

# UC Riverside

## UC Riverside Electronic Theses and Dissertations

### Title

Where the Runners Went: British Motivations Behind Postal Policy and Allocation in Colonial India

### Permalink

<https://escholarship.org/uc/item/2qx3140h>

### Author

Bharat, Sheetal

### Publication Date

2012

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA  
RIVERSIDE

Where the Runners Went:  
British Motivations Behind Postal Policy and Allocation in Colonial India

A Dissertation submitted in partial satisfaction  
of the requirements for the degree of

Doctor of Philosophy

in

Economics

by

Sheetal Bharat

June 2012

Dissertation Committee:

Prof. Susan Carter, Chairperson

Prof. Gary Dymski

Prof. Anil Deolalikar

Prof. Richard Sutch

The Dissertation of Sheetal Bharat is approved:

---

---

---

---

Committee Chairperson

University of California, Riverside

## ACKNOWLEDGEMENTS

There are several people I want to thank for helping me through the five years of my doctoral studies. I am deeply grateful to Professor Susan Carter and Professor Richard Sutch for taking me with them to conferences in the first year as soon as I expressed an interest in economic history and for drawing out my fledgling interest in the subject through their fascinating classes in the second year. Professor Carter kept me motivated and on track – the help she extended me was more than what I expected and what I deserve. Professor Gary Dymski, in the short while that we interacted, was immensely encouraging. Our discussions on Indian economic history and economics in general were fascinating and brought up many new ideas. Professor Anil Deolalikar gave me a lot of time in spite of his busy schedule and supported me untiringly.

My research started with generous data collection grants from the All-University of California Group for Economic History. The opportunity to present at four of their conferences and get honest feedback from stalwarts in the field of economic history did a lot to improve my research and my confidence. Other grants from the UCR Economics Department, Graduate Division and Graduate Students Association helped with further data collection and conference related travels.

Friends in the UCR Economics Department have been constant companions through the difficult first year of the PhD and after. Geoff, Vilma, Maithili and Professor Todd Sorensen often answered my little questions about Stata. Sarah,

Sharmaji, Monica, Farhan, Uday, Aparajita, Indrani, Venoo and Gerald have been supportive by listening to my early research ideas and giving feedback.

Nitya Nanda, always my best interest in mind, introduced me to Professor Rakesh Batabyal from the Jawaharlal Nehru University with the intention of expanding my view of Indian economic history. Professor Batabyal was generous with his time during my visit to Delhi. My introductory chapter greatly benefitted from our lengthy discussion of history and politics, and from his reading recommendations – they helped me place my research in the larger Indian economic history literature. Chinmany Tumbe put me in touch with some important aspects of the migration literature.

During my data collection efforts, the staff in the British Library's Asian and African Studies Reading Room helped me make the best use of my limited time and resources. Later, my cousin Dharini very kindly spent a whole day at the Library copying more material for me. The librarians and other staff at the Gokhale Institute of Politics and Economics, Pune, the National Library, Kolkata and the National Archives, New Delhi assisted with getting membership and accessing material quickly.

Sujit Choudhury, Nilshikha Das and Mintu Nath, from PAN Networks Pvt. Ltd. Kolkata, have been extraordinarily patient with my several requests for maps and frequent changes in them. Professor Tahir Andrabi got vast amounts of data digitised for me, saving me months of work. Siddharth Pai introduced me to pivot tables – a tool that greatly streamlined my data cleaning process. Bill Strossman of

the UCR Computing and Communications Department gave me access to the campus grid. My husband, Narayan helped me with code.

My family was deeply supportive at every stage, even at times when I was doubtful. Ritu guided me with better writing style and better organisation of material in my dissertation. I have benefitted from the good wishes and prayers of my parents, grandmother, parents-in-law and grand parents-in-law. Narayan helped me manage my deadlines with ease during the last few months by entirely taking over household chores. He helped me arrive at important decisions this past year and has been supportive in every way.

I, like many graduate students, have been through phases of doubt. The help I have received from all these people and others has only strengthened me, but any inadequacies or errors in my work are my responsibility alone.

## ABSTRACT OF THE DISSERTATION

Where the Runners Went:  
British Motivations Behind Postal Policy and Allocation in Colonial India

by

Sheetal Bharat

Doctor of Philosophy, Graduate program in Economics  
University of California, Riverside, June 2012  
Prof. Susan Carter, Chairperson

British presence has had a profound influence on economic development in British and independent India, and the debate on the nature of this influence has been raging for decades. At one end is the imperialist view that India benefitted from British rule and at the other is the nationalist view that India is still struggling from the burden of misrule. This debate has been enriched by in-depth research on the railways, among other topics; yet the closely related postal network has received no attention.

Since part of the disagreement in this debate stems from different perceptions of intention, I approach the question by asking what effects the British intended the post to have. I use economic theory to propose, *a priori*, three motives for a state establishing postal communication – political, commercial and welfare, and some postal characteristics that serve as evidence for each. The railway

literature too attributes the construction of railway lines to these three motives.

Using newly collected and digitised data on post office locations and policy, I show that the British did indeed have these three motives for establishing and expanding postal communication in India.

Presentation of evidence is divided in two – Poona district in Bombay province, and the whole Indian subcontinent. I compare the allocation of post offices in Poona in 1881 with a hypothetical benevolent social planner's network, which ensures that post offices are as near as possible to as many people as possible. Differences that emerge are easily explained by the three motives. A probit model shows what village characteristics are strongest predictors of the presence of post offices.

A detailed qualitative discussion of the evidence for the subcontinent permits an evaluation of the relative importance of the three motives. Since the British engaged in trade with India and also governed India, the political and commercial motives were important and linked. The welfare role of the post, though genuine, came later as a by-product of the network already established for political and commercial reasons. The service-for-the-people role of the post was secondary to its tool-for-governance role, both temporally, and in terms of importance.



## TABLE OF CONTENTS

1. INTRODUCTION .....	1
2. ECONOMICS OF THE POSTAL SYSTEM .....	9
3. HISTORICAL BACKGROUND .....	39
4. LITERATURE REVIEW .....	48
5. DATA.....	53
6. IN POONA DISTRICT OF BOMBAY PROVINCE.....	56
Model to determine an “ideal” postal network .....	57
<i>Assumptions</i> .....	58
<i>Data</i> .....	63
<i>The social planner’s model</i> .....	64
<i>Problem of incomplete data</i> .....	66
<i>Results and comparison</i> .....	71
<i>A probit approach</i> .....	73
<i>Sub-divisional analysis</i> .....	79
Growth of Poona’s Postal Network .....	83
<i>Growth from 1881 to 1890</i> .....	83
<i>Growth from 1890 to 1899</i> .....	85
<i>Growth from 1899 to 1911</i> .....	86

<i>The broad pattern</i> .....	87
7. IN THE INDIAN SUBCONTINENT .....	97
Political motive .....	97
Commercial motive.....	120
Welfare motive .....	145
8. CONCLUSION .....	185
REFERENCES .....	203

## LIST OF FIGURES

Figure 2.1: Average costs of different modes of long distance communication.....	13
Figure 2.2: Pricing in a monopoly market for an excludable divisible public good .....	28
Figure 6.1a: Shares of villages in Poona district, by population size, that are included in the social planner's model .....	69
Figure 6.1b: Distinguishing villages that got assigned post offices by the social planner from those that did not .....	69
Figure 7.1: Number of post offices in British India from 1800 to 1917 .....	105
Figure 7.2: Post office finances from 1782 to 1917 .....	108
Figure 7.3: Literacy in British provinces and native states in 1911 .....	114
Figure 7.4: Newspaper postage for different weight ranges from 1854 to 1908 .....	116
Figure 7.5: Newspaper circulation in major provinces from 1861 to 1911.....	118
Figure 7.6: Opium finances from 1782 to 1902 .....	132
Figure 7.7: Money orders and telegraphic money orders sent by and receive in some provinces in 1901-2 .....	141
Figure 7.8: Money orders and telegraphic money orders per capita sent by and received in some provinces in 1901-2 .....	142
Figure 7.9: Cross country comparison of postage on single letters around 1850.....	147
Figure 7.10: Real postage in India in terms of wheat .....	149

Figure 7.11: Use of postal services from 1855 to 1917 .....	151
Figure 7.12: Numbers and average values of postal money orders from 1881 to 1916 .....	157
Figure 7.13: Numbers and average values of revenue money orders from 1885 to 1916 .....	158
Figure 7.14: Numbers and average values of rent money orders from 1887 to 1916 .....	158
Figure 7.15: Numbers and average balance of postal savings bank accounts from 1883 to 1918 .....	159
Figure 7.16: Births and deaths per thousand population between 1901 and 1910 .....	162
Figure 7.17: Relation between postal and population densities in British districts from 1881 to 1911 .....	165
Figure 8.1: Postal services in India from 1855 to 1993.....	201

## LIST OF TABLES

Table 2.1: Pure and impure, public and private goods.....	24
Table 6.1: Summary of village population data and model results.....	71
Table 6.2: Comparison between Poona's and the social planner's networks.....	72
Table 6.3: Predicted probability of the presence of post offices in villages in Poona district in 1881 .....	76
Table 6.A: Summary statistics of included and missing village data for Poona district .....	96
Table 7.1: Value of agricultural output and produce per head in British Indian provinces in the 1860s .....	130
Table 7.2: British and Indian Exports to China from 1763 to 1833.....	131
Table 7.3: Region-wise break-up of Chettiar working capital around 1929-31 .....	140
Table 8.1: Summary of evidence.....	190

## LIST OF MAPS

Map 6.1: Poona district map marked with 100 villages in eight subdivisions included in the model .....	89
Map 6.2a: Poona district post office network in 1881 .....	90
Map 6.2b: Social planner's post office map .....	91
Map 6.3a: Growth of Poona's postal network from 1881 to 1890 .....	92
Map 6.3b: Growth of Poona's postal network from 1890 to 1899 .....	93
Map 6.3c: Growth of Poona's postal network from 1899 to 1911.....	94
Map 6.4: The broad pattern .....	95
Map 7.1: Main currents of inter-provincial migration as of 1911 .....	139
Map 7.2a: Post office allocation in Bengal Presidency in 1800.....	170
Map 7.2b: Post office allocation in India in 1830 .....	171
Map 7.3a: District post office density in India in 1881 .....	173
Map 7.3b: District post office density in India in 1890.....	174
Map 7.3c: District post office density in India in 1899 .....	175
Map 7.3d: District post office density in India in 1911.....	176
Map 7.4: District population density in 163 districts in 1911.....	178
Map 7.5a: Postal density in the British districts of Bombay province in 1881 .....	180
Map 7.5b: Postal density in the British districts of Bombay province in 1890.....	181

Map 7.5c: Postal density in the British districts of Bombay province in 1899 .....182

Map 7.5d: Postal density in the British districts of Bombay province in 1911.....183

*“No doubt political necessities were behind the creation of the post”*

*-- Eugène Vaillé<sup>1</sup>*

## 1. INTRODUCTION

British rule had a profound influence on economic development in India. About this, there is no doubt. The debate, however, on the nature of this influence, has been raging for decades. This research uses agricultural and manufacturing output and efficiency, trade, railways, etc. to answer this larger question of British influence on India's economy. This paper aims to shed some light on this question, not directly by answering it, but by providing supporting material. I present some motivations of the British Crown behind the establishment of post offices in the late nineteenth century. To directly address the big debate through a study of the postal system would be to find out what effects it had. Not having the requisite data for this project, I approach the question obliquely: what effects did the British intend the post to have. As will be clear in the following paragraph, a lot of the difference in the opinions between the two sides of the debate is about perceived British intentions.

