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***'Public Goods' Provision by the English East India Company
1668-1683 Bombay***

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Executive Summary

This paper applies an economic history approach to the study of public goods provision by private actors. As such, its purpose is to both illuminate the experience of Bombay between the years 1668 and 1683 and to contribute to the literature on public goods. Its contribution to the public goods debates is to discuss Tiebout and other theories in the context of early-modern non-democracies.

Introduction:

In modern history, those goods and services which are commonly defined as 'public goods'¹ have been provided by democracies, feudal states, and private organizations. Many private corporations and collectives have pioneered the provision of public goods including security and insurance. Governments have often taken over those responsibilities. Bombay between 1668-1683 was the first land governed by the private English East India Company (EIC) on the Indian subcontinent. The company provided security (external and policing), healthcare, and a legal system; services today referred to as public goods.

When democracies manage the provision of public goods, they typically do so for either electoral or efficiency reasons. The EIC had uniquely commercial reasons for providing public goods in Bombay. This paper discusses the EIC's provision of public goods between 1668-1683. After a review of the institutional history of the period including the preceding time, each of the three 'public goods' is examined in depth. It then places that discussion in the broader context of three questions. ***How did competition between jurisdictions impact economic growth? Why did the EIC provide courts and police in Bombay and why did it work? Why was public goods provision influential in Bombay's EIC policy matrix?***

Historical Background:²

To understand the period of change (1668-1683), it is crucial to discuss the preceding period. Bombay's first European ownership came on 23, December 1534 when it was taken by the Portuguese from the Mahomedan Kings of Gujarat. (Cunha 1900) Written records described it in the period until 1563 as a mere island. (Cunha 1900, p263) Presumably a "mere island" is one with no structures, inhabitants, or commercial activity, to speak of. The Portuguese did not populate Bombay but rather the "village of Mazagon [to the north of Bombay] in the island of Máhim, country of Bassein" became the cassabé (principal place) of the island. Not until 1634 did Bombaim (Portuguese name for Bombay) become the cassabé of the harbor. Antonio Bocarro described it then as a small town or village consisting of eleven Portuguese families. (Cunha 1900, p265)

During the period in which the Portuguese governed Bombay (1534-1665) it was not much physically altered. Portuguese strength in the area stretched from Goa, north to Diu (including Bombaim) (Correia-Afonso 1981, p150) and this strip of small forts was considered their "greatest strength in the Indies." (Newitt 2005, p143) The district officially, however, stretched from Guardafui to Ceylon. (See appendix 1. maps)(Dodwell 1929, p17) The garrison at Bombay had been occupied, by fluctuating numbers of transient soldiers who were called out for plunder and conquest regularly, but no names and few details have lasted for posterity. (Cunha 1900) Missionaries were dispatched to the island who forcefully converted residents, through influence, to Catholicism. Residents were also converted through marriage to Portuguese Sailors and residents. This emphasis on conversion reflects the Portuguese intent to "seek Christians and Spices" in that order, as stated by Vasco de Gama upon his arrival in 1498. (Cunha 1900) Their children who were half Portuguese and half Indian became Catholic and were physically better equipped to survive the harsh climate. This left a sizeable population of 'half-breeds' in Bombay by the 1650s.

The French traveler S. Pechel observed the buildings and Portuguese lifestyle during this time thus, "The Portugueze corrupted by eafe and luxury had funk in indolence, and were regardlefs of every

1 Public Goods. For simplicity, this paper refers to public goods as the security, healthcare, and legal system put in place by the EIC in Bombay between 1668-1683. These goods are arguably not public goods. Nevertheless, because many modern writers have determined them as such, this paper uses that definition. There will be discussion in this paper about whether these services are public goods.

2 Historical background is drawn extensively from period documents and secondary sources based upon those existing documents. This section is based upon work presented in Ganley 2006.

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thing, but what contributed to their pleasure: gardens adorned with their possessions, but fortifications were totally neglected.” (Pechel 1781, p4) A fort was constructed in this period but as Dr. John Fryer noted in 1673, it was “pretty well seated but ill-fortified.” (Keay 1991, p130) There was not a substantial government apparatus during this time but the land was looked after by the owner, the widow Senhora da Ilha of D. Rodrigo de Monçanto. Her right to the possession was enforced by the Bombay outpost and the forces at nearby fortresses in Mazagon and Máhim. ‘Her Bombay’ consisted of coconut gardens and rice fields. It was financed by the ‘bandratal,’ a tax on the right to distil spirit from palm juice and a land tax of 25% of that year’s agricultural production (paid in produce) (Keay 1991, p265) The Portuguese built a fort atop a hill and had raised the population to 10,000 by 1665 but otherwise changed Bombay very little during their 100 year tenure. It was in this condition that Bombay was reluctantly handed over to the English military man Humphrey Cooke in 1665.³ Cooke assumed the Government of Bombay for the Charles II in February of 1665 and this began the English Royal occupation of Bombay.

