

SECURITY, THE CENTRAL COMPONENT OF AN EARLY MODERN INSTITUTIONAL
MATRIX;
17TH CENTURY BOMBAY'S ECONOMIC GROWTH¹

Today's policy makers operate under the assumption that it is the role of governments to provide security. Modern governments provide security for persons and property to varying degrees in today's nation-states. In the early modern period, the nation state was not a globally pervasive concept. The nation state and its role as the provider of security was not then automatically prescribed. Many different social organizations sought to provide security in different forms around the world. Feudal systems existed astride groups striving for representation, while 'tribal' organizations governed, perhaps, most of the world's people. It is the purpose of this paper to explore the importance of the security institution within a society's institutional matrix.

In the middle 17th century Bombay changed hands from the Portuguese to the English. Accompanying that transfer was a fundamental institutional change. This paper draws from the centrality of security as an institution in Bombay while governed by the English East India Company between 1665 and 1683. Bombay fostered tremendous economic growth in this period, and an influx of immigration. The English East India Company's 'security plan' boosted security from fear and harm to people and their property. In addition it protected (made more *secure*) free contracting and established itself as a credible, sustainable, and responsible authority. This paper will describe how the company's pursuance of security was fundamental to the aforementioned 'inter-caste' economic growth in Bombay.

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Why examine security? In modern policy making, the question “what laws can be made to ensure the security of citizens without unduly restricting their freedoms?” arises. By examining early modern legal and security institutions we are able to better understand how people respond to differing levels of legislation. The early modern perspective removes some of the variables and assumptions which haunt modern examples, such as modern forms of government and technologies. The purpose of this paper is to examine a specific historical episode which may illuminate the above discourse.

Why examine Bombay? Bombay between 1665 and 1683 both utilized and changed Portuguese policies. In addition it ushered in a new system of government which increased economic growth dramatically. This system of government was more liberal than what existed in England at the time and also in most Indian communities of the period. This paper will show that the increase in security and liberalization of the institutions on the island were correlated and perhaps caused the increase in economic growth. Liberalization allowed residents to live more free lives with respect to religious practices and social hierarchy. For all these reasons, Bombay (1665-1683) is an interesting historical period which can illuminate answers to some of the above questions.

This paper will first provide an historical narrative of the period under examination. Following that will be a discussion of the theory and issues arising from the narrative. The final section will apply the theory to the historical example and discuss its implications and conclusions.

Historical Narrative

This historical narrative contains three sections. The purpose of this structure is to provide the reader with the requisite historical information to understand the changing institutional matrix of Bombay in the middle seventeenth century. The narrative focuses on the security environment and institutions. Other institutions are addressed, but only as they relate to security or related institutions. The first section of the narrative explores the risks perceived by policy makers at the time. The second section describes the EIC responses to those risks and the final section of the narrative explains the effects of the changed institutions.

Risks

Risk is both the “possibility of an adverse outcome and uncertainty over the occurrence, timing, or magnitude of that adverse outcome.”^{II} Predators in many forms were present in and around Bombay in the seventeenth century. Their presence created risks according to the above definition. Risks can bring multi-variant outcomes. For this paper risk will be more broadly defined as “a situation or action wherein two or more outcomes are possible, the particular outcome that will occur is unknown, and at least one of the possibilities is undesired.”^{III}

It is not essential for this analysis to look back at what risks Bombay actually faced but rather it is the risks which islanders thought they faced which are of consequence because those are what policy was designed around. We may now recognize that earthquakes were a risk that could have

^{II} Covello, Vincent; Merkhofer, Miley. Risk Assessment Methods, p.2

^{III} *ibid* p.2

affected residents. Because they did not recognize that risk, they did not prepare for it and the security institution did not address it. The risks which were recognized came from the Dutch, Portuguese, Pirates, Moguls, Marathas, Internal Disorder, Diseases and Crop Devastation. For each of these risks, a measurement of the potential damage was estimated and a security solution was created.^{IV}

A chart of specific risks, solutions, and classifications is included in Appendix 1. The EIC developed standard solutions for different classifications of risk. The specific risks, responses and general policies are discussed in the following section.