The Indian economic history literature of the nineteenth century displays a spectrum of views. At one end is the imperialist view that India enjoyed a *net* benefit from British rule (Roy 2002, Morris 1963, Antsey 1889). In my research, there is no one who thinks that British rule was an unmitigated blessing for India. At

---

<sup>1</sup> Cited in Bennington 1990



the other end is the nationalist view that British rule brought India great harm and independent India is still struggling under this burden (Bagchi 1982, Chandra 1966, Chandra *et al* 1988, Dutt 1901, Habib 1975, Naoroji 1901, Ranade 1898).

There are several points of disagreement between the two schools of thought: effect on traditional industry, agriculture, investment, trade, public goods such as railways, post, telegraph, and the long term economic and psychological effect on the people of an entire nation. The most important was the idea that the British were draining out money from India in the form of “salaries and pensions of British civil and military officials working in India, interest on loans taken by the Indian Government [from Britain], profits of British capitalists in India, and the Home Charges or expenses of the Indian government in Britain” (Chandra *et al* 1989, 96).

The first proponent of this theory was Dadabhai Naoroji, revered as the Grand Old Man of India. His calculations on the magnitude of this drain ranged from a quarter to a half of India’s national income. The idea of a drain was easy to understand because the masses were experiencing it personally in the form of high taxes, which sometimes became even higher in difficult times. This is how the freedom struggle picked up pace.

Morris D. Morris (1963) was the first to challenge the nationalistic view. He strongly believed that the Indian economy performed poorly during native rule, and British introduced “a high degree of stability, standardization, and efficiency ... in administration” and this caused the nation to be much more peaceful, and the economy to be much more productive than ever before (611).

The British Raj saw itself in the passive role of a night watchman, providing security, rational administration, and a modicum of social overhead on the basis of which economic progress was expected to occur. The Indian government obviously had no self-conscious program of active economic development. While its policies had [some] positive effects in the nineteenth century..., its influence was very limited. (615)

Not wishing to overemphasise his criticism of Britain's economic policy in India, Morris clarifies that "certainly, the general object of the *raj* was the welfare of the society... a general economic policy appropriate for Britain at the peak of her economic power was not adequate to provide for long-term growth in India".

Tirthankar Roy's (2002, 121) response to the nationalist argument is that "a great deal of government expenditure was made for services that India needed but could not supply on its own, such as pensions to teachers and engineers or payment of debts raised to finance railways and irrigation". He therefore holds that "drain" cannot be separated from "legitimate factor payments". The magnitude of the drain, by his calculations was "typically 0.5–1 percent of national income". Roy believes that "the first 60 years or so of British colonialism [Crown rule in 1858 till the First World War] delivered economic growth and a rising standard of living" (122), and one reason for this not keeping up was India's demographic transition to the second stage, when population started to increase quickly.

Different ideologies drive these different conclusions. The perception of the imperialist camp is that the British mostly meant well for India, though at times of conflict, they looked to their own interests first. On the balance, India greatly benefited from British rule. The nationalists on the other hand, firmly believe that there was nothing akin to benevolence in the British attitude towards India. India

sinking to poverty in the nineteenth century and the worrying persistence of this trend post independence had their roots in colonial policy.

Neither extreme is completely convincing; this paper proposes that the truth is nearer the nationalist line of thinking than the imperialist. That independent India benefited from the railways and postal lines cannot be challenged. These are networks that connect every remote part of India with every centre of economic and political activity today. Two of the most important reasons for the British East India Company and Crown setting up these networks were commercial and military – nationalists would agree. A third humanitarian motive was also present, and without it, several of the remotest villages would not have been connected – imperialists would agree. In the balance, it is clear from the evidence presented in this paper that a formal postal establishment started off being set up largely for commercial and political reasons. Humanitarian motivations entered the picture in the latter half of the nineteenth century and gradually grew in scope during the Crown rule.

I use a set of different tools to make the case that the British administration set up post offices in India for political, commercial and welfare reasons. First, I use some economic theory principles to understand the initial establishment of postal communication and some potential effects of access to postal services. This understanding yields a list of characteristics that may be accepted as evidence of the three motives for the state establishing and extending postal communication. A brief description of the postal history of the Indian subcontinent gives the requisite background for the remaining discussion.

The analysis of postal policy and post office allocation in the rest of this work is divided in two sections – one for a single district, Poona, in Bombay province; and another for the entire subcontinent. At the level of a single district, I am able to use village level empirical data and archival information to construct a social planner’s postal network to be compared with the British post office allocation as it was in 1881. A probit model, to determine how far certain village characteristics predict the allocation of post offices, confirms the explanations for the differences between the two that draws from various archives. In contrast, the presentation of evidence from the entire subcontinent draws largely from the archives. One explanation for this is that the factors that determined postal density at the level of districts in the entire Indian subcontinent were many, and events unfolded very differently in Bengal compared with Madras or Punjab or any other provinces. Analysing factors in all districts across all these provinces as part of a single empirical model would be an oversimplification. An adequate understanding of the determinants of postal density requires a detailed qualitative discussion of the political and economic processes at work through nineteenth century India<sup>2</sup>. As a basis for this analysis, I construct postal maps of the Indian subcontinent for 1800, 1830, 1881, 1890, 1899 and 1911, the last four being district level postal density maps, rather than a plot of

---

<sup>2</sup> The results of some preliminary empirical exercises just for the twenty-three districts in the Bombay province (excluding native states) were unsatisfactory. The data were from the Bombay census tables for the four years 1881, 1891, 1901 and 1911, and included statistics on literacy rates, share of population that migrated into each district, and share of population engaged in agriculture, industry, government service and commerce. No discernible patterns were visible for the relation between any of these district characteristics and postal density and coefficients had a very low level of statistical significance. This is not entirely surprising, since economic theory does not really indicate what these relations should be. So the task of collecting district level census data for the entire subcontinent, with the hope of getting statistically significant results is more than I am able to currently undertake.

individual post offices. Changes in postal density and postal policy are representative of changing British priorities over time.

An important question that is not adequately addressed in the literature is that of post office allocation decisions. This question is important to the current research because if there were a rule that said that all villages with a thousand inhabitants or more will be assigned post office, then there would be much less scope for British motivations to reveal themselves through the postal system (though they could still be gleaned through postal policy). According to Sen (1875, 128), starting 1867-68, new post offices were opened on a temporary basis for six months. They were only retained as permanent establishments if half the revenues from postage at least covered costs. The other half was meant to cover the expenses incurred by other post offices that were sending letters to or receiving them from this one. There is no mention of a decision rule before this period. Even after this year, there seems to be no explanation for how the department decided where to set up a temporary post office.

This 1867 rule gives the impression that the government was willing to retain post offices only if they covered their own costs. To some extent, this was indeed true, since there are instances of post offices being closed for not meeting these conditions. That said, establishment of new post offices always far exceeded the number that were closed down. As will be seen in a later section, revenue generation or even cost recovery was not the prime concern of the department.

It was during the 1880s that the concept of extra-departmental post offices was introduced, first in Bengal, then in other provinces. Any literate school teacher

or merchant was paid a small allowance for carrying out postal responsibilities out of his home or place of work. These were mostly opened in very remote villages that had not been connected by a post office already. Since these were extremely cheap for the postal department to open, the condition that half the postage should pay for the establishment costs (which were the allowance paid to the post master and any transport cost to and from this village) would likely have been satisfied.

So the question of how post office allocations were made remains largely unanswered. The railway literature suggests that railways were constructed by British investors in India for three reasons - military, commercial and welfare. I hypothesise that these same motivations held true for the establishment of post offices as well. Economic rationale discussed in the following chapter also substantiates the existence of these three motives. I test this hypothesis using evidence from the archives, secondary literature and some data that I have collected and digitised for the first time. I introduce these three motives and present a detailed statement of their scope in the following chapter, but briefly:

*Political motive:* This represents broader political motives rather than narrow military ones. It involves any decision that was taken with the express view to maintaining British control of India, including for administrative and military reasons.

*Commercial motive:* Any decision that benefitted commerce can be attributed to commercial motives. Examples are assigning more post offices to port towns or to regions that grew exportable cash crops, or offering convenient services for merchants trading within India.

*Welfare motive:* If the allocation of a post office directly increases the welfare of the Indian people or allows British officers to carry out welfare projects for the Indian people, those decisions fall under this category. Examples are providing for cheap communication, access to newspapers, financial services, *etc.*

~

## 2. ECONOMICS OF THE POSTAL SYSTEM

This section first defines postal communication as a subset of long distance communication methods employed over the centuries. I explore the economics of postal communication by analysing the cost of establishing a postal network in specific economic and political environments, when and why the service will first be supplied, and why the network will be expanded. The consumption of postal services is non-rival and excludable. These characteristics put the postal system in the broad category of impure public goods. Public monopolies often take over the supply of excludable public goods to avoid market failures. Pricing of these services depend on the various links the post must make with the other sectors of the economy and whether the monopoly wants to maximise profit or welfare. This theoretical discussion, together with the following section on the historical background on postal communication set the context for the rest of this work.

Alexander Field (2006, 4-977) defines the communication sector as comprising:

a range of technologies, physical media, and institutions/rules that facilitate the storage of information through means other than a society's oral tradition and the transmission of that information over distances beyond the normal reach of human conversation.

Several different modes of long distance communication have been developed over the centuries, not all of which satisfied the "storage of information" condition. This condition requires the use of script; but some long distance communication could take place without a written note. Public announcements made by kings'



messengers or town criers transmitted information from one point to anyone available to listen. This is an example of point-to-multipoint communication. Smoke and light signals were used for communicating small pieces of important (often military related) information over large distances, as long as there was a clear line of sight. This form of communication would have mostly been point-to-point, but could also have been point-to-multipoint.

The postal system satisfies Field's definition more accurately. Eugène Vaillé defines the post as "a regulated and usually governmental institution, which ensures, in conditions established in advance, both for the duration and price of transport and for its regularity, the transmission of the thought of the sender as he has transcribed it himself on a material support" (Bennington 1990, 1). So a postal system conveys written information between two points through a transport network with several nodes established for the purpose. A letter submitted at any one such node can be sent, for a fee, to another node nearest the final point where the letter must be delivered. The method of transporting the letter from one node to another may be dictated by the available technology of the time. It is the earliest mode of communication that allowed for point-to-point communication, without restricting the location of either point. Public announcements had to emanate from one source, thus fixing the point of origin. Senders and recipients of smoke signals had to be within a small enough area of each other to ensure visibility. The postal system corrects both these limitations by allowing any person to write and communicate with any other person. There is still a limitation, but it is greatly reduced: each person trying to communicate must either be able to access a post

office, or be accessible by a postman. So access to postal communication depends on the allocation of post offices, or the locations of the nodes of the network. As new, improved modes of communication were invented – telegraph, telephone, radio, television and the Internet – the obstacles of distance and time gradually vanished; but the big leap in this direction came with the establishment of the postal system.

Access to postal communication can fundamentally alter the way an economy functions. An efficient postal network serves as the nervous system of an economy, connecting the state with the people, buyers with sellers, members of a family or friends, and anyone with everyone else. It is a very powerful agent of positive change. Hamilton (1910, 1) refers to it as the mark of a civilised community. A population that is well served by postal communication can participate in well-informed trade; the people are aware of the complexity of the national and international economies and can find a livelihood of choice, rather than one determined by birth or straitened circumstances; they are aware of national politics and can participate in the democratic process. These and other ways in which access to postal services can alter economic life are discussed later in this section. I now address the important question of how such a postal system can come into being and who is responsible for it.