The “Timeline of Leadership and Ownership until Gerald Aungier” (below) is a discontinuous timeline which displays the leadership and major events which occurred before 1669. The Governorship of Gerald Aungier is the period in which the public goods provision was changed and is therefore the period of interest to us. The *Contested Period* was one of continued Portuguese governing. The *English Period* was one of royal military occupation but no significant alteration to the institutional matrix. Charles II, in the period 1665-1668 was frustrated by expense and no income in Bombay. (Keay 1991) He shrewdly leased it to the London businessmen of the EIC on the condition that they secure it for the crown. It was only when the EIC took over the lease to Bombay that the public goods matrix was altered in a significant way. Because events which affected these stakeholders impacted Bombay’s economic performance and security structure, some important events are highlighted in the following paragraphs.

Timeline 1.⁴

Timeline of Leadership and Ownership until Gerald Aungier								
Years	1534	1661	1662	1665	1666	1667	1668	1669
England	Henry VIII	Charles II 1660-1684						
Mogul Empire	Humayun	Aurangazeb						
Bombay	Portuguese	Contested		English			EIC	
Events	Ownership transferred to Portuguese from Mahomedan Kings of Gujarat	Bombay ceded to English from Portuguese in the dowry of Infanta Catherina upon Marriage to Charles II	Sir Abraham Shipman appointed in March but never governed and died in 1664	Humphrey Cooke assumed government in February from Portuguese landowner Senhora da Ilha	Sir Gervase Lucas took over Bombay and Jailed Cooke (though he escaped to Goa)	Lucas died 21 May succeeded by Henry Gaty on 25 May	Sir George Oxenden became Governor 23 Sept.	14 July Gerald Aungier appointed Governor

* Chart is not continuous between 1534 and 1661. This is the period of Portuguese rule in Bombay

The Dutch East India Company (V.O.C.) continued its pattern of aggression throughout the Aungier period, keeping constant pressure on the English factories in India including Bombay. An attack by the VOC on Bombay was deterred February 20, 1673 by Gerald Aungier’s (Governor of Bombay) newly formed police force and military. The Portuguese were integrated as property-owners in the Bombay community. They had been granted religious freedom (guaranteed by secret clause in the dowry

3 The handover of Bombay took over 3 years and cost the lives of 300-500 men (estimates vary). The Portuguese Governor refused to hand over the port citing discrepancies in the orders, approval from Goa, and border issues. The Portuguese inhabitants were concerned about their land possessions and ability to practice Catholicism.

4 Compiled by the author.

agreement between Portugal and England) and restrained taxation including a 20 year moratorium on property taxes. There were, however, still incidents of stealing (at night) largely blamed on the Portuguese. Having been displaced as rulers was a bone of contention in the years immediately following the hand over. (Cunha 1900)

Both the Maratha and Mogul (neighboring) Kingdoms officially had good relations with the EIC but in practice there were stresses and fractures. The rival kingdoms were constantly at war with one another in the period. (Dodwell 1929, p100) The EIC factory at Surat experienced tremendous pressure as the town was ransacked by Sivaji, sparing the (defended) factory, twice in the period (1664 and 1670). (Dodwell 1929, p100) The insecurity at Surat caused the EIC to route some of its shipping through Bombay. The Mogul King Aurangzib claimed the right to Bombay harbor during his sea battles against the Marathas. (Dodwell 1929, p100) As the rival kingdoms fought, the EIC allowed (did not protest) all ships to winter in its harbor including rival kingdoms and trading companies. This was a diplomatic but tedious arrangement.

Charles II's reign began just five years before the EIC received Bombay's lease from him. The company had very good crown relations which were strengthened by financial entanglements which amounted to £150,000 in the period.⁵ The company favored relations with the Catholic powers rather than the Dutch and this suited Charles II. According to Samuel Pepys, these same preferences created subversion on the English political scene back at home. (Tomalin 2002) Despite turmoil in England, it was the backing of the King that mattered in the East⁶ and therefore his support helped establish the authority of the EIC and its security apparatus in Bombay.

“We are now much set upon the improvement of that our Island,
and do esteem it a place of more consequence than we have formerly done.”