Bombay's Risk Environment c1665

To better understand each of these risks, it is helpful to describe the nature of the separate threats. Bombay was transferred peacefully from Portuguese to English (Crown) hands in 1665. The island had been in contested ownership since 1661 when it was gifted to Charles II in the dowry of the Infanta Catherine of Braganza. The handover was contested during these four years by the Portuguese residing in Bombay. Charles II's forces took hold of Bombay for two years then handed Bombay to the EIC in 1668. Bombay became the first Indian land governed by the EIC.

Despite what they believed were clear rights of ownership, the English in India lived with the constant risk of attack throughout the latter 17th century. Gerson da Cunha said that the English

^{IV} A full "Risk and Security Taxonomy" is attached as Appendix 1. This taxonomy itemizes the risks and categorizes them by type, and lists adopted security solutions and assumed results of inaction.

were “much harassed by the Dutch”^V and Samuel Pepys recorded (from London) that there was much talk of the Dutch cutting off all trade and naming themselves, “Lords of the Southern Seas.”^{VI} In 1665 after taking possession of Bombay the Surat Council^{VII} wrote that nine Dutch ships were en route to Bombay with sizeable military strength (2, April). Governor Cooke, of Bombay, wrote back that he would be unable to defend the island because of inadequate funding. On 17 April the Surat Council reported back that the Dutch had been put off by “lateness of year.”^{VIII,IX} This reprieve was fortuitous for Cooke but the Dutch threat was only temporarily put off. Meanwhile the Portuguese to the north (in Salsette), still embittered at the loss of Bombay, prepared for violent conflict with the English. Unlike the English EIC’s commercial orientation, the Portuguese Indian System which governed Bombay before the English was based on “piracy, oppression and native ruin.”^X Sir William Wilson Hunter called their system, “rotten to the core.”^{XI} Similar statements were made by many English and native observers of the Portuguese system in India. Portuguese historians of this period agree that the system prioritized Christian conversion and acquisition of lands above the trade in pepper, other eastern spices, and goods. These Portuguese policy choices, as observed by the highly regarded, Senhor Caetano de Souza, caused natives to flee from acquired lands to escape religious conversion.

^V Cunha, *The Origin of Bombay*, 1900

^{VI} Tomalin, *Pepys*, p.263-272

^{VII} The Surat Presidency held control over Bombay though it had its own governor, until it was made its own presidency in the end of the century.

^{VIII} “lateness of year” refers to the rough seas which precluded efficient and safe transport during the monsoon season.

^{IX} *ibid*

^X Chatterton, *The Old East Indiamen*, p.109

^{XI} *ibid* p.109

The Maratha warriors on the mainland to the East under Sivaji^{XII} much harassed the Europeans' factories located on the mainland and patrolled up and down the coast past Bombay. Likewise the Mogul's appetite for land, gold, and silver, kept them in an aggressive attitude throughout the period.^{XIII} Pirates and interlopers from Arabia and Europe prowled the Arabian Sea plundering unprotected trading ships and ports from Africa to China.^{XIV} Chatterton writes, "if he [EIC Captain] could not meet the pirate on an equal footing the end would come quickly and decisively, for the pirate captains were often enough of British origin and just as fine seamen and fighters as any in the employ of the East India Company."^{XV} The EIC's fears were not merely for loss of booty. Captured persons were often subjected to humiliating and painful rituals such as Captain Sawbridge who, in 1696, had his lips sewn shut. He subsequently died.^{XVI} Piracy was a semi-professional and lucrative business. Pirate Captain John Bowen, circa 1700, captured three East Indiamen under the command of Captain Conway. The ships were plundered and hulls were auctioned ashore within days to three separate buyers.^{XVII} Such was the liquid nature of their cargoes and ships.

Risks came not only from external military opponents but from the land itself. The swampy lands and tidal pools on Bombay produced mosquitoes which carried blood borne diseases (though mosquitoes were not known to be the cause at the time). The water on Bombay and nearby islands (specifically Anjediva where the English soldiers lived while waiting to take possession

^{XII} Sivaji was the warrior leader of the Maratha Kingdom who acquired much land for the Maratha Kingdom in the 17th century.

^{XIII} During this period the Mogul Empire had fallen into decline after reaching its zenith in the first half of the century. It's offensive posturing was in defense of its empire which it began to lose – primarily to the Maratha in the south.