The earliest long distance communication in any civilization, as mentioned earlier, was carried out by messengers travelling with the message all the way to the intended recipient and by the use of smoke signals. Smoke signals were limited in their scope, slow and expensive. Even employing a messenger might have been

expensive, because the messenger would need to be fed and housed through the journey, and be adequately compensated for undertaking a hazardous journey through difficult terrain and potentially hostile lands. The other option was to send messages through itinerant tribes; but reliability of this method was suspect because tribes moved on their own terms. So the only means of long distance communication were slow, unreliable and expensive. If this was the case, then why did a formal postal system not be established earlier?

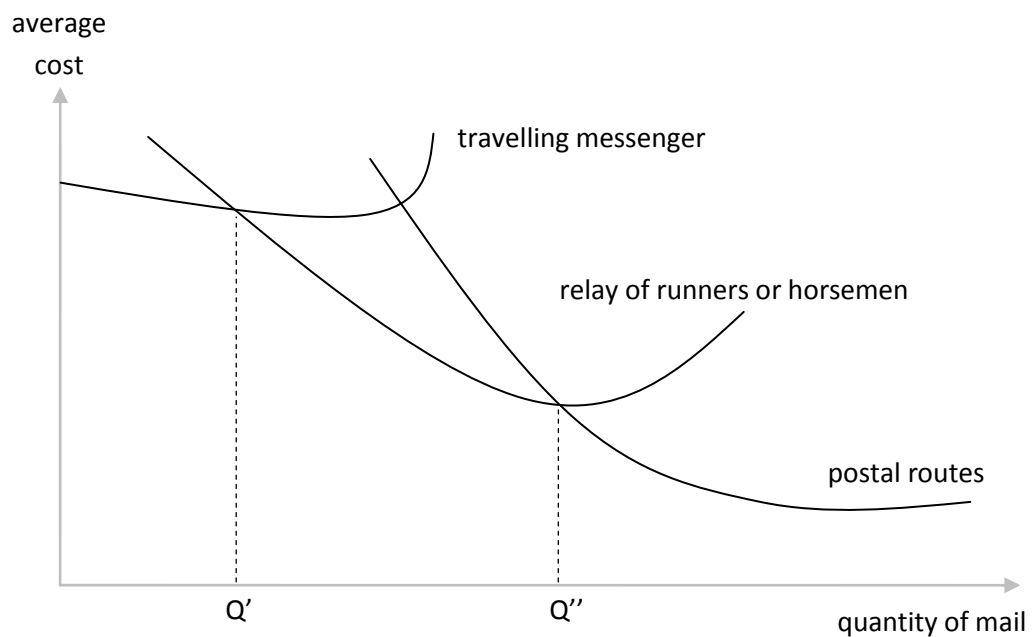
A postal system will be established when, on average, it becomes cheaper to communicate this way than by the primitive methods mentioned above. Average cost is made up of fixed and variable costs.

$$AC = \frac{FC + VC}{Q}$$

Employing a travelling messenger is a variable cost: every time a message is to be delivered, the messenger must be sent all the way to the intended recipient. This mode of communication entails no fixed costs. The average cost is therefore just  $VC/Q$ . Since, most often, the messenger will be called upon to convey just one message to one recipient, the average cost of sending one message is the same as the total cost of one trip (if  $Q = 1$ , then  $AC = TC$ ). If the travelling messenger finds himself having to make these trips often, it is possible that he may find some slightly cheaper way to travel (by striking a deal with the owner of the bullock cart or travellers' inn) or a shorter route to the destination. These might reduce the cost of successive trips a little, but will unlikely make a major impact as the frequency of communication increases. It is also possible to envision the average cost increasing

at some point, purely due to fatigue and the human inability to make more than a certain number of trips in a given amount of time.

*Figure 2.1: Average costs of different modes of long distance communication*



---

If the demand for long distance communication increases beyond  $Q'$ , then the organiser of the service might find it prudent to position a relay of runners along frequently commuted routes. Each runner in the relay needs to travel a shorter distance, very quickly, and deliver the message to the next person, who does the same. A lone travelling messenger will need to stop for rest, but in a relay of messengers, a message (indeed, a whole bundle of letters) does not have to stop moving at all till it reaches the destination. So the advantage of this system is that it is capable of handling many more messages per unit time than any primitive method

of long distance communication. The fact that it can handle multiple messages means that the same fixed cost is spread over a large number of units of the output, thus reducing average cost for  $Q > Q'$ . Over time, this system may be improved because of learning by doing (David and Olsen 1986), say by shortening the distance that each runner must travel, hiring more runners, and improving coordination between them. This is another reason for a fall in average cost for this mode of long distance communication. The decrease therefore, is quicker than for the travelling messenger and the eventual increase sets in at a later stage.

The limits in this case, are set by the fact that runners and horsemen have a maximum weight that they can carry and a maximum speed at which they can travel. As the volume of mail increases further, therefore, it will prove efficient to shift to a new mode of long distance communication marked by a more technologically sophisticated transport mechanism and possibly central organisation. The use of railway lines for mail transfer over long distances is the best example of using new technology for quicker service during the nineteenth century. This method also greatly increases the safety of the material being transferred; there is less of a risk of letters getting lost or damaged due to bad weather or highway robbers. The average cost will decline quickly because of the huge capacity that the railways afford, and the marginal cost may be close to zero because it will not cost anything to load an extra bundle of letters into the postal compartment of the train.

Relays of runners can be managed by local authorities simply by agreeing on some rule to transfer bundles between groups of runners. If a railway line is used to transfer mail over long distances, the role of local authorities will be diminished.

One central postal organisation must communicate with the railway company or companies and agree on the terms under which mail will be carried across all the local municipalities. This can afford other advantages like a uniform method of calculating and collecting fees for postal services, and publication of postal guides to disseminate information about regions served or services supplied. A postal system characterised by large scale organisation will most likely have capacity far in excess of usage, making it a natural monopoly. Monopoly supply of postal services and pricing strategies are discussed later in this chapter.

To sum up the preceding discussion, a high enough demand (at least  $Q'$ ) for long distance communication is one of the conditions necessary for the establishment of the simplest postal network. A second necessary condition is that the agency that has this high demand for long distance communication must also have the organisational and financial means to establish the postal network.

This kind of an organisation is likely to find a place in more sophisticated economies where there might be several entities with a high demand for long distance communication. A large diverse economy often coexists with a large state that collects taxes and provides public goods for merchants and other inhabitants.

Sen (1875, 4) puts it like this:

The advantage and even the necessity of having a uniform and legalized system of post conveyance could not have failed to present itself to the eyes both of subjects and rulers; although it may be a question whether the sovereigns who first established such a system in their dominions were in general moved so much by large and enlightened views of public benefit, as by the wish to create, according to the practice so usual in that age, a lucrative trading monopoly in behalf of some of their favourites.

There are at least two reasons for the establishment of a formal postal network – state administration and trade. Put another way, there are two agents that may establish postal communication – the state and merchants. If the state directly participates in trade, these reasons can both be embodied in the state.

When empires start to take on continental dimensions the need to survey distant parts increases the demand for long distance communication. The more remote a region, the more likely the people are to rebel and fight for freedom. A ruler has to give the impression of being connected at all times, if he wants to maintain power over a large empire. Political reasons therefore might demand a more stable line of communication than that afforded by a single travelling messenger.

Political motives for establishing a postal network can be divided into three parts: administrative, military and other political motives. Collection of land revenues and taxes, and maintaining law and order warrant a properly functioning system of information collection and dissemination among various government offices. Protecting the empire from rebellion within and attacks from outside the boundaries require a military that is well informed. The postal network and government appointed postmen may be used to collect strategic intelligence from the remotest parts of the empire. Other motives may include measures aimed at maintaining state power or maintaining a healthy state: using the postal system as a propaganda tool or encouraging information exchange and participation of the population in the political process.

These are reasons for the state having a high demand for long distance communication ( $Q > Q'$ ), which is one of the two necessary conditions for a postal system to be established. The other is that the state must have the organisational and financial means to undertake this elaborate project. If the state has access to tax revenues from subjects, or tributes from subsidiary kings, it can use those to set up communication networks. As has been noted, a postal system can also aid administration, including tax collection; but for a postal system to be set up, some tax or non-tax source of revenue must be available.

The second source of demand for postal communication comes from trade. With advances in technology, agriculture can more than adequately provide for subsistence. Specialisation in agriculture or simple manufacturing can open opportunities for trade, if comparative advantages can be identified and profitably exploited. If traders carry bulky merchandise abroad, they might need to know with some degree of certainty that their wares will earn a comfortable profit. They can make better business decisions if they have information on the availability of a certain commodity in another market, its price and potential competitors, among other things. A merchant can solve the principal-agent problem by having regular access to information regarding the economic and political environment that the agent is functioning under, and so judge the honesty of their actions their and credibility (Greif 1989, 880). Artisans may also get ideas for a new product or pattern that is more popular in a foreign market they are targeting, or may learn a new technique that improves their productivity. This way, opportunity for improvement may come from just a simple reallocation of available resources,



without any major change in the resource or skill set. Those engaging in trade, therefore, would have commercial motives for establishing a regular system of long distance communication.

So merchants and artisans selling abroad might have a high demand for postal communication too, like the state. But do they have the means to establish postal communication? Merchants' demand for long distance communication will be limited to the markets and production centres that are of direct interest to them. If the fixed cost of establishing communication channels along these routes promise to yield higher revenues and surer profits, then these investments will be made. It is also possible that the merchants are able to communicate effectively with the help of private ships or other routine travellers between their ports or cities of interest. In this case, they need not incur the high fixed costs of setting up a postal network of their own.

Private individuals not engaging in trade might also benefit from long distance communication, but their demand for postal communication may or may not be as high as  $Q'$ . The only reasons for private individuals engaging in long distance communication are a friend or family having migrated for employment, or travelling for a pilgrimage. In small self sufficient economies, there are unlikely to be many other reasons for private individuals engaging in long distance communication. Even if, for some reason, their demand is high enough to warrant the establishment of a postal network, they do not satisfy the other necessary condition – private individuals do not have the organisational and financial means to establish a vast

postal network. The high fixed costs of setting up a postal network require large savings, reserves of tax revenues or profits from trade.

As *Figure 2.1* shows, the high fixed costs and consequently declining average costs of supplying postal services make it a natural monopoly. For this reason, it is most likely that the state will establish a postal network for political reasons, and at some point, permit merchants and other private individuals to use it for a fee. Postal networks set up and used by merchants are likely to connect only cities of their interest, and so the ability of other individuals to use it might be limited. The rest of this section discusses postal lines set up by the state, and not ones set up by merchants. Reasons for this are the following:

- › the state is more likely to have the financial and organisational means to undertake the construction of a postal network. Private merchants will only incur the high fixed costs if there is the promise of high profits.
- › the nodes of a state postal network are likely to be more spread out than those of a commercial communication network. Merchant communication lines will most likely only connect markets and production centres of their interest.
- › a more spread out network is more likely to be used by private individuals, if they are permitted to use it.
- › the motives for allocation of new post offices by private merchants are predictable; the allocation of “post offices”, if the nodes of their communication network might be called that, will be calculated to bring in

the highest possible profits. This motive is predictable, and less interesting than the state allocation of post offices.

In the Indian case, the British government engaged in trade too; so some of the above mentioned characteristics of merchant communication lines should be evident in the British government's allocation of post office in the Indian subcontinent. Later sections of this paper present evidence to show that such indeed was the case.