-Company Correspondence⁷

Public Goods Provision in the Period:

The EIC provided tremendous levels of services and employment in Bombay during the period. Therefore, many provisions can be considered public goods, (i.e. provided by the central authority, EIC). This paper examines three services provided by the EIC in this discussion of public goods. Those three provisions are *Security, Healthcare, and a Legal System*. The history of these goods' provisions will be briefly detailed here, followed by a discussion of theory related to their provision.

Security

Security took two forms, internal and external. Internal security consisted of a police force focused on the misdemeanors of residents. External security was exercised through a combination of diplomacy and, what would today be considered a military.

Governor Aungier (also President of Surat) organized a police force under the Subehdars and posted them at important posts on the island including Máhim, Sewri, and Sion. (Edwardes 1923, p2)(See

⁵ The EIC voted 3,000 to Charles II and 1,000 to his brother, the Duke of York on the restoration of the Stuarts in 1660. When Cromwell's charter was replaced in 1661, the EIC voted an additional 10,000 for the crown in the form of a loan. Additional loans were granted along with charters which conferred additional rights to the company in the ensuing years. These charters and loans cemented a likeminded approach to foreign policy and provided the cash-strapped monarch with much needed funds. (Keay 1991, 131-132)

⁶ Royal decree was widely understood and respected by the Moguls and allied trading companies.

⁷ Anderson 1854 p.56

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Map in Appendix 1) The force was originally intended to supplement the military force as required but ended up policing the island. Participation was compulsory for landowners. Aungier did, however, allow “Braminys and Bannians” (Strachey 1916) to be exempted from service upon a cash payment. Most of the police force was made up of Portuguese Eurasians, “Black Christians.” A letter from Aungier and Council to the court of directors dated 15, December 1673, described the police as such “There are also three companies of [police], one at Bombay, one at Máhim, and one at Mazagon, consisting of Portuguese Black Christians...These companies are exercised once a month at least, and *serve as night-watches against surprise and robbery.*” [My italics] The force initially consisted of 300 or 400 men excluding about 100 who paid their way out of service. According to Fryer’s account, “there were also 300 Bandaris (club wielding toddy-tappers, ‘that lookt after the woods of cocoes.’” (Strachey 1916) The force begun with Aungier in the early 1670s would later become the Bombay City Police but their policing duties began at this early stage only occasionally interrupted to supplement the military during an attack. It is likely that land owners would volunteer to defend the island if under attack whether they were in the police force or not. Their participation in defense does not make them any less of a police force. In a letter dated 15, November 1686, from Deputy Governor Sir John Wylorne to Deputy Governor John Wyat, some of their duties were stated thus; “allow no runaway soldiers or others to leave the island, to prevent cattle, corn or provisions being taken out of Bombay and arrest and search any person carrying letters and send him to the Deputy Governor.” (Letter dated 15 Nov. 1686 from Deputy Governor Sir John Wylome to Deputy Governor John Wyat)

“They thought that the best way of securing their little territory was, to increase its military strength, to encourage the growth of its population, and to develop its internal resources.” (Anderson 1854, p57) When the company took over the island, the fort was little more than “a pretty well seated but ill fortified house.” (Fryer 1689) The first priority upon acquisition of Bombay was to fortify this house which had more gardens than armaments, creating a “fort or citadell.” (Foster 1927, p237) This was begun in 1668. Instructions from London ordered the governor, “to contrive the well fortifying and strengthening the place with securitie, without putting us to a needless charge...” (Letter arrived spring 1669, written 24 August, 1668 by Lord Arlington) Due to the increasing power of military technology in the period, the fort had to be continually reinforced. In 1677 the Bombay Generall said in correspondence to London, “the fort almost finished.” (Letter from Bombay Generall January 15, 1667/78) Subservient to the main fortification, small forts with cannons were also located at Mazagam, Sion, Sewri, Máhim, and Warli in Bombay harbor. (Anderson 1854, p58)

Fortifications required soldiers. Aungier set about strengthening his military at faster pace than the fortifications. In 1667 the Dutch threatened Bombay. At that time the garrison only included 285 men including a newly recruited 150 Deccanis. (Cadell 1938, p19) To impress enemies with an appearance of professionalism, despite small numbers, they adopted red uniforms with green facings, similar to the Tangier regiment. (Cadell 1938, p19) The force was enlarged to 3-4 times its 1667 size by 1673. It was composed of “300 Europeans, 400 Topasses, and 300 Bhandaris” when the Dutch again threatened attack. (Cadell 1938, p23) The police force, including those who paid their way out of service, went to the fight commanded by Europeans. A company of 100 were always employed on the harbor “frigatts” to protect against Malabar pirate attacks. (Cadell 1938, p23)

While the security measures were highly successful in warding off predators and fighting them when they attempted landings, discussion of their successes and general effectiveness is outside the scope of this paper. Being an island, Bombay was more easily guarded and protected from attack than mainland cities which helped to maintain relative peace in the period under examination. Its reputation for security likely traveled to the mainland through traders and encouraged potential migrants to relocate in Bombay. While mainland principalities and fortified cities possessed militaries, wars took place and residents felt vulnerable there. This made the relative security of Bombay quite attractive.

