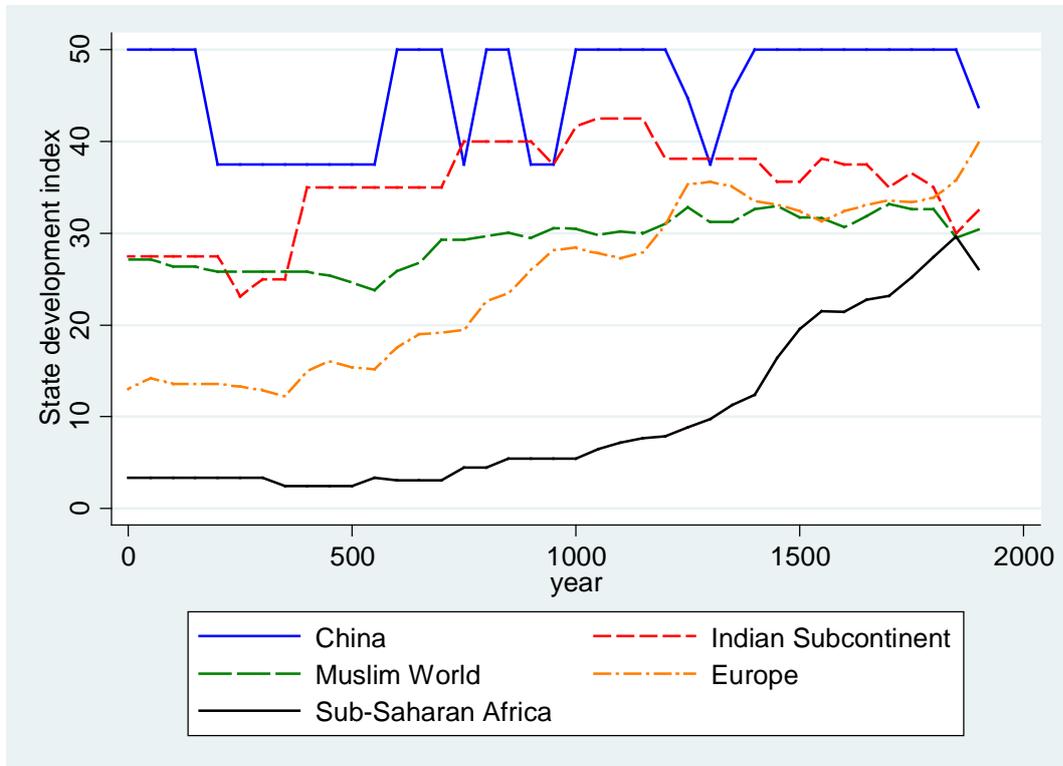
African slaves embarked to the Americas



Source: Trans-Atlantic Slave Trade Database (www.slavevoyages.com). See also Eltis et al. (1999).

Figure 2

State Development in Africa and Eurasia, 0-2000 AD.



Source: Bockstette et al. (2002).