To clarify the last of the four points made above, while part of this research discusses the motivations behind *establishing* postal communication, the other equally important part discusses the *allocation* of post offices as the postal system expands. The preceding paragraphs have only looked at motivations for establishing a postal network – political (by the state) and commercial (by merchants). The motivations for expanding an existing postal network by allocating new post offices in new regions can be three – political, commercial and welfare. The state that has already established the postal network for political reasons may expand the network for any or all of these three reasons. The political motive for expanding a postal network would be the same as the reason for establishing it. The commercial motive too has been explained, though it may be clarified, that the state could expand the postal network such that state or private trade is enhanced. I need to now define this new welfare motive. If the allocation of post offices was meant to directly increase the welfare of the population or if it allows the state to carry out welfare projects for the people, these would be welfare reasons for expanding the postal network.

A state that is interested in the welfare of its population can use the post as an agent in fulfilling its goals. Depending on how dense the postal network is, the local post office might be the most obvious government presence in villages far from the political and commercial capitals. The local postman can be made to spread information regarding government schemes on health, sanitation and education.

The high fixed costs incurred in establishing the postal network permit the marginal cost of sending one letter between two points to be low. Sir Rowland Hill is credited with having reformed the British postal system with his recommendations laid out in a pamphlet, *Post Office Reform: its Importance and Practicability*. Hill (1837, 32) shows that, if the system could be made to run efficiently, as he recommended, the marginal cost of sending a letter (weighing up to an ounce) between any two points in England would be a third of a penny.

When it is considered how much the religious, moral, and intellectual progress of the people, would be accelerated by the unobstructed circulation of letters and of the many cheap and excellent non-political publications of the present day, the Post Office assumes the new and important character of a powerful engine of civilization; capable of performing a distinguished part in the great work of National education, but rendered feeble and inefficient by erroneous financial arrangements. (7)

Hill was referring to the obstinately high postage that was charged in England; it seemed more like a system that was meant to collect a tax, than one that was meant to provide a service to the public. His recommendation of a low, uniform postage was expected to increase the size of the market substantially, by permitting the poorest people to communicate through the postal system and by facilitating trade and education (54).

There is also anecdotal evidence from nineteenth century India (1851 Report, 18-23) and Britain (Hill 1837, 33) to show that the demand for postal communication was elastic. Sorkin (1980, 61), Robinson (2007, 2) and Baratz (1962, 6) present some estimates of the elasticity of demand for various classes of postal communication in twentieth century United States. These estimates vary from -0.1 to -0.8 and suggest that the demand for postal communication is inelastic. This may be because over the last century, use of the post has become a necessity for private individuals and businesses. Since postal services are so cheap, expenditure on them forms a very small share of income. During the mid nineteenth century, postal communication for the masses was still in its infancy. Its use was not as widespread then as it is now, and so might conceivably have had the higher elasticity of a luxury good ( $e < -1$ ). Declining postage (real or nominal) might have had the effect of increasing the size of the market for postal services. Hill and the 1851 Postal Commissioners (appointed by Lord Dalhousie in 1850) expected the revenue of the postal department to increase with a reduction in postage; this shows that they expected demand for postal communication to be rather elastic in nineteenth century England and India, respectively.

This means that reduced postage was expected to increase the use of the postal system more than proportionately. The increased demand for postal communication represents a shift down along the elastic demand curve.

There can also be a shift of the demand curve to the right. As more people can access information from afar, their opportunities for trade and livelihood will increase. The economy becomes more specialised and experiences Smithian growth

(Lal, 1998), or growth that occurs when division of labour makes the production process more efficient, and when the market for these goods expands.

Specialisation can take place if two or more sectors of the economy have identified geographically segregated endowments of resources or skill sets, or different technological innovations and are able to trade the excess of production over what is used locally. The migration and increase in wealth associated with the general shift towards commercial production (rather than self sufficient production) can increase the demand for postal services without a decrease in postage. Walsh (2002) discusses several ways in which a postal network can enhance economic activity and afford “cultural benefits” (360). He says that the post can bring about a structural change in the economy by “facilitating diversification, entrepreneurship and technical innovation” (363).

Other factors that might shift the demand curve outward are population increase and increase in the literacy rate. The use of postal services could also increase because of the supply of new and more efficient services by the postal department, such as registration and insurance of letters and parcels, quicker delivery, and financial services.

The suggestion that a postal system is often established as a government enterprise (either profit or welfare maximising) has support from the public goods literature too. As Samuelson (1958) points out, the spectrum of goods and services between the two polar cases of the purely public and private goods has several minute variations. *Table 2.1* only lists the four categories formed by the presence or absence of two characteristics – rivalry in consumption and excludability. The postal

system falls under the category of excludable public goods. Those interested in using the service must pay a fee for it. Unlike the market for non-excludable goods, suppliers of excludable public goods need not be concerned about free-riders because exclusion is cheap or costless.

*Table 2.1: Pure and impure, public and private goods*

	Excludable	Non-excludable
Rival	Pure private goods	Commons
Non-rival	Excludable public goods	Pure public goods

Exclusion from consumption of goods or services might be achieved in the following three ways, or by some combination:

- › *Location*: public libraries and other city municipal facilities are often restricted to those living within the municipal limits of the city. No payment is required for using these facilities, but they are available to people living within the city limits only.
- › *Membership*: once a membership fee is paid (or some initial expense is incurred), certain facilities may be available to members without a further charge. Examples are club memberships, season passes or annual membership for enjoying sporting events, theatre performances, museums or national parks, or the purchase of a satellite dish or other instruments which permit a household to view cable programmes without further payments. Those who have made the requisite initial payment, are

permitted access to all that is on offer. The good or service is indivisible and payment must be for all or nothing. Consumers are not permitted to just pay to view one section of a museum or zoo or one act of a theatre performance. Exceptions are quite possible but exclusion by membership is generally through all-or-nothing pricing.

- › *Pay per unit*: in this case, no membership is required, but every time the good or service is to be used, a fee must be paid. Examples are toll roads, postal services, pay per use television programmes, single visits to the museum, zoo or theatre. Goods or services sold through this kind of pricing must be divisible.

The important point is that exclusion should be either completely costless or cheap, and easy to enforce. In the case of the postal system, it is rather cheap to print stamps that will be accepted as the only payment for postal services. Even letters dropped in the post boxes without stamps or with stamps of inadequate value might be delivered to the intended recipient, but the recipient will have to pay the difference in postage, maybe in addition to a fine.

The other characteristic that makes the postal system an excludable public good is that consumption is non-rival. If I sent a letter through the post, it does not somehow reduce the amount of postal services available to other people. The network of postal transport between nodes exists and the post offices are each capable of handling a large amount of mail. As long as the system is functioning within capacity, one more letter will not matter to the senders and recipients of the other letters. Samuelson (1958) notes that:



when you try to analyze why public utilities are public utilities and why certain activities (like railroads, water supply, electricity, and postoffices) may fall into either the category of public or private enterprise, you will usually find that some significant deviation from strict constant returns to scale is involved. (335)

He gives the example of television programmes: one more family tuning in will not reduce the utility of the other families watching a show. This is an example of decreasing average cost, or increasing returns to scale. The fixed costs for this kind of an enterprise are high, and the marginal cost is zero or close to zero. This description fits the case of the postal system well. While the fixed costs of establishing the post offices and transport between sorting centres might be high, the marginal cost of sending a single letter through the network is very low. In fact, the postal system is able to use the high fixed costs to supply other services as well, like money transfer and parcel post, and exploit economics of scope.

Pricing various services supplied through the same infrastructure might be tricky. For simplicity, even if we consider that the post only offers one service, pricing decisions for a public monopoly might still present difficulties. For private goods, price is set equal to marginal cost for profit maximisation. What kind of pricing rule must producers of excludable public goods follow?

There is some research on pricing strategy, market efficiency and ideal market structure for the case of excludable public goods (Fraser 1996, Drèze 1980, Blumel, Pethig and von dem Hagen 1986, Schmitz 1997, Brito and Oakland 1980). In some cases, these goods are referred to as “club goods” since exclusion is achieved by membership to a “club” (Berglas 1976, Buchanan 1965, McNutt 2000, Pauly 1967). Most of the excludable public goods literature deals with markets where

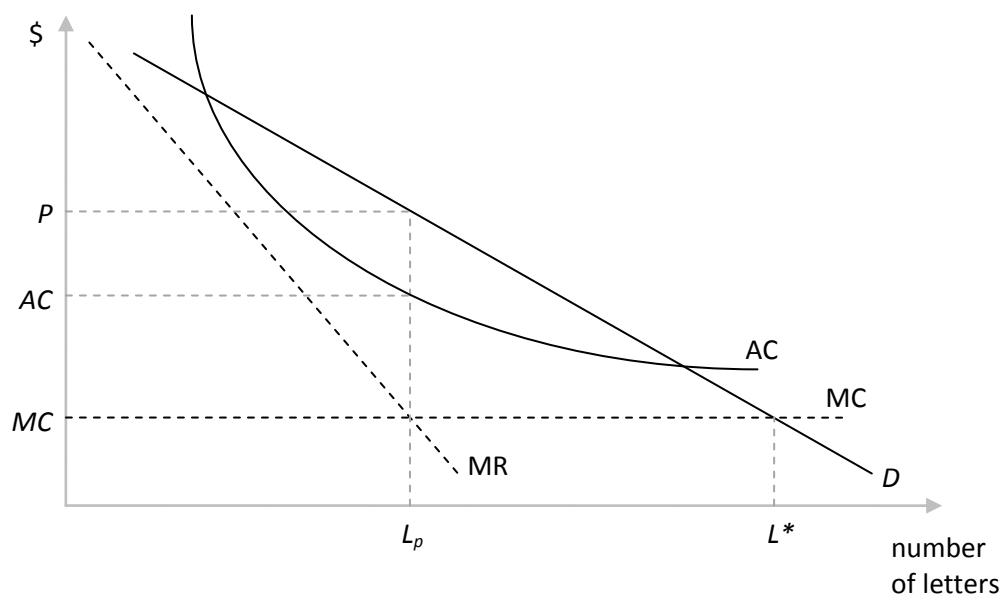
exclusion is achieved by membership, or with indivisible goods. Walsh (1981, 22) notes that the supply of public goods is often lumpy: “The notion of consuming half a plane trip, a few minutes of a Batman broadcast, or one act of a Shakespeare play may not be inconceivable, but it is rather unlikely”. These are goods that will require an all-or-nothing pricing strategy. For this reason, the market demand curve for such goods cannot be arrived at by horizontally summing individual demand curves, as in the case of private goods. This process adds up the different quantities that each individual demands at a given price. In the case of indivisible public goods, vertical summation of demand curves is required. The amounts that each individual is willing to pay for the fixed supply need to be added up to arrive at the demand curve. This demand curve is actually a marginal-willingness-to-pay” curve.

Since the postal system does not need to employ all-or-nothing pricing, the conclusions from this literature do not apply to it. Postal services are divisible and can employ a pay-per-unit pricing strategy like private goods. The main purpose of this research is not to arrive at a theoretical model of how a public monopoly should price a divisible excludable public good. Nonetheless, a simple model of price charged and quantity supplied follows. Since postal services are divisible, the market demand for postal services can be calculated by horizontally summing up individual demand curves, just like in the monopoly supply of pure private goods. The average cost is declining over the range of consumption due to high fixed costs and low marginal cost.

*Figure 2.2* shows the average and marginal cost curves together with the demand and marginal revenues curves. Output in this case is the number of letters

that the postal network carries. The fixed and variable costs represent the infrastructure that the postal department needs to put in place and postmen and sorters it needs to employ to be able to handle various quantities of mail. The marginal cost is shown to be constant and low. This is because the variable cost has been assumed to be increasing at a low and constant rate. This need not always be true. For higher ranges of consumption, variable cost could increase at an increasing rate. This will cause the marginal cost to start increasing at some level of output and the average cost to start increasing after the *MC* curve intersects it from below.