Healthcare

Bombay's climate was deadly to the English. Mosquitoes, bad water, and diseases served to end an average Englishman within 3 years of his arrival in Bombay. (Anderson 1854, p62) The EIC under Aungier did everything in its power to combat the unhealthiness of the place, with limited success.

Philip Anderson A.M. described Bombay thusly "the eastern hills...rise in rugged and fantastical shapes one behind another, until at noonday they are lost in misty heat; their feet fringed with palm trees, their summits crowned with primeval forests, or here and there with ruins of ancient fortresses." (Anderson 1854, p50) The large volume of undrinkable standing water on the island contributed to the misty heat. The standing water was also a breeding site for mosquitoes which carried malaria and other blood borne diseases. The fog, 'swamp gasses,' was considered to be harmful to one's health and therefore Governor Gerald Aungier set to destroying the swamps. No medical evidence exists which describes the impact of swamp draining (reclaiming) but David Landes in *The Wealth and Poverty of Nations* explains that when the French drained the swamps in Algeria during the middle 19th century mortality fell by 61%. (Landes 1998, p10) I do not undertake to estimate the impact of this practice in Bombay because measurement is unreliable due to the lack of available information. It is likely, however, that this action did lower the rate of transmission of mosquito carried diseases, as it did in Algeria.

'Cholic' or 'Chinese Death' as the Portuguese called it was a 4-stage killer which caused rapid loss of bodily fluid and then attacked the nervous system. Cholera Morbus (as it would later be called) was ever-present on the island and was only diminished when a hospital was built on the island in 1676. (Fawcett 1936) Other common maladies included, "fluxes, dropsy, scurvy, barbiars or loss of the use of the hands and feet, gout, stone, malignant and putrid fevers." (Fawcett 1936, p62-63) By 1676 the hospital had started to provide residents some improvement in health by separating the ill and giving them the best diagnostic and recovery care available at the time. (Anderson 1854, p63-75) With the decrease in disease transmission and addition of modern health care, Aungier had secured greater health and years of life for residents of the island.

This level of healthcare provision was not so broadly available to residents of mainland communities. It is arguable that the healthcare provided by mainland practitioners was at a higher standard in many situations. Importantly however, it was not available to all residents as it was on Bombay.

Legal System

As the sole provider of the rule of law in Bombay, the EIC set out to create a system that was cost effective, treated all residents (English or otherwise) equally, and encouraged mutually beneficial transactions between all transacting on the island. A letter from Lord Arlington in 1668-69 told Aungier to "administer justice qwall to all...and not to be cruell or severe to any." (Letter arrived spring 1669, written 24 August, 1668 by Lord Arlington) The company Directors sent a set of laws to Aungier in 1669. On 2 February of the following year the council decided unanimously to publish a certain portion of these laws for all to see. Consideration was given to the "juncture of the times and the disposition of the people" when deciding what and when to publish. It was decided that "with all convenient speed" the laws "which concerne the Administration of Justice and Common right, the formes of judicature and the penalties appointed against prophaneness, breaches of Morality and Civil Government" in both Portuguese and Cannarin (the coastal dialect of the Maratha Kingdom). (Foster 1927, p2)

With laws came courts (and a courthouse) in Bombay. Painstaking care was taken to ensure that the courts were fair and efficient. A small claims court was set up to inexpensively and quickly sort out commercial and private disagreements. Foster describes it thus: "They then passed orders for the establishment of Courts of Judicature on the Island, which have been already published (Bombay City Gazette ii. 205; Campbell iii. l 2; Malabari, 146-8). The Island was divided into two districts, and

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a court of five justices was to sit in each at least once a week. The respective ‘customers’ or customs-officers of Bombay and Máhim were to preside, and their assistants were natives. Their jurisdiction was limited to civil suits for sums not exceeding 200 xeraphins. Provision was also made for a quorum, the requisite staff, and registers of their proceedings.” (Foster 1927, p2-3) The courts tried not only natives but factors as well. A Bombay Factor, Richard Ball, was charged with murdering a Portuguese-Indian. The courts worked as they were supposed to with a jury composed of English and Portuguese in equal parts. He was acquitted on 4 February 1670. (Fawcett 1936, p1) This trial shows that the judicial system was operating by 1670 and that it even tried the EIC’s factors. Under the Portuguese system, factors who did murder people were often not even sentenced. (Cunha 1900, p94) Having a judicature that is credible and even handed encourages everyone under its umbrella to behave justly and that they are able to trade with the protection of the law. (North and Weingast 1989) It is unclear why Ball was acquitted and we can assume that it is because he was innocent. People accord a legal system with more trust when it contains an appeals process. An appeal to an elder or wiser group of respected people is useful for instilling that trust. In this vein, a superior court was created.