^{XIV} Chatterton, *The Old East Indiamen*, 1914

^{XV} *ibid.*

^{XVI} *ibid* p.300

^{XVII} *ibid* p.292

of Bombay) was toxic to Europeans and caused a great many English deaths. 200-300 deaths were attributed to 'intemperance' and the water, by Hamilton and Fryer during the time when English sailors waited on Anjediva to land at Bombay while landing was negotiated. The fatality rate was 50-75% over 3 years. In Bombay health problems persisted due to both, the aforementioned water, and as Fryer stated, "foul women."^{XVIII} Attributing disease to 'foul women' implies that the intimacy between EIC Factors and resident women left Factors highly susceptible to diseases they would not catch through less intimate contact.

Death and famine ravaged the Indian west coast in the 1630s.^{XIX} The risk of weather abnormalities was always with the EIC as they attempted to make Bombay commercially viable and agriculturally productive.

Additionally, internal disputes caused great risk to the residents and economy of Bombay. Some factors amassed fortunes through allowed and forbidden activities. Others had less opportunity to do so because of capital and unequal distribution of space aboard ships. Small mutinies occurred twice in the period as a result of struggles between the soldiers and the company-men. Governor Aungier was able to quell both occurrences and continue trade, not much interrupted.

Bombay faced many risks. It may appear from the above depiction that everyone around was a source of danger and in many respects that is true. Simultaneously however, the EIC had trading relationships with native residents of India, the Spice Islands, and the Arabian Sea peoples. The

^{XVIII} Keay, *The Honourable Company*, p.135

^{XIX} Keay, *The Honourable Company*, p.116

period 1665-1683 was a relatively peaceful one so the question now before us is, “what response did the EIC make in the face of these risks?”

Responses to Risks

Soon after the EIC took hold of Bombay its second governor, Gerald Aungier, put in place a series of measures meant to minimize the likelihood that risks would harm the island residents and economy. As can be seen in Figure 1 and Appendix 1, risks were categorized and each type of risk was treated with a specific method of prevention. Figure 1 shows the distilled types of risk and the standard method of mitigation/ prevention applied to each type.

Figure 1.

Standard Solutions		
Type of Risk	Internal or External	Adopted Security Solutions
Human	External	Fortification, Military
Human	External Sovereigns	Diplomacy was used with sovereign rulers but not pirates
Human	Internal	Policing, Judiciary, Good Will, Tax Leniency
Environmental	Both	Hospital, Environmental Adaptation, Importation of English Women

The risk of attack by sovereign powers (Dutch, Portuguese, Moguls and Marathas) was great and the method for minimizing that risk was two fold. The method used exclusively for sovereign powers was diplomacy. Governor Aungier, who was simultaneously the President of Surat, engaged in discussion with these powers to minimize risk of attack. During times of war between the English and these powers, diplomacy nearly ceased but communication continued.

The second method of risk minimization with regard to sovereigns was also extended to pirates. That method was fortification. From the English takeover of Bombay, the fort and remote garrisons on Bombay were either strengthened or created.

Fortification could not prevent against turmoil within the colony and therefore Governor Aungier had to apply a different tactic. In this, he made some traditional and some radically new policy choices. The traditional policy was to provide ample food and beer stores for one's men who were charged with guarding the island. Aungier additionally allowed his men almost unlimited private trading. Less traditional was his approach to fostering good will between the EIC and *all* residents of the island.

As the sole provider of the rule of law in Bombay, the EIC set out to create a legal 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."^{XX} 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"

^{XX} Letter arrived spring 1669, written 24 August, 1668 by Lord Arlington.

would be published in both Portuguese and Cannarin (the coastal dialect of the Maratha Kingdom).^{XXI}

With laws came the Bombay courts. 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. The Island was divided into two districts, and a court of five justices was to sit in each at least once a week.^{XXII} Their jurisdiction was limited to civil suits for sums not exceeding 200 xeraphins.^{XXIII} Another court was designated for larger matters and utilized a jury system. The courts tried not only natives but factors as well. A Bombay Factor, Richard Ball, was tried for murdering a Portuguese-Indian. The courts worked as they were supposed to with a jury composed of English and Portuguese in equal parts.^{XXIV,XXV} This trial shows that the judicial system was operating by 1670 and that it tried both EIC factors and natives. Under the Portuguese system, factors who committed murder were often not even sentenced.^{XXVI} This puts the differing systems of ‘justice’ in marked contrast. Having a judicature that is credible and even-handed encourages everyone under its umbrella to behave justly and to trade knowing that they are protected by the system.^{XXVII}

“The Deputy Governor and Council constituted a superior court for hearing appeals from the lower courts and with original jurisdiction over suits affecting the company or the government of

^{XXI} Foster, EFIA 1668-1669, p.2

^{XXII} Later the island was divided into four districts or “hundreds” and two judges was assigned to each post.