*Figure 2.2: Pricing in a monopoly market for an excludable divisible public good*



As long as the demand curve intersects the average cost curve in its downward sloping part, or where the industry is experiencing increasing returns to scale, this industry is a natural monopoly. But as the demand curve shifts much

further outward, where average costs start to increase, some other firms will enter the industry, if permitted, to capture a share of the market and reap oligopolistic profits. Rogerson and Takis (1993, 124) suggest that even though the post is a natural monopoly, there may be some segments of the operation that may be opened to private entry, and this can still enhance welfare. Their analysis shows that segments where private participation may be efficiency and welfare enhancing are long haul transportation and processing, where returns to scale are only slightly increasing or constant.

For profit maximisation, the monopolist must supply the quantity of output where marginal revenue equals marginal cost. This happens at  $L_p$ . The price  $P$ , or postage in this case, will be dictated by how much consumers are willing to pay for  $L_p$  units of supply. This is assuming that the monopoly firm is interested in maximising profits.

The literature for private goods suggests that monopoly supply will be less efficient than competitive supply – price will be higher and quantity supplied lower, thus creating a dead weight loss. Brito and Oakland (1980) agree with this in their study of the market for an indivisible excludable public good. Schmitz (1997) notes that Brito and Oakland's assumptions about pricing structure are restrictive, and finds that government intervention in a private monopoly market may be justified for welfare or efficiency reasons depending on whether the monopolist has full or partial information about consumer preferences. He also says (13) that if the state is a welfare maximiser, public provision of the good will be optimal. Dreze (1980, 22) finds that a public monopoly would be more efficient than a private monopoly

(either regulated or unregulated). If the public monopoly wants to maximise welfare rather than profit, then the price must be set low enough so that each consumer is able to purchase the entire indivisible public good (21). This result is trivial because the exclusion feature of the public good is then lost and it degenerates to a pure public good (19). If the public monopoly wants to maximise welfare subject to a budget constraint, then it will equate the marginal cost with the sum of all the consumers' the marginal willingness to pay (20).

One of the reasons for these varied considerations around pricing of public goods is the presence of externalities. This is often presented as a reason for market failures and government intervention. The presence of uncorrected positive externalities will cause the good to be underprovided in a competitive market because there is some social benefit that is experienced, but not taken into consideration in the profit maximisation calculations. This would be a market failure. In the case of the postal system, it is easy to argue that positive externalities exist. If one family is able to access and use postal services, they might be able to pass on beneficial information to their neighbours and others in the village. As often happened in British India, the postman was the only literate person in the village and by default undertook several non-postal responsibilities: teaching children to read and write, writing letters for illiterate villagers and reading out letters they receive, reading out information regarding health and hygiene that the government might have circulated, among other things.

The presence of network effects is another source of positive externalities. The addition of one new post office to an existing network of  $n$  post offices increases

the number of possible connections by  $n$ . The addition of two new post offices to a network with  $n$  post offices increases the number of connections by  $(2n+1)$ , and so on: the number of possible connections increases at an increasing rate. The positive effects of access to postal services also increase with the network size. The Smithian growth-generating effects of the post have already been discussed. Larger networks permit more forward and backward linkages in the production process.

For these reasons, the state, as long as postal services are still a monopoly (either naturally, or enforced by legislation), might decide to provide postal services even in rural areas, even though costs might outweigh revenue. Even at much higher levels of demand, if and when the market becomes oligopolistic, the government might impose some universal service obligations on the private firms supplying postal services, to ensure that they do not restrict themselves to just the most profitable sectors. Kenny (2006, 78) holds the opinion that for poor countries “the concept of universal service is somewhat nonsensical”. His reason is that demand for postal communication in developing countries is low, more due to limited income than inadequate service delivery; even major postal reform can only achieve modest increases in postal use, far below developed country levels. This argument is incorrect because Kenny seems to treat postal communication as an end use consumer good, instead of the intermediate good that it is. Even though the improvement in postal access due to reform might be small, new access to key information could still dramatically change rural livelihoods and the economy in general. Walsh (2002) describes the postal system as an infrastructure that is “built

on the back of other infrastructures” (357), the role of which is to facilitate economic activity in different ways.

In *Figure 2.2*, all we can say is that if this were a public monopoly that is interested in maximising welfare instead of maximising profits, the price might be lower than  $P$  and supply higher than  $L_p$ . The public monopoly might be interested in expanding the supply of postal services more than profit maximisation rules might permit. Setting the price equal to the marginal cost of production ignores the high fixed costs, but it would greatly increase the supply of postal services (to  $L^*$ ). Presumably, this is what the welfare maximising state wants to achieve. Setting price equal to the average cost for a level of output might ensure full cost recovery, but it would not permit the extension of postal services to as many people. Rothengatter (2003, 14) discusses the changing fortunes of the marginal cost pricing strategy in the transport industry over the previous half century. The transport industry is more similar to the postal system than other examples of excludable public goods – these services are divisible. It appears that there is no consensus on what the optimal pricing mechanism is. In any case, he suggests, the aim must be healthy infrastructure development and capacity use. In the case of the postal system, big increases in demand can be handled only by expanding the network and improving its efficiency: by increasing the number and capacity of post offices, connecting each post office to a head office (possibly in a hub-and-spoke pattern), organising quick transport between postal hubs and making mail sorting more efficient (possibly on the move). Such an expansion of the postal network will most likely also increase the demand for postal communication.

Not just is the theory of postal services similar to the transport sector, the postal system itself is also very closely linked with the transport industry for the obvious reason that mail needs to be transported between sorting offices, post offices and homes. Larger the network, more important will it be for the postal system to collaborate with the transport system for maximum efficiency. Either the state must control both transport and the post, or the postal department must reach agreements with the various industries in the transport sectors to transfer mail by train, ship, road or air. As the railway network grows, the postal network can grow with it because the transport costs associated with a post office along a railway line are zero. It would be efficient therefore for allocate post offices along railway lines and perennially navigable rivers and at ports. Villages away from any mode of long distance transport will have to be reached by carts or runners. The available resources and technology of the age will dictate the mix of these different modes of transport that the post may use.

The theoretical literature mostly attributes the violation of the profit maximisation rule (setting price on the basis of the equality of marginal cost and marginal revenue) to a public monopoly having welfare motives. This is of course a simplification often required to conduct theoretical analysis. In the rest of this paper, I present evidence of at least three motives for the expansion of postal services by the British in the Indian subcontinent – political, commercial and welfare. These three motives took on more or less important roles in different points in British Indian history.



In Indian, British and American histories, postage was, at different points in time, reduced dramatically – and in each case this measure greatly increased the use of postal services by wider sections of the population. The important fact that distinguishes the Indian case from the American and British is that American and British postal services were provided by their own governments (at least after 1776 in the United States), whereas Indian postal services were offered by the British government in India. It might be interesting to find what similarities or differences there were between the ways the British allocated post offices in England and in British India. I present certain kinds of evidence to prove the political, commercial and welfare motives for post office allocations in India. Is similar evidence available in British and American postal histories too? This is a question I do not undertake to answer as part of this research. The state, be it an own government or an Imperial ruler, has a lot of power and several options in how to design and run a postal system. The choices made have important implications for the economy.

I lay out here what one would expect to see as evidence of each of these motives, based on the theoretical discussions of this chapter. This evidence could either come from postal policy as a whole or from a specific allocation of post offices. Following is a list of some postal characteristics that could be taken as evidence of these motives.

*Political motive:* Since postal networks were first established for political reasons, some representation of these motives in postal systems must exist.

- i. All revenue collection, police and other administrative headquarters in every administrative division being connected through the postal network with the

political capital is evidence of the administrative motive (a subset of the political motive). This is among the earliest reasons for a king or emperor establishing a simple postal system composed of a relay of runners, which makes it the most important reflection of the political motive.

- ii. If official mail is carried through the post without a fee or for reduced postage that would reveal political motives too. It is possible that official mail is cross subsidised by revenue generated from private mail. This would be a clear example of the view of “the post office as an institution deriving a revenue from the public only, in return for services rendered both to the public and to the Government” (Sen 1875, 155-6).
- iii. Evidence of the military motive (a subset of the political motive) is increased postal density in riot prone regions. The establishment of several post offices in strategic locations might make information regarding potentially rebellious activities quicker and easier to collect and make the rebellion easier to crush at the right time.
- iv. The state sets newspaper policy. If the rates it sets are low enough to encourage circulation, that is evidence that the government is trying to encourage participation in the process of governance. Newspapers and pamphlets facilitate the diffusion of political and other kinds of news and this encourages participation in the political process. While it may be difficult to identify all the reasons for any national participation in politics, the post can certainly be credited for spreading political awareness.

*Commercial motive:* As suggested earlier in this section, the state could establish and expand the postal network to enhance commercial opportunities for itself or for private merchants.

- i. If regions that produce high value export commodities have a higher postal density than regions with a lower output in these goods, that shows that the state is trying to better connect potentially lucrative regions. Coastal regions with ports of active trade might also have a higher postal density than inland regions. These findings would suggest that the state is trying to keep the commercially important regions better connected with each other. Sellers need to know when ships are scheduled to set sail and when their products must reach the port. Traders at the ports would like information on what goods and how much they may carry abroad; this will also determine what they can get in exchange and bring back on their return journey.
- ii. Another evidence of the commercial motive would be the state providing new postal services that are largely in the interest of merchants, like parcel post, sample post, value payable service or variations of these. These would allow sellers to send samples or pre-ordered goods to potential buyers through the post and also get the post to transmit the payment for this good from the buyer. The state may also consider the convenience of merchants when deciding postage rates and other rules of using postal services.
- iii. As the economy experiences Smithian growth, markets in distant parts come closer together. Better access to postal communication could aid the process

of market integration. If this is found to have occurred, it provides another commercial motive.

*Welfare motive:* the importance of access to postal services to the health of the economy has already been stressed. Since there are so many ways that postal services can prove beneficial to the people, there are also many ways to check for this welfare motive.

- i. If the cheapest class of mail, the unregistered, uninsured single letter, is cross subsidised by higher class letters and parcels used by the better off, that suggests that the state is trying to ensure that the poorest households are able to access postal services.
- ii. Due to the huge excess capacity built into postal infrastructure with every technological and organisational innovation, the welfare state can reduce postage on various articles of mail frequently. Even if nominal postage does not decrease, real postage may decrease either due to inflation or because the weight of letters or parcels or newspapers accepted for a given amount of postage is greater. Every time the real postage decreases, poorer sections of the population enter the market for postal services thus improving the connectivity of the entire economy.
- iii. If the state is interested in improving social welfare, it assumes a responsibility of universal service. Even areas that are geographically difficult to reach are well connected by the postal network. Sparsely populated districts might start with fewer post offices than densely populated ones, but this gap closes over time. This means that even those living in sparsely

populated regions do not need to travel far to access a post office. It is possible that maintaining post offices in and organising transport to and from remote areas is expensive, but these post offices are still kept functioning through cross subsidies from the larger post offices in the cities.

- iv. Another evidence of the welfare motive would be if post offices in even the rural areas offer services that are beneficial to the rural poor, like savings bank services and cheap money order services. These financial and communication services offered by the post may be the only link between rural migrants to the cities and their families.
- v. The rural postman is the government agent who can provide information on health and sanitation issues, employment opportunities, education or famine relief schemes through government pamphlets. The post can bring useful information in the event of an epidemic on how to quickly control the spread of disease and maintain good health.

These are *a priori* expectations that would be evidence of the political, commercial and welfare motives for setting up and expanding postal services. The following chapter discusses the postal history of British India. The rest of this paper uses these points to understand the motives that the British government in India had to set up and expand the postal network in British India as it did during the nineteenth and early twentieth centuries.