“The Deputy Governor and Council were constituted a superior court for hearing appeals from the two lower courts and with original jurisdiction over suits affecting the company or the government of the Island, or exceeding in value 200 xeraphins.” (Fawcett 1936, p2-3) This appeals option was simultaneously the highest authority in the judiciary and the highest authority (militarily, politically, and in the company) on the island. This lent finality and credibility to verdicts. The combination of judicial, political and commercial powers in one person was also potentially problematic. A governor had incentives not only for justice but to please his most important constituents as was the case in England at the time. (North and Weingast 1989) This could result in politically or commercially motivated verdicts. Fortunately for the residents of Bombay, Aungier’s reputation was that of a just “scrupulously fair” man. (Keay 1991, p137) From his reputation it appears that he sided mostly with fairness and justice.

The establishment of courts of judicature, largely separate from the executive, with an appeals process and a perceived fairness gave the EIC in Bombay a backbone on which to rely for stability. While not without its flaws, this system was instrumental in encouraging migrants to come to Bombay from the hinterland. It also gave traders the feeling of security that they required to contract and transact.

Alternative Political Systems

According to Lizzeri and Persico, in winner-take-all electoral systems the provision of highly desirable public goods will be very inefficiently distributed. (Lizzeri and Persico 2001, p238) What they and most public goods theorists do is focus their research on democracies. While useful for modern topics, their research often does not have practical applications to alternative political systems. In some respects Bombay 1668-1683 resembles a winner take all system and the governor certainly was in charge of distributing highly valuable public goods. Lizzeri and Persico are not discounted because the conditions of their model are not met. In Bombay, Governors were not elected by residents but were appointed by the EIC board in London.

One of the requirements of public goods is that decisions about supply are decided collectively. (Bergstrom and Goodman 1973, p280) If we are to apply this standard to public goods then the services provided in Bombay are not public goods. Does the public need to control services for them to be “public goods?” Is it enough for individuals to be able to influence policy by voting with their feet? If the standard is applied more loosely to include any influence which a populace can exert over the provision of services, then public goods can be provided under a dictatorship or indeed under a private company.

Non-excludability, the concept which has been chipped away is at the root of arguments which suggest that services which can be 'more efficiently provided communally' are public goods. This standard is subject to the technologies of the time and is thus moveable. Because this standard takes no consideration of communal feedback, it allows for public goods to be provided by governments (democratic or not) as well as private groups.

How did competition among jurisdictions impact economic growth?

Competition among communities such as existed in South Asia requires a discussion of Tiebout. Bombay 1668-1683 does not neatly fit into a Tiebout model for several reasons. Bombay was not a jurisdiction of India or of England (as either was then defined). Tiebout's model makes several assumptions including (number 3) "There are a large number of communities in which the consumer-voters may choose to live." (Tiebout 1956, p5) Because Bombay was part of neither 'India' nor 'England' it was not one of said communities. Furthermore, the only method of voting available to residents of Bombay (or South Asia) was "voting with their feet" (i.e. migration).

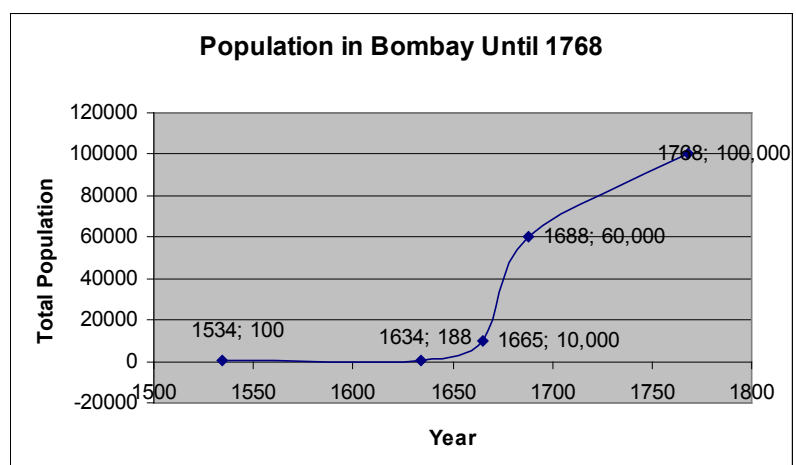
Furthermore, (assumptions 1) "consumer-voters are fully mobile..." and (2) "...have full knowledge of differences among revenue and expenditure patterns..." are problematic. (ibid.) These exceptions to the Tiebout model are not illustrative of a problem in the basic mechanism but rather of degrees of applicability in the early-modern political reality. The Tiebout model, as well as its predecessors and subsequent papers, were designed, generally, for democracies.