^{XXIII} *ibid.* p.2-3

^{XXIV} Fawcett, EFIA Vol. I, p.1

^{XXV} Ball was acquitted on 4 February 1670

^{XXVI} Cunha, *The Origin of Bombay*, p.94

^{XXVII} North, Weingast, *Constitutions and Commitment* 1989

the Island, or exceeding in value 200 xeraphins.”^{XXVIII} 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 would be potentially problematic. A governor would have had incentives not only for justice but to please his most important constituents as was the case in England at the time.^{XXIX} This could result in politically or commercially motivated verdicts. Fortunately for the residents of Bombay, Aungier designated others with legal responsibilities and his reputation was that of a just, “scrupulously fair” man.^{XXX} From his reputation it appears that he governed 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 internal stability. While not without flaws, this system was instrumental in encouraging migrants to come to Bombay from the Indian mainland. It also gave traders the feeling of security that they required to contract and transact.

Finally, the environmental risks which prevailed on Bombay were the risk of a crop failure and disease outbreaks. To prevent against starvation in the case of a crop failure, the EIC maintained healthy trade relationships with producers from the African coast to Japan. Warehouses were built on Bombay which benefited Bombay in trade as well as providing food security. Bombay was said to have an “unhealthyful” climate. The disease climate was dealt with by draining the swamps and building a hospital. While the swamps were drained to eliminate “swamp gasses”

^{XXVIII} Fawcett, *The English Factories in India*, Vol. I p.2-3

^{XXIX} North, Weingast, *Constitutions and Commitment*, 1989

^{XXX} Key, *The Honourable Company*, p.137

which were thought, erroneously, to make people sick, draining had the effect of decreasing mosquito populations which minimized the spread of illness.

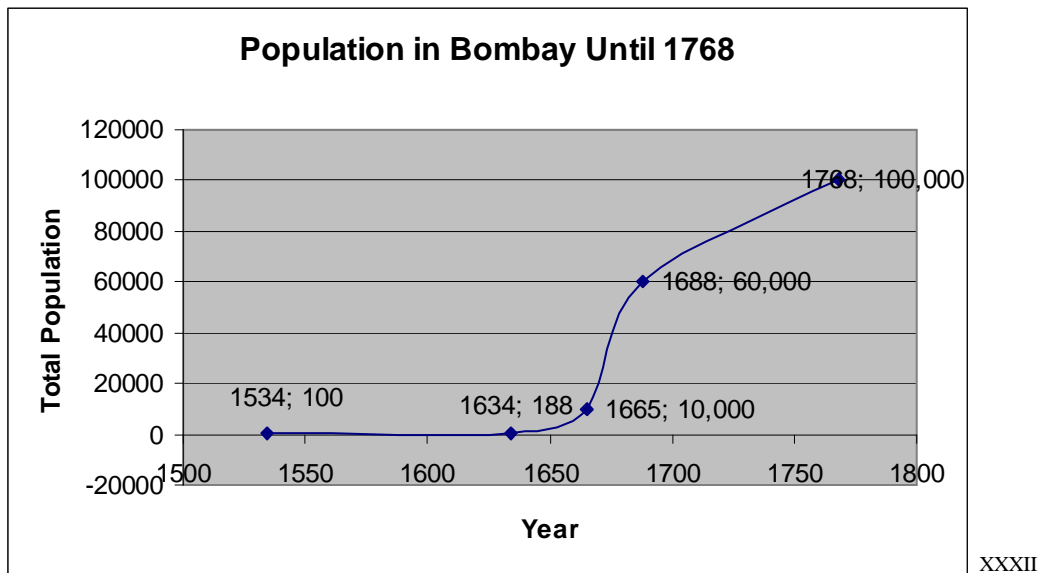
What were the effects of risk minimization policies?