~ ~ ~

### 3. HISTORICAL BACKGROUND

The Hindi and Urdu word for post, *dāk*, could be derived from the Sanskrit word *dakini*, which refers to celestial beings travelling through the air. *Dāk* also means “to call” in Bangla. The earliest description of the postal system in the Indian subcontinent comes from Ibn Battuta, the Moroccan traveller who was in India in the mid fourteenth century. The *Tuglaq* dynasty then covered a large part of present India and Pakistan. Horse-mounted men were stationed every eight miles along some routes and runners at every two-thirds of a mile on others to carry messages to the next post. These arrangements were meant for administrative purposes. It is clear that the emperors had organised these channels of communication to maintain contact with the different parts of the empire, to collect information for tax collection, and possibly for conveying military intelligence. The demand for long distance communication for these reasons was high enough that incurring the relatively high fixed costs of organised communication channels was warranted.

Of the *Mughal* rulers, Akbar (1556-1605) established an empire of sub-continental dimensions – present day Afghanistan in the west to Burma in the east. He employed four thousand postal runners. Letters, orders, reports and even fruit reached their destination through these channels. Runners had to run 80 to 90 miles a day (Majumdar 1995, 22) and were fined for slackness. They practised running with lead shoes, repeatedly lifted their feet standing in one place and some even used opium (34-5).

Other rulers of the age worked towards setting up the physical infrastructure. Sher Shah Suri, a challenger to the *Mughals*, made major improvements to the Grand Trunk Road that connected Chittagong in Bangladesh with Kabul in Afghanistan, a distance of over twenty-five hundred kilometres. Frequent rest houses or bungalows were built on the way and trees were planted for the convenience of travellers. The Grand Trunk road still forms a part of the national highway project in India and some cities have *dāk* bungalows even today.

As each emperor built on the organisation of their predecessor, the postal system evolved into something a little more sophisticated every few decades.

These postal networks were for political purposes only. India actively participated in international trade in the sixteenth and seventeenth centuries, but this trade was being carried out by private merchants rather than under the banner of the emperor. The *Mughal* emperors only collected taxes at the frontiers of their territory (Habib 1963, 69-73, footnotes 4 and 19). Tradesmen might not have had the resources to set up elaborate communications networks over large areas. Merchants were their own messengers. Emperors, on the other hand, had the financial and organisational means to incur the high fixed costs associated with setting up a network of mail carriers. They also had the political licence and will to set up roads and other infrastructure important for mail transfer. Till the seventeenth century, therefore, sultans and emperors used the postal network for administrative and military communication and espionage.

The British East India Company (EIC) came to Indian shores in 1601 with purely commercial interests. The official status of the EIC bestowed huge benefits

for its prospects as a profit making entity. It was a privilege to receive a charter from the Crown, even if it had to be renewed often and cost a substantial share of profits. These rights gave investors confidence in the Company. The Company had to ensure that it made good on its promise of large profits, thus affording substantial dividends to the shareholders back in England. Through the end of the seventeenth century, the EIC was immensely successful in its India voyages. It had established bases in Madras in the east and Surat in the west; Bombay was a relatively new base and its trade in Bengal was just emerging. At its peak, textiles made up more than three quarters of all Company trade with India, pushing pepper into second place, followed by indigo, saltpetre, coffee and tea (opium trade only started towards the end of the eighteenth century). The proprietors received 840 percent dividend on investments – financially, these were the Company’s best days (Robins 2006, 47).

The size of profits earned by Britain’s India trade and the frenzy this created in the London markets were excellent incentives for the Company to do all in their power to not just maintain, but strengthen their advantage in India. Near the end of the century, the profits they earned seemed inadequate. Josiah Child, in search for more privileges, invaded the *Mughal* army, but got crushed by Aurangzeb, the last powerful *Mughal* emperor, in the infamous Black Hole Tragedy of Calcutta. In another half a century, Robert Clive was able to accomplish what Child failed at. He got free trading rights out of the ports of Bengal, Madras and Ahmedabad, and rights to collect land revenue in Bengal. The Battle of *Palāshi* of 1756 was a turning point in Indian history in many respects. It was an example of British ingenuity – they had used bribes and military prowess against the weak *Mughal* emperor to neatly arrive



at their desired end. “Systematic looting of Bengal’s treasury” after the Battle of *Palāshi* and winning revenue collection rights over ten million people was “truly revolutionary” for a profit seeking joint stock company (Robins 2006, 3).

In 1766, Clive found it imperative to tone up the postal system of Bengal, which now became the centre of activity. He called upon the *zamindārs* (large land owners) to supply runners. A deduction in rent was allowed to them in proportion to the mileage covered (Chattopadhyay 2004, 34). This was known as the district *dāk* or the *zamindari dāk*. Chattopadhyay points out that speedy communication was key to the survival of the EIC in a potentially hostile environment. A set of rules, called ‘Clive’s Post’, constitutes the first detailed scheme for regularising postal communication. Mail packets were to be numbered along with date and time of dispatch in order to have the earliest information of the loss of a packet. If a packet was lost, the responsible runner could be identified and punished severely (35).

These changes under Lord Clive represent a further shift of the average cost curve for long distance postal communication lower and to the right. The system was now capable of handling a larger quantity of mail at a lower average cost due to a more efficient organisation.

The district *dāk* was meant to carry only government communication between police stations, municipal headquarters and other administrative offices. Often these offices were themselves used as post offices. The postal system in the Indian subcontinent therefore from the fifteenth to the eighteenth centuries was meant for political purposes only. The service was only used by the state – it was not open for the public. Exclusion from consuming this public good was achieved by

permitting only state officials to use the services. This may be seen as exclusion by membership. But the exclusion was not very effective, because state officials could send private letters through the post, and this misuse could not be easily detected. Majumdar (1990, 324) cites from the Minutes of the Consultations of 17th January 1774 recorded by Warren Hastings: "Private letters are exempt from postage and the whole expense of the establishment falls upon the Company. The Dauks from the same cause are loaded with packages of the most frivolous kind and of unreasonable weights."

Citing these reasons, Warren Hastings, Governor-General of the Presidency of Fort William (Madras), proposed a series of changes to the postal organisation. Most importantly, he permitted private individuals to use the service for a small fee based on distance and weight of the letter. He emphasised prepayment with copper tokens to reduce administrative burden and prevent embezzlement. Letters "on public service" still did not have to pay postage. The expectation was for official mail to be subsidised by private mail.

The administration was unable to enforce exclusion by membership. Letters were sent bearing (or without prepaid postage) and the recipient would refuse to pay the fine and postage after having read the contents of the letter (Clarke 1921, 7). Postmen were often of lower caste and were unable to get British officers and rich *Brahmans* to follow the rules.

Later attempts to fine-tune the postal network built on the early regulations by Clive and Hastings. The postal systems of the three Presidencies were combined and brought under one single administration by the Post Office Act of 1837. In an

attempt to ensure uniformity of service, a set of polymetrical tables was published. It showed the distance between important post offices in India so that postage could be calculated the same way everywhere. Till this year, different offices charged different rates of postage, and postage could even differ inside one Presidency depending on the clerk on duty. This Act was also responsible for creating a parallel network of post offices called the Imperial Post – these were open for use by private individuals. The pre-existing network, the district *dāk*, maintained by local authorities, was meant exclusively for government use. This Act also granted the Imperial Post a monopoly over postal communication in the subcontinent. Any private posts were liable to a fine of rupees fifty. Some district post offices were opened for private use during the 1830s, but this fact was not commonly known, and so these post offices were not often used by private individuals.

The introduction of the railways in India during the early 1850s changed the way the post functioned. Before this period, there was no major mode of long distance transport. Long distance roads were made of mud and were impassable during the three to four months of monsoon. Presumably, the sea route must have had to be used for communication between Calcutta or Madras on the east coast and Bombay on the west. Delhi would have had to be reached from Calcutta by boats going upstream on the *Ganga*. This must have generated major delays in long distance mail transfer. The establishment of long distance railway lines dramatically changed matters. Mail could now travel by a more direct route between the major presidency towns.

Where communication by rail existed, the practice was to hand over bhanga parcels [bulky parcels] to the railway at the latter's risk and to demand their conveyance to destination free of charge. This procedure led to a series of those acrimonious disputes which are so characteristic of the early relations between the Post Office and the railway companies. (Clarke 1921, 48)

The government announced in 1855 that the private railway companies should carry mail free of charge. The nature of the agreements between the postal department and the railway companies changed several times over the following decades, mostly in the direction of the post office having to pay the railways for the increasing volumes of mail being transferred.

With the introduction of railways in 1852 and good metalled roads, upon which light wheeled carriages could be used for the conveyance of mails and passengers over long distances, a complete change in postal administration was effected, and it was no longer necessary to vary the rates for letters according to distance. (Clarke 1921, 30)

These two events – establishment of railway lines and embracing uniform postage irrespective of distance – coincided in India as well as in England, but the reasons were different. Hill's (1837, 14) calculations showed that if postage in England were to depend on distance, it should vary by the thirty sixth part of a penny, and since this was infeasible, it made sense to have uniform postage.

The Indian colony was much larger than England. Uniform postage was nonetheless applied in 1854. The 1851 Report by the Postal Commissioners borrowed the rationale used in America to suggest that large distances were in fact just a sum of smaller distances, and postage should be determined by the number of pieces of mail being offloaded at each post office and the transport cost from the immediately preceding office. Together with uniform postage, the 1851 Postal

Commissioners also recommended abolition of franking (free use of the post by government officers), merging of the district *dāk* with the Imperial, and reduction in newspaper postage. Most, not all of these changes were implemented in the Post Office Act of 1854.

It was during this time that Indian soldiers serving in the British armed forces in Oudh waged the first war of Indian independence. The mutiny was crushed, but loss of life on the British side was significant. Loss of confidence of the British people on the EIC was even greater. The EIC was unceremoniously ousted from India and the Crown took over the administration of India in 1858, though the EIC continued a shadow like existence for another couple of decades.

This shift of power marked a change in the general attitude of administration of India. The post was no different. The Post Office Act of 1866 further reduced postage on letters and newspapers. Postage on domestic newspapers was almost twice that on foreign newspapers during EIC times – this distinction was finally done away with, making information sharing cheaper. Apart from low postage, the vast postal network was put to several other uses for the welfare of the people. New services were offered that the poor were able to benefit from – money order, savings bank, rent and revenue money orders, *etc.* These changes did not happen immediately on the Crown take over, but slowly over the following half century; the change, compared with the EIC days, in the way the post was used, is nonetheless perceptible.

Several of these changes did enhance the welfare of the Indian population, but some new rules were clearly meant to suppress. The important contribution of

the 1898 Post Office Act was giving postal officers the authority to intercept and detain any postal article that they found to be seditious and to undermine British rule in India.

This was mostly about postal policy. The allocation of post offices can also reveal intentions. The establishment of district post offices were of course driven by the demand for administrative communication between revenue and police headquarters. After 1837, the institution of the district *dāk* was made distinct from the Imperial Post which was meant to serve private individuals. What determined the establishment of Imperial post offices? For almost three decades, there does not seem to have been any decision rule. An 1867 rule for post office allocation said that post offices would be opened on a temporary basis for six months, and retained as a permanent establishment if half the postage collected covered all expenses. The other half was notionally meant to cover transport expenses. The rule for the establishment of temporary post offices is still not defined. In the absence of any objective decision rules for the allocation of new post offices, I seek reasons in the three possible British motives – political, commercial and welfare.