Despite these inadequacies, the lessons of the Tiebout model are relevant. The level of public goods provided on Bombay at the price (taxes, tariffs and services) were significantly different from those on the mainland of India. The level of security was perceived to be higher and due to lower perceived levels of extortion, the 'prices' were lower. As predicted by the Tiebout model, this brought migration to Bombay.

Because the sources available to measure the impact of these policies on Bombay are not of a modern standard, alternative indicators must be used. Firstly, the population growth pattern is dramatically upward.

As can be seen in figure 1,⁸ the population expanded dramatically between 1665 and 1688, the period under consideration. Migrants were the primary source of population growth. Birth rates remained the same as earlier periods. This suggests that while communication with neighboring jurisdictions/communities was imperfect, it was well enough intact to inform possible migrants of the living conditions in Bombay. Figure 1 encompasses over 200 years. It is clearly visible that the change in population was not a temporary spike but rather a watershed in the trend.

FIGURE 1



⁸ Graph from Ganley 2006

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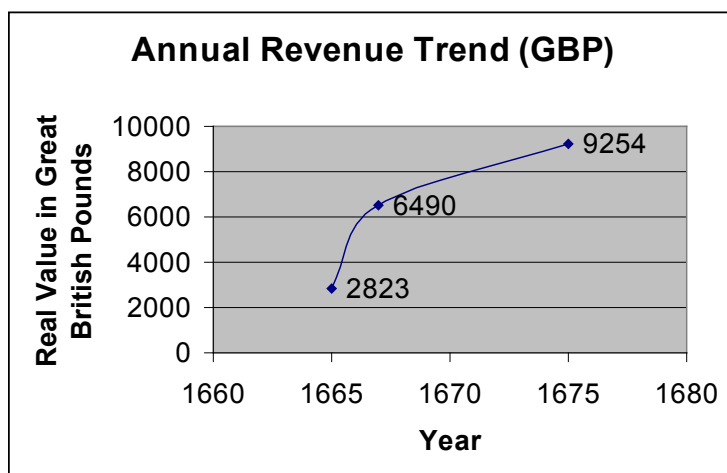
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It is also instructive to examine what occurred to the Bombay economy during the period so see if immigration was beneficial to the existing residents or not. Again, due to sources, no proper GDP measurement can be given with certainty but the growth trends and rates can be shown in three separate areas of the economy. The revenues taken in by the EIC, exports sent from the port of Bombay, and wealth creation figures will now be discussed.

EIC Revenues

The EIC recorded successively higher annual land revenues in Bombay between 1665 and 1683.⁹ It rose by 3.28 times, with an average annual growth rate of 12%,¹⁰ from the time the English took over Bombay in 1665 until the last recorded estimate before Kegwin's rebellion (1683) when the island fell into mutiny. The three data points which exist are from the years 1665, 1667 and 1675. Land revenues are commingled with the duties exacted from tobacco, taverns, customs and cocoanuts. For the first and last data points these are not separable from the estimates without considerable assumptions.¹¹

FIGURE 2



Trade Volumes

Trade was the driving force behind economic growth in Bombay. Figure 3¹² graphically depicts the export trends from Bombay during the period for four commodities. Again, a clear pattern of growth exists in the period under examination.

Wealth Creation

The third measurable variable is wealth creation. Two sources are available for this measurement;

private and court records of assets held by residents, and data collected as the government discussed the pay rates of employees. The selection of persons whose wealth has been measured at two or more points in the period is haphazard and perhaps biased, therefore is not an exact representation of all island residents. Since all examples exhibit a similar pattern they are likely to be representative.

A man called Dudley began in India during 1661 with a capitalization of £1,400 and left India in 1679 with £22,320. (Grassby 1994, p94) According to Grassby, this was typical of company Factors in the period. His gross rate of profit, compounded semi-annually was 30-50%. (Grassby 1994, p95) Dudley represents the class of residents who were in the middle and upper economic brackets. His

9 Data for each year does not exist but a trend is visible. This can be seen in the chart "Annual Revenue Trend (GBP)." The line provided is not the suggested path of data points.