Draining swamps and building a hospital had a marginal effect on people's physical health though it could be argued that the psychic value was measurable.^{xxxI} There was no major food shortage on Bombay during the period. Life expectancies increased as well during the period.

There were two incidents of internal distress. Both times, it was the soldiers who were displeased with their level of compensation vis-à-vis their expenses. Governor Aungier accommodated the soldiers both times. No person died and trade was not disrupted. Residents were generally content and the courts were not busy. The population of Bombay increased dramatically during the period because those in other parts of India heard of the safe and secure environment on Bombay.

The population grew from 10,000 in 1665 when the English arrived, to 60,000 in 1688. The growth is attributed to Bombay's liberal social and commercial structures and relative security.

^{xxxI} Figures do not exist which can prove this but based on other cases, it is a reasonable assumption. Lifespans on Bombay did increase in the period but the cause could be many experiments which were tried including the import of water.

Figure 2.

External fortifications and the established militia served to keep away the Dutch who attempted an attack on 20 February, 1673. A Dutch fleet arrived under Commodore Rickloff Van Goen. He attempted to take Bombay by surprise with 6,000 troops. The Dutch first surveyed Bombay for their attack but, according to Anderson,^{xxxiii} saw 500 English led “Portugall” militiamen, and 300 Bhandaharis armed with clubs. Cadell adds 300 Europeans and 400 Topasses.^{xxxiv} They further saw three English men of war, the largest of which had 30 guns and five French ships also in harbor ready to assist the English. The Dutch then shifted their attack to the Máhim Channel but Aungier shifted his troops there. With a new assessment of their chances, the powerful Dutch fleet turned away and departed.^{xxxv}

^{xxxii} Ganley, Diss. p.60.

^{xxxiii} Anderson, EIWI p.59.

^{xxxiv} Cadell, History of the Bombay Army. p.23.

^{xxxv} Anderson, EIWI, p.59.

Not only were fortifications effective at repelling potential invaders but open communication and commercial ties were likely to have played a role. Trade with Bombay increased during the period and in general Bombay's economy grew. Land revenues grew by an average of 12% per year between '65 and '75.^{xxxvi} From '65 to '83 trade increased some 500%.^{xxxvii} Similarly, wealth on the island grew on average between 30-50% semi-annually.

The institutions existing and implemented by the EIC on Bombay between 1665 and 1683 were responsible for the economic growth, population growth, and relatively secure environment.

What follows is a discussion of the theory behind security as an institution.

Theory

As an Historian views a society and the particular way it functions, what is seen is the institutional matrix and actors operating within institutional constraints. That is assuming that the Historian has a fairly complete perspective of the society. Itai Sened of Washington University describes the institutional matrix as “the set of formal and informal institutions that regulate the lives of individuals in society.”^{xxxviii} Its parts may be difficult to discern at first. When separate institutions are revealed, two things become apparent. One is that there are many forces at play in society and in individual decision making. The other is that those forces are interwoven.

The interplay between institutions is observable in the following example. Two common institutions are religion and legal regulation. Central bodies, namely the church and the

^{xxxvi} See Appendix 2a

^{xxxvii} See Appendix 2b

^{xxxviii} Sened, *Institutional Structures*, p3.

government represent those institutions. Despite their physical separation, these institutions are often interwoven. Governments often implement laws which institutionalize elements of the religion. Similarly, the same religion in different countries often has different policies and involves itself more or less with the government. Religion's inter-country differences can be a response to the countries different historical/ formative experiences. Religions and Governments constrain each other. When decision makers in a society are operating, they take into consideration not just individual institutions but the entire institutional matrix. The same decision maker may be more influenced by religion than government in one decision, such as to which charity to donate money. In another decision the government may apply the stronger constraint. In both decisions, however, all institutions are involved either directly or indirectly as the institutions impact each other. This is the phenomenon which creates the 'matrix.'

That matrix will include both formal and informal institutions with varying levels of influence on individual decision makers. Levels of influence depend both upon the decision maker and the decision being made. Decision makers include organizations, leaders in various institutions, and individuals making decisions from the minor to the most influential.