~ ~ ~

#### 4. LITERATURE REVIEW

Despite intriguing possibilities, the Indian post remains a decidedly understudied topic. Academic work on India's postal history is limited to one doctoral thesis (Ahmed 1981). Chattopadhyay (2004) discusses the Calcutta General Post Offices and the Indian postal system in general. Majumdar (1984, 1990 and 1995) provides a detailed and thorough account of India's postal history. It provides a wealth of information about all the political decisions taken at different times by each of India's Governors General.

Sen (1875) is the earliest work on India's postal system and has been an invaluable source of information not found in any other work. It is also surprisingly not cited in any of the later ones, except Borgias (2011), a coffee table book on India's postal history. Sen informs that a new rule established in 1867 laid out that post offices would be opened on a temporary basis. They would be made permanent only if they were able to cover costs in six months.

There are some other books by postal employees. Virk (1991) looks at administrative details such as the differential roles of the head, sub and branch offices and rate charts. It is also of philatelic interest. Clarke (1921) is a documentation of facts about the overland route, the sea post office, the post office buildings, and so on, and is sprinkled with interesting anecdotes. Sams (1922) provides a chronology of events that surrounded India's contribution to the First World War. Hamilton (1910) devotes his book to a description of the postal system in India and in other some countries. He provides a timeline of events related with

the post office starting 1860. A collection of essays by Shivanath (2002) gives a fascinating account of the post in Jammu and Kashmir, along with some broader accounts of postal people, although he does not cite his sources through most of his book.

There is also some recent research on pricing strategy and efficiency of postal systems in developed countries like England, France, the United States and Canada (Baratz 1962, Campbell 2002, Sorkin 1980, Crew and Kleindorfer 1993, 2001, 2002, 2006a and 2006b, and Crew, Kleindorfer and Campbell 2008). These are useful in understanding some aspects of pricing policy and demand behaviour, generally for public goods, or specifically for the post.

The chapter on *Economics of the Postal System* has already introduced and discussed the motivations for establishing and expanding communications network – political, commercial and welfare. These same motives, though slightly modified also appear in the literature on Indian railways. This is a section of India's transport and communications history that has been deeply researched. The literature on the placement decisions of the railways is rich. Donaldson (2010, 7) summarises his sources to say that the British investors and government in India had three motives for building the railroads "military, commercial, and humanitarian--in that order of priority". I present a brief summary of the literature discussing the three motivations for establishing railways in India. Parallels with the case of the postal system are apparent.



### Social / Welfare Motive

Well meaning British officers often recorded in their letters to each other or in their memoirs that they felt it their responsibility to 'civilise' India by introducing "English arts, English men and English opinions" (*Economist*, 25 July 1857, cited in Macpherson 1955, 177). Having observed the benefits of the steam engine back in England, they felt obliged to introduce the new technology in India as well. "Thomas Robertson declared flatly that India was insufficiently provided with railways, and he urged that more rapid progress "be made in their construction, so as to open up the large tracts which are now entirely deprived of suitable means of communication"" (Thorner 1950, 396). There were some railway lines that were specifically established to carry grain to famine hit areas and some others were subsidised for the purpose.

### Commercial Motive

Thorner (1950, 389) notes that the big merchant houses of the time had a very important say in the positioning of railway lines, together with the merchants in the Indian ports who they dealt with. The transportation of salt, coal and cotton figured importantly in these decisions. This is a motive that several sources cite at length.

The pattern of India's rail expansion was one of connecting the principal ports with the major agricultural hinterlands and urban centers in order to draw goods out for export and to provide markets for imports. Because of this orientation toward the ports, lateral movement within the country remained difficult (Hurd 1975, 267).

Governor-General Dalhousie noted that the construction of some lines would give Bombay easy access to “the rich products and important trade of Central India” (House of Commons Parliamentary Papers 245, 16).

The inroads made by the railway changed the economic dynamics in India dramatically. Several Indian manufacturers lost their markets to cheap British imports. This, together with the already high levels of taxation, increased poverty greatly and reduced the purchasing power for the imports.

The cotton textile interests in Manchester and Glasgow... expressed concern that the welfare and therefore the purchasing power of the ryot [landless farmer] should be increased, but this beneficial side of their self-interest was probably offset by their efforts to prevent the growth of a modern textile industry (Macpherson 1955, 183).

#### Military motive

It was after the mutiny of 1857 that the rail expanded its reach at a much quicker pace. The north western parts of the empire had to be connected to the centres of power for defence needs. “The political and military aspects of Indian railway investment – internal administration, reduced military expenditure, defence from external aggression – probably influenced the Government most, and have certainly received most attention from historians” (Macpherson 1955, 179).

The commercial and military motives for setting up the railways were undoubtedly the most important. Independent India is in a position to greatly benefit from the railways. Indian Railways are a national pride today. India received as a gift the technology, operation skills and organisational blueprints from Britain.

It might have taken her several decades more to learn these without external assistance. But in the latter half of the nineteenth century, potential benefits were not obvious. This was borne out when railway lines and coaches were attacked by freedom fighters during the first war of independence in 1857. They were seen as symbols of British oppression – political and economic.

The economic policies of the railways restrained rather than facilitated the indigenous economic development of India, that is, the economic policies of the railways retarded the economic changes that the very existence of the railways made possible... the dominant tendency of the Indian railways was to carry a relatively small volume of traffic at relatively high rates rather than a relatively large volume of traffic at relatively low rates (Thorner 1950, 396).

The operational similarities between the railways and the post are apparent. The rest of this research shows that even the reasons for British officers establishing these networks in colonial India were the same. I have already shown why, *a priori*, one might expect these motivations to hold. I now proceed to describe the data and the evidence.

~\*~

## 5. DATA

My main sources of data are the Postal Guide, Poona District Gazetteer, Imperial Gazetteers and Annual Reports of the Post Office. These are supplemented by secondary literature, census documents, parliamentary papers and other archival material.

### Postal Guide

The post office has been annually publishing an alphabetical list of all the post offices in British India since 1869. This Postal Guide is meant for the ease of postal sorters. Once the railways started to be used for mail delivery, it became important for the clerks to sort mail quickly and efficiently in the post offices and in moving railway carriages. It also served as a guide for the people using postal services – they could check the district a village fell in so that they could write the full and correct address on the envelope. They could also check the rate they needed to pay and services offered in different post offices – money order, telegraph, savings bank, insurance, value payable service (or cash-on-delivery) or telegraphic money order. I procured copies of and digitised four such lists from the British Library, London - 1881, 1890, 1899 and 1911. I chose these particular years with the intention of juxtaposing these postal data with some census information on district population and area to compute postal density. This is a wealth of data and is being used for academic purposes for the first time. I have used these data to create postal density maps for the Indian subcontinent for the four years mentioned.

## Gazetteers

During the 1880s and 1890s, the British administration in India published a Gazetteer for each district and some major cities. These were one time publications probably meant as guides for new officers taking charge of the district. Some of these are available freely through Google Books, and some are available at university libraries. Among the various Gazetteers that I saw, the Poona District Gazetteer (1885) had the best quality and most comprehensive district, subdivision and village level data. As described later, a focused study of the Poona district is fitting for its political importance; yet, from the perspective of population wealth, agriculture and trade, it was typical. In over 1,500 pages, the three volumes describe in detail, the history, topography, soil quality, vegetation, agriculture, industry, administration, transport and communication arrangements, health and education facilities, local food and customs, among several other topics.

A summarised version of the Gazetteers for all the districts and native states are freely available at the Digital South Asia Library website (<http://dsal.uchicago.edu/>). This collection of reports is called the Imperial Gazetteer. It also contains descriptions of the administration, trade, history, customs, *etc.* for the entire subcontinent.

## Annual Reports of the Operations of the Post Office of India

The Annual Reports of the Post Office have data at the province and subcontinental level. The British Library, London and the National Archives of India, New Delhi, have some volumes. I have copies of some of the pages of thirty years'

reports between 1855 and 1917. The data they contain are: number of letters, parcels, newspapers, *etc.* that circulate through the post, number of postal employees of different categories, summary of receipts and expenses, and in some volumes, number of post offices, post boxes and postmen, and miles of postal lines covered by rail, mail carts, runners and steamer ships.

Sen (1875), Clarke (1921), Majumdar (1990), Ahmed (1995) and Richards (2012) reproduce the data from these annual reports. Since these are more complete than my collection, I have used them in places. Apart from the data appendices, the “report” parts of these volumes were also informative.

~ ~ ~

## 6. IN POONA DISTRICT OF BOMBAY PROVINCE

I begin a presentation of the evidence for the three motives – political (including administrative and military), commercial and welfare, with the post office allocation in the Poona district of Bombay Province. A sharp focus on a small geographical area of 5,350 square miles helps bring out these motives in a concrete manner by attaching specific crops, industries or incidences to post office allocations. The next section looks at postal allocation and postal policy at the level of the entire subcontinent. Each approach has its advantages and disadvantages. At the level of a single district, I am able to locate each city or village with a post office, thus achieving finer granularity in post office allocation. At the national level, as seen in the following chapter, I draw conclusions only from district level postal densities. Also, analyses of postal policy benefit more from discussions at the national level.

As mentioned in the *Data* chapter, I have chosen Poona district for analysis partly for data reasons. This was the only district for which extensive village level information was available in the District Gazetteer. Problems arising from incomplete data, discussed below, pose a less serious threat to the robustness of further analysis. There are some other reasons for Poona being an interesting district to study. It had a railway line passing through it as of 1881, and had another line added the following decade. It grew some crops that were exported to Europe, though not much cotton, and no opium at all (these were the important Indian exports to England that are discussed in the following chapter). Poona was “the real

head-quarters of the anti-British movement” (Clarke 1921, 85). Schwartzberg (1978, 70) lists some key events related with the freedom struggle that were centred at Poona: (i) the Phadke rebellion of 1879; (ii) secret revolutionary groups were started here in 1895 and 1904; (iii) Charles Rand, the assistant district collector and plague committee chairman, and Lieutenant Charles Ayerst were assassinated in 1897. These were the earliest anti-British movements after the first war of independence in 1857. Poona also faced riots on economic issues from farmers who were considered normally non-violent.

This section looks at micro level postal data from Poona district. With some village level information, I arrive at an approximation of an “ideal” postal network, which serves as a basis for comparison with the real postal network as it was in 1881. I then proceed to track the growth of the postal network in Poona district from 1881 to 1911, and attach meaning and motives to different aspects of this pattern.

#### *Model to determine an “ideal” postal network*

The aim of this section is to find an efficient allocation of post offices in the Poona district in Bombay Presidency in 1881, imagining that a benevolent social planner is making these decisions, and to compare it with the real network established by the EIC and the Crown, and explaining any differences. This model is based on the one employed by Athreya and Somanathan (2008) to study postal allocation efficiency in one block of Tamil Nadu between 1981 and 1991.



Assumptions:

- i. A benevolent social planner is trying to establish a postal network to ensure the maximum good for the most people. A post office allocation is defined as ideal if it minimises the total distance travelled by the population to the nearest post office.
- ii. Each individual is given the same weight, irrespective of their occupation. This model perceives an illiterate farmer as having the same demand for postal communication as a government employee or a merchant.
- iii. The only factor that determines the weight given to a village is its population. Linking mountainous villages might be more expensive than those near navigable rivers; but I do not take terrain into account because linking mountainous locations is just as important as linking a village that is on the bank of a river. This is discussed further below.
- iv. The total budget for setting up post offices in this district is fixed.
- v. All the post offices offer only one homogenous level of service.
- vi. Cost of transport between post offices is low, either because they are near a railway line, or because the employment of foot runners is cheap.
  - › *Assumptions v* and *vi* imply that the setting up cost for each post office is the same
  - › With *Assumption iv*, this means that this model has a fixed number of post offices that can be established
- vii. I fix how many post offices are to be assigned by the model.