10 The growth between the 1665 data point and the 1675 point is 3.2780729.

11 These assumptions would distort the figures and would not be accurate. By leaving the results commingled, consistent, comparable numbers are accessible.

12 The origin of these figures can be found in appendix 2.

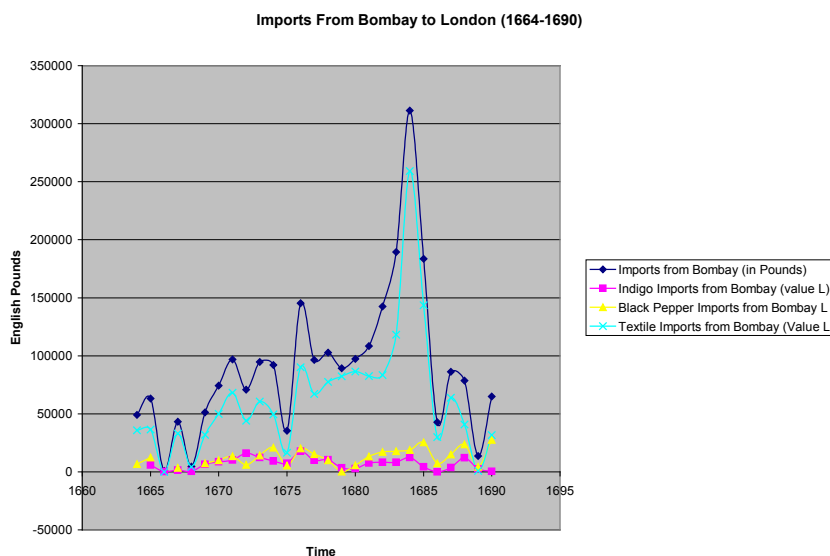


FIGURE 3

ability to amass capital was based upon his ability to trade freely with anyone residing on or visiting Bombay. While he began his stay in Bombay with more capital than an average migrant, the growth rate should (*ceteris paribus*) resemble those of all types of residents engaged in trade.

By examining the trends in economic growth, it becomes clear that its rate is higher than that of population growth which means that GDP was increasing while the population grew, leaving an increasing per capita GDP. If the impact of the population growth was negative, it was not negative enough to counteract what else was occurring on Bombay. This suggests that the population growth had a net positive effect on the economy.

The literature on public goods often discusses optimal levels of the provision of public goods. While this paper does not seek to address this topic directly, the discussion of economic and population growth is meant to show that since productive capacity was 'unlocked' or encouraged by the institutions on Bombay, the level of public goods was likely nearer to optimal than it was prior to the EIC policies being implemented (starting in 1668).

Competition between jurisdictions, as predicted by Brennan and Buchanan, brought smaller government to South Asia. Because the Bombay government was so much more efficient than neighboring jurisdictions, it grew in scope to extract rents after 1683. There is no evidence that sub-optimal levels of service provision were reached as would be predicted by Oates (1972). (Oates and Schwab 1988, p333-334) More efficient service provision occurred and individuals and families 'voted with their fee' as the Tiebout model would predict, though the competition occurred in a haphazard way. Policymakers at the EIC did not devise policy to compete with regional jurisdictions but the result of competition conforms to the model otherwise.

Why did the EIC provide courts and police in Bombay and why did it work?

"...No society can work satisfactorily if it does not have a peaceful order and usually other public goods as well." (Olson 1993, p567) The EIC directors and governors knew this implicitly. Perhaps it was informed by England's recent experience with the interregnum or its unresolved dealings with Ireland. In any case, the EIC sought to first establish security and a system of judicature when it took over Bombay.

Mancur Olson also states that a "stationary bandit" (dictator) will be better off than a "roving bandit." Perhaps this was also part of the EIC's motivation for setting up a government in Bombay. This

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may have been underlying but the record shows that several other factors brought the EIC to govern Bombay with its cocktail of public goods. The EIC was having difficulty obtaining and maintaining fortified trading posts in the 'East Indies.' When Charles II offered Bombay to them, it seemed like a low value property in a high value neighborhood. They therefore took it with the intention that it would be an entrepôt and trading point in the region. In order for Bombay to function in that way the EIC knew that it needed to be protected. This and the order from Charles II to 'hold the island' was all the impetus that the company needed to establish the aforementioned external security institutions.

The island was inhabited by 10,000 natives and Portuguese when the EIC arrived. In recognition of this, the London directors sent laws to the Governor of Bombay with which he was to govern the occupants. By necessity the Governor set up a judicial system to administer these laws.