Robert Barro's 1996 cross country study revealed *which institutions mattered* during the period 1960-1990. He found that higher initial schooling and life expectancy, lower fertility, lower government consumption, better maintenance of rule of law, lower inflation, and improvements in terms of trade were the key determinants of economic growth.^{xxxix} He concluded that one of the most powerful determinants of economic growth was "maintenance of rule of law."^{xl} His

^{xxxix} Barro, *Determinants*, p.2.

^{xl} *ibid.* p.72

variable, “lower fertility,” is likely to have had a negative correlation in the 17th century where child labor was acceptable so the variable is disregarded.^{XLI} His other ‘determinants’ fall out of the focus of this paper except for the variable which he concluded was one of the most influential; “rule of law.”

The rule of law is a component of ‘Security,’ the institution. More, perhaps, than other institutions, security has a strong relationship with the other institutions in the matrix; it protects them and the way they operate. What is security? In the context of institutions and policy design, security is a broad concept which encompasses those things which make a member of society feel secure to transact. Before being able to transact, people need to feel that they have a secure environment, which requires *security of person and lifestyle in addition to property and the ability to contract freely*. The Oxford English Dictionary^{XLII} (OED) defines security as both the safeguarding of assets and the person. It also defines security as the “freedom from doubt; confidence, assurance” and the “freedom from care, anxiety or apprehension; a feeling of safety, or freedom from or absence of danger.” “Feeling” is central to this definition. This definition suggests a spectrum of security institutions from weak to strong which can create this feeling. The following definition, this paper’s working definition, invokes a total or strong level of security but is inclusive of the protection of the right to freely contract which has important implications and is perhaps the best definition because of its scope. *Security is the absence of*

^{XLI} This is due to the cost of children rising and the benefit decreasing when they could no longer labor for the family in the 20th century.

^{XLII} OED selected definitions: **1b.** The safety or safeguarding of (the interests of) a state, organization, person, etc., against danger, esp. from espionage or theft; the exercise of measures to this end; (the maintenance of) secrecy about military movements or diplomatic negotiations; in espionage, the maintenance of cover. Hence (with capital initial), a department (in government service, etc.) charged with ensuring this. (This sense tends towards ‘the condition of making secure’.)

2. Freedom from doubt; confidence, assurance. Now chiefly, well-founded confidence, certainty.

3. Freedom from care, anxiety or apprehension; a feeling of safety or freedom from or absence of danger. Formerly often *spec.* (now only *contextually*) culpable absence of anxiety, carelessness.

fear of harm to person, property, and free contracting, as enforced by a credible, sustainable, responsible authority. The inclusion of the freedom to contract shifts the ‘secure state’ from one preventing interaction, to one where freedom to interact is central.

Security institutions are usually formed like most institutions, gradually over time. In some situations, such as the one under examination, a large number of changes occur in a short period. The institution of security has both formal and informal elements to it. The formal are obvious enough in laws, militias, police and a judiciary and can be changed relatively quickly. The informal components include cultural norms constraining the way people treat each other and their property. Informal institutions tend to have ‘deep roots’ and change slowly. Following the initial massive change to the institution of security on Bombay, gradual changes occurred which have modified this institution all the way to the present day. The rapid changes in formal institutions allowed informal institutions to change to adapt to the new ‘rules of the game.’

In 1665, Bombay suffered from a “security vacuum.” A security vacuum is the absence of a credible, responsible, sustainable authority which maintains personal and property rights. Security vacuums can be observed at many points in history as periods of uncertainty and unenforced property rights followed by the arrival of a new security organization. In Bombay that organization was the EIC but in other places it has been the mafia, democratically institutionalized security, private security firms, etc. The vacuum does not always bring forth a credible, responsible, sustainable or amenable institution.

When a security vacuum exists, both economic growth and individual happiness are limited at an unsatisfactory level. The unsatisfactory nature of the security is what triggers a response. That response, be it more democratic or authoritarian, is the creation of some sort of organization which offers security. As in cases where the mafia is the response to a security vacuum, the organization is not responsible to all equally, nor is it amenable and because of those shortfalls, it is not sustainable.^{XLIII} There is no guarantee that a security vacuum will bring about a liberal or sustainable security option. Because these conditions are not met, the happiness and economic growth potential is limited in that society.

Bombay's security vacuum was filled by a liberal, credible, amenable, and sustainable authority which is why the security component of its institutional matrix minimized constraints on personal happiness and economic growth. Company directors and administrators stated that their goal was commercial and that any institutions devised should be for the benefit of trade.^{XLIV} It was to this end that the infrastructural changes were chosen.

Conclusion

1665 Bombay experienced a security vacuum which brought forth a new security institution. Because the EIC's primary goal was to stimulate commerce for the long term, the institution devised was meant to enable commerce through productivity and trade. It is not clear why those particular institutions were devised but for whatever reason they came about, they enabled tremendous stability and economic growth in Bombay for two decades.

^{XLIII} Mafia may arise under other circumstances, outside of a security vacuum as well.

^{XLIV} David, M. D. *Bombay* 1973

The security institution devised was multi-pronged and devised to mitigate risks from people and the environment both within and without the island of Bombay. The plan was simple but sophisticated, centrally controlled and inclusive. While the plan was ordered from the top, agency problems were minimized through liberal economic policies which encouraged investment and mutually beneficial transactions.

In order for a security institution to work well, it should include the judiciary, lawmakers, property rights ownership and free contracting. This paper's scope cannot include a deep analysis of other institutions in the matrix but based on economic and demographic statistics, Bombay's growth was superior to most European and South Asian locales. The purpose of this paper is not comparative but rather a case study of an institutional change which brought economic growth, individual freedoms, property rights, and immigration. It places these changes in the context of the broader idea of a security vacuum and the resultant institutions.

It is important to understand the role of security in the overarching institutional matrix. Robert Barro identified this institution as one of the key determinants of economic growth. While security is but one institution, its role is unique because it protects and enables or constrains the others. In the case of Bombay it enabled great freedom to design other institutions while establishing itself as the only credible authority.

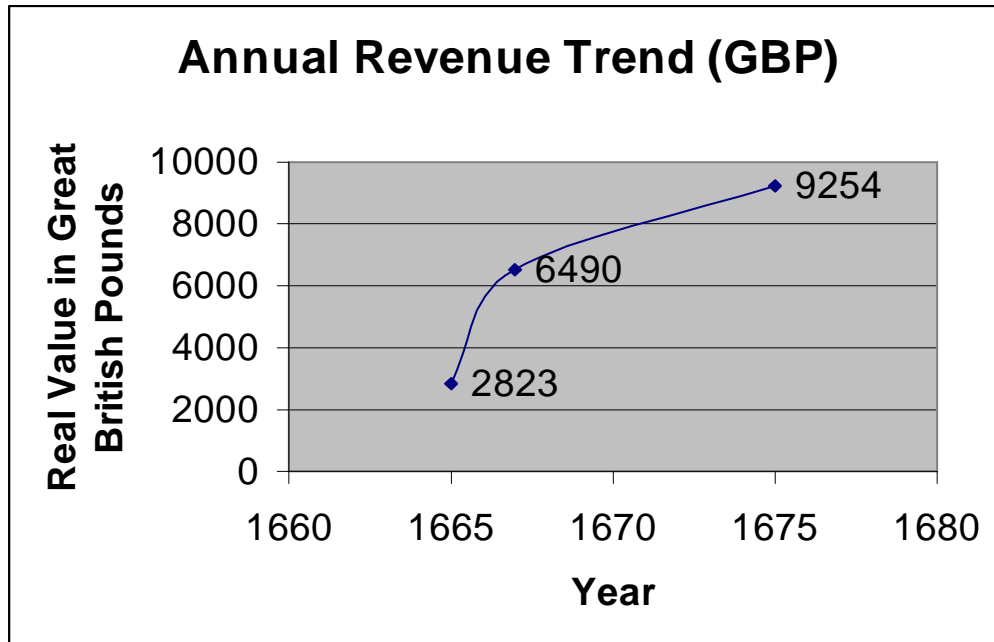
Further research on the role of the security institution both in early modern and modern history will bring about a better understanding of the relationship between security policy and economic

growth. Early modern historical research offers particular insight because it is free from the norms of modern political regimes. This paper can serve as a springboard for further work to be done which investigates the impact of vastly different institutional matrices on economic growth and individual liberty.