Laws and courts were not new to the subcontinent but under the EIC, laws were enforced more equally over residents than under the Portuguese. Evidence suggests that these courts were less prone to influence than those in the Maratha and Mogul Kingdoms. By comparison, Bombay appeared to be a fair and just place. Furthermore, this perception of fairness in trials did not create hostility among the residents of Bombay which meant that more capital was freed for commercial pursuits and less was required for policing and jailing. Crime was also kept down by co-opting property owners into the police force. This created a class of property owner-policemen who were engaged to ensure the stability and security of property rights on Bombay. "...Obedience to law is not taken for granted, and public and private resources are generally spent in order both to prevent offences and to apprehend offenders." (Becker 1968, p169) These measures were taken to encourage obedience to the laws so that the costs of governing Bombay could be minimized.

As Gary Becker states in "Crime and Punishment: An Economic Approach" 1968, "optimal policies to combat illegal behavior are part of an optimal allocation of resources." It is impossible to say whether the EIC had an 'optimal' policy to combat illegal behavior but what is clear is that the company attempted to lower security costs by aligning the interests of land owners, making a clear declaration of laws, and providing a trustworthy judicial system. Furthermore, the EIC raised the cost of committing crimes against residents and the EIC itself which acted as a deterrent to crime on an individual level. (Polinsky and Shavell 2000, p47) What can be said with some certainty is that the system put in place was preferred by 50,000 migrants in the period 1668-1683.

Why was public goods provision influential in Bombay's EIC policy matrix?

As problematic as the term 'public goods' is, it is clear that the EIC provided services to all residents of Bombay. These were paid through general taxation. This is why security, healthcare and a legal system are broadly classified as public goods for the utility of this paper. Both security and healthcare were simultaneously provided on Bombay in the private sector but on a very small scale. Even those who used private resources only used them to supplement the resources provided by the EIC to the whole island.

The EIC provision of these 'goods' was influential in the decisions of migrants who decided to move to Bombay during the period. It was also instrumental in the daily decision making of commercial agents on Bombay which led to tremendous and sustained economic growth and trade.

Conclusion:

No argument is made here for the optimality of the provision of 'public goods' by the EIC on Bombay between 1668-1683. What has been argued is that a private company chose in the interests of its remote shareholders to provide public goods superior to those offered by nearby principalities. Because of the chosen policy matrix, an influx of migrants established themselves in Bombay. Furthermore, the incentive structure was such that economic growth per capita was maintained at above average levels throughout the period.

Bombay is but one example of a phenomenon which occurs even today. Much like multi-national firms which provide housing, security, healthcare, and food-service in less developed countries, the EIC out-competed its rivals and won 'employees.' This is yet another example of local competition, voting with feet, and the power of competition to provide 'public goods' at prices which agents prefer.

Appendix 1

This is a map of the island of Bombay and the surrounding area in the 17th century.

This is a map of the subcontinent which displays the political boundaries of the existing states at the time.

Appendix 2.

1665 (Portuguese Estimate under "Senhora da Ilha's" ownership)

1667 Figures from a statement of revenues prepared by Sir Gervase Lucas and Henry Gary. From a letter to the King and Secretary of State. 13 xerafins being equivalent to 22s. 6d. The revenues are further broken out as such:

* schedule of payments (rent below)

Mazagon 9300

Mahim 4797

Parel 2377

Vadala 1738

Sion 790

Worli 571

Bombay 6344

Total 25920

(Plus duties)

Tobacco 9550

Taverns 2400

Customs 18000

Cocoanuts 18000

(amt advanced) 1129

Total Xeraphins 75000

1675 Aungier's account of the island's revenues.

(Anderson 1854)



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Sources

*original letters are in the British Library in the following bound volumes.

G/3/1

G/3/2

G/3/3

**These letters were translated from the originals from short-hand to long-hand. The original language was maintained unless illegible (due to age or handwriting). Any errors in transcription are the author's.

Letter arrived spring 1669, written 24 August, 1668 by Lord Arlington, and Gary's letter of 7 Jan 1668.

Bombay General to the Company dated 15th January 1677/8 Received by president: 5th July 1679

Letter titled: The Deputy Governor and Council of Bombay, their Answer to Severall Clauses of the Honourable Company's Letter President Sampson to the President in Surat (sent 15th January 1677/8) Received President 5th July 1679

Figures for trade came from the India Office Records at the British Library in the Accountant General's Department, Series L/AG/1/1/vols. 1-20 and the Bombay Journals and Ledgers, Range 419-420.

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