Appendix 1.**Risk and Security Taxonomy**

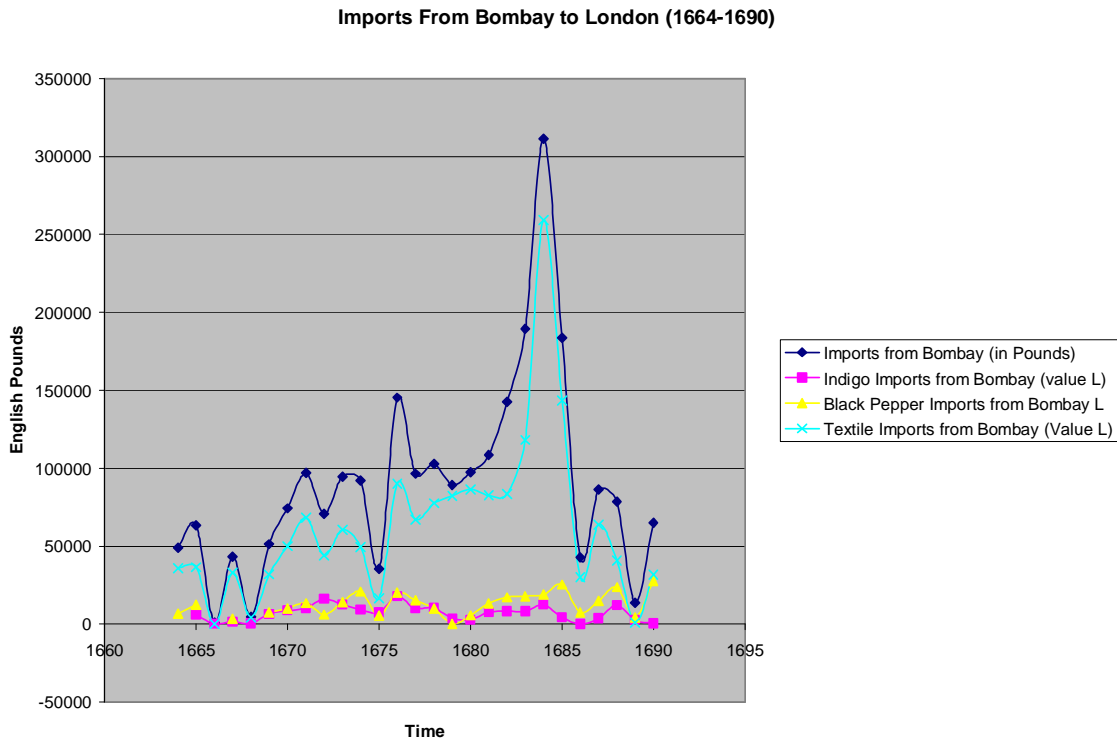
Aggressors (Risks)	Type of Risk	Internal or External	Adopted Security Solutions	Assumed Results of Inaction (minimum) to (maximum)
Dutch	Human	External	Fortification, Military, Diplomacy	Harassment of Trade to Total Loss of Bombay
Portuguese	Human	External and Internal	Fortification, Military, Diplomacy, Policing, Judiciary, Tax Leniency, Good Will	Harassment of Trade to Grievous Usurpation of Trade
Pirates	Human	External	Fortification, Military	Harassment of Trade to Grievous Usurpation of Trade
Mogul	Human	External	Fortification, Military, Diplomacy	Harassment of Trade to Total Loss of Bombay
Maratha	Human	External	Fortification, Military, Diplomacy	Harassment of Trade to Total Loss of Bombay
Internal Disorder	Human	Internal	Policing, Judiciary, Good Will	Disruption of Life/Trade to Total Loss of Bombay
Disease	Environmental	External and Internal	Hospital, Environmental Adaptation, Importation of English Women	Illnesses and Short Life Spans Disrupting Trade to Epidemic Shutdown of Bombay
Natural Disaster	Environmental	External and Internal	Hospital, Increased Trading, Warehousing Supplies	Illnesses and Short Life Spans Disrupting Trade to Shutdown of Bombay

Appendix 2a.



This chart taken from the Author's MSc. Dissertation at the London School of Economics p.33 (2006)

Appendix 2b.



This chart taken from the Author's MSc. Dissertation at the London School of Economics p.36 (2006)

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**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.

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