In more complex versions one could account for the cost of establishing a facility, contributions from those desirous of having a post office in their village or expected revenues from users, as Athrey and Somanathan (2008) do, or adding terrain to account for ease or difficulty of mail transfer. I do not attempt these for the following reasons.

It is unnecessary to allow the budget and number of post offices to be variable. I am comparing the real situation with what ideally might have been under a social planner. For the comparison to be fair, I make the number of post offices the same as it really was in 1881, thus tying the hands of the social planner to the same extent that the British had their hands tied by financial or any other considerations. I am investing in the social planner, some of the constraints of the British. How this same number of post offices is distributed across the villages will be decided freely by the model.

The process of post office allocation was not market driven or democratic in nineteenth century British India. While the 1867 rule did decide to maintain post offices only if they are able to cover their own expenses, this constraint was not binding after the concept of extra-departmental post offices was introduced. Even as early as 1881, almost half of all post offices in Poona district were under the charge of village schoolteachers. Extra-departmental post offices were cheap to run; these schoolteachers only got paid rupees three a month during the late 1860s for undertaking postal responsibilities (Majumdar 1984, 108). Any revenue earned from these post offices through postage would most certainly have been adequate to

cover the small expense of running them. Therefore considerations of revenue and demand for services were not deciding factors in post office allocations.

Even if these considerations could be included in the social planner's model, it would not be a realistic representation of reality. Poona district was part of the Poona Postal Division, which included at least one other district – Thana, immediately to the west of Poona. This was the smallest administrative level of decision-making within the postal department and it is conceivable that post office allocation decisions were made at this level – higher than just the Poona district. Each post office in the Poona Postal Division submitted its accounts to the headquarters of the Bombay Postal Circle, which in turn submitted collected accounts from all postal divisions in the circle to the national headquarters in Calcutta. Larger financial decisions were made in Bombay and Calcutta. The key point here is that post office allocation and financial decisions were made at a level higher than the Poona district. So it would be unrealistic for a social planner to make these decisions in Poona district alone.

The postal department had started to break even just before 1890. This is for the whole postal department. There is no suggestion anywhere in the literature on India's postal history that post offices were opened in districts or provinces where the department was making a profit. So even though I do not know the financial performance of the Poona Postal Division, that question is immaterial to the post office allocation decisions in Poona district.

In sum, the aspect of the model that fixes the number of post offices to be set up in Poona is a valid representation of reality for the purpose of comparison with the real network.

Terrain could be important because the cost of conveying mail to mountainous regions would probably be higher than to villages on the plains and by rivers. In fact, there is a lot of variation in terrain in the district (Poona District Gazetteer, 1:2-4). The western edge along the border with Thana has rugged hills about three to four thousand feet high. This part of the district is characterised by the beginnings of rivers, stunted or no vegetation and few hill tribes. A narrow central belt through Poona city and parts of Sirur and Purandhar subdivisions (*Map 6.1*) sees these hills flatten into plateaus with wide valleys. The fertile soil here supports crops well and therefore a dense population. As the district gets narrower further to the south east, land is barren and climate dry. This is the western fringe of the Deccan plateau. Most rivers flowing through Poona district are abundant in the monsoon months, but turn into little streams in the dry season.

District topography is related with village population densities. The western hilly regions and the barren eastern half supported smaller populations than the central belt with fertile soil. Since village population is one of the inputs in the model, some aspect of topography is already accounted for. Including information about the path of rivers in the model is unnecessary, because they were not perennially navigable. This is confirmed below as part of the empirical analysis of the factors that determined the chances of a village being assigned a post office.

Further, the cost of transferring mail between post offices may be ignored for the following reasons. It is enough to look at the convenience of the postal service users when deciding on post office allocation.

- › Over long distances, railway lines were a cheap mode of transport. The post had various agreements with the railway companies at different points in time, regarding the free or cheap carriage of mail and sorters. In the small district of Poona, there was one railway line running east-west through its length.
- › Over very short distances, among a few villages, runners were employed – also cheap, since these were local people who knew the terrain well and were paid little<sup>3</sup>;
- › Bullock carts and boats were also used though often through private contractors. Their use and cost depended on terrain and season. Several roads were not passable during the four months of the monsoons, and several streams were not passable during the dry season. For easy tractability, these modes of transport and associated costs are ignored in this model.

A model that ignores terrain might choose inaccessible villages where it is expensive to establish and maintain post offices. But since providing easy access is

---

<sup>3</sup> *“Postal runners were largely drawn from the less civilized races of India... They will face wild beasts and wandering criminals, but will go miles to avoid an evil spirit in a tree. With them the mail bag is a kind of fetish which must be protected and got to its destination at all costs. Dishonesty among them is almost unknown and they are wonderfully true to their salt, which with them seldom exceeds twelve rupees a month.”* – Clarke 1921, 5. A Rupee could buy between three and six kilograms of rice depending on the province (Prices and Wages in India 1920).

the key function of the post, it is alright for a benevolent social planner to exclude terrain.

Data:

Most of the data for this section are from the District Gazetteer for Poona (1885) – all the data in it is from the 1881 Census. This publication was probably meant as a guide for a new officer who is just taking charge of the district. It was therefore not felt necessary to update it frequently.

The three volumes of this publication have detailed information on one hundred villages in the district – population, location (latitude and longitude and/or distance from important cities and/or location relative to rivers – enough information that I have been able to find the actual latitude and longitude for all these hundred villages), when weekly markets and annual religious fairs happened, descriptions of caves, forts, temples and mosques, railway stations (number of passengers and quantity of goods transported from each), post offices, municipalities, police stations, dispensaries and interesting historical notes (miracles performed by saints, nurseries that grew good coffee, *etc.*) (*Map 6.1*). These details are available for hundred out of 1201 villages in Poona that are inhabited by thirty-seven percent of the population. The Gazetteer has 119 villages in its list, but population information is missing for nineteen of them. It is not clear why these 119 villages were selected to be included in the Gazetteer. Some problems of incomplete data are discussed below.

Poona district had 55 post offices in 1881, but this model only considers forty-five. Eight villages which had post offices do not appear in the Gazetteer's list. Though I know the location of these eight villages, I do not know their population or any other details. Poona city had three post offices – I only need to count one of them, since this model does not account for distances travelled within a city. This leaves the model to assign forty-five post offices among the hundred villages that I have data for.

The social planner's model:

There is a set of  $n$  villages indexed by  $i$  and their locations are given by  $V = \{v_1, v_2, \dots, v_n\}$ . Each village  $i$  has a population  $p_i$ .  $k$  is the total number of post offices to be assigned to these  $n$  villages. The set of  $k$  villages with post offices is  $K = \{s_1, s_2, \dots, s_k\}$  indexed by  $j$ .  $K$  is a subset of  $V$ . In the present case,  $n = 100$ , and  $k = 45$ , *i.e.*, the model needs to assign forty-five post offices among hundred villages. The value to be minimised is the total distance travelled by all people  $p_i$  in each village  $v_i$  to the nearest post offices  $s_j$ .

$$Z = \sum_{i=1}^n p_i \min_{K:|K|=k} \|v_i - s_j\|$$

The choice variable is  $K$ . Each collection of elements in the set of villages  $K$  will yield one value of  $Z$ , or the total distance travelled by all the inhabitants of these hundred villages to the nearest post office. The final choice must be the  $K$  with the lowest  $Z$ .

The last expression is the Euclidean distance between each village  $v_i$  and the nearest post office  $s_j$ . Since this model is only looking at a small geographical area, Euclidean distances will not be perceptibly different from geographic distances, which would account for the curvature of the earth. If a village has a post office, then the distance that its population will need to travel is computed as zero.

This model is a simplified version of the model used by Athreya and Somanathan (2008). They start with a certain number of post offices in 1981 and calculate the optimal location of *additional* post offices by 1991, given the population of each village. It also adds budgets and setting up costs to the model. This paper does not require either for reasons explained under the *Assumptions* section. I cannot run this model for two time periods as Athreya and Somanathan do, because my village population data are available only for one year – 1881. Since I know that Poona had forty-five post offices in 1881 (among the hundred villages in my dataset), I can run the model to tell me how close the ideal allocation of forty-five post offices is to the real one.

Since there are more than  $6 \times 10^{28}$  ways to assign forty-five post offices among one hundred villages, this exercise would involve computing one value of  $Z$  for each of these different sets,  $K$ . To ensure tractability and get results within a reasonable time frame, I run a different model, the results of which are arbitrarily close to the results from the correct model<sup>4</sup>. I start with any arbitrary  $K$ , say the actual 1881 postal allocation, and change the position of just one post office so as to reduce  $Z$  to the extent possible. I do this by removing any one post office from its

---

<sup>4</sup> I am grateful to Professor Jean-Laurant Rosenthal and Geoffrey Ball for this suggestion.



village and assigning it to any village that does not currently have a post office (including this one that just had its post office removed), so that the distance travelled by the district population to the nearest post office is minimised. I do this for each of the forty-five post offices in the  $K$  that I begin with to arrive at a final allocation. To ensure that this indeed is an ideal postal allocation, I use the results from this first iteration ( $K'$ ) as an input for the next iteration (the result of which is  $K''$ ). Repeated iterations only change the allocation by at most two villages. The results presented in this paper are from the second iteration. I also start with other arbitrarily assigned initial allocations and find the same results.

I then see how close the real network was with this “ideal” network.

Differences, of which there are some, can be explained through the three motives that the British had for establishing post offices – commercial, political and welfare.

Problem of incomplete data:

The Gazetteer only has data for hundred villages out of 1,201<sup>5</sup>. So 335,525 out of Poona’s 900,620 people lived in these hundred villages or thirty-seven percent of Poona’s population lived in nine percent of its villages. This means that my model is unable to include in the optimisation exercise sixty-three percent of Poona’s population that lived in 1,101 villages. The following analysis helps understanding the limits of the current model.

---

<sup>5</sup> There were either 1,185 or 1,201 villages in Poona in 1881. The Gazetteer lists both these numbers when listing the number of villages by city size and by sub-division (*Table 6.A*). I am working with the assumption that there were 1,201 villages – it does not matter too much one way or the other.

*Tiny villages:* As Table 6.A shows, there were 85 villages with a population of 100 or less, 170 with 100-200 and 438 with 200-500 inhabitants. The average population of villages that had post offices was 3,602 (including the population of Poona City increases this average to 6,080), much greater than 513, which is the average population of villages not in my dataset. The 681 missing villages which had a population of five hundred or less might not have exerted too much of a bias on the model had they been included, unless they were all concentrated in one part of the district. Theoretically, this possibility cannot be ruled out, but the realistic assumption is for these villages to be distributed throughout the eight subdivisions.

*Possibility of error:* One instance where the data restricted model might present results different from the full model with 1,201 villages, is if there is a significant overlap between the right tail of the distribution of missing villages (larger missing villages) and any part of the distribution of villages that got assigned post offices in the model.

*Figures 6.1a* (full bars) and *6.1b* (stretched to show the green bars) show the number of villages missing from the dataset (yellow), in comparison with those included (green bars). The horizontal axis shows village population sizes. The height of each bar is the total number of villages in Poona district in 1881 in each category. Percentages displayed are the shares of villages in each category that I have data for, or the height of the green bars together relative to the full height. So I do not have data on any village that has hundred or less inhabitants and have data for only two percent of those with 101-200 inhabitants, and so on. The light green bars show the number of villages in my sample that got assigned post offices by the model.

Looking at the overlap of the right tail of the yellow histogram and the entire light green histogram, suggests that the maximum scope for error is in the categories of villages that have 1,001-3,000 people. The villages with five hundred or fewer people have not been assigned post offices at all by the model. Even those with 501-1,000 people only got four post offices.

In the 1,001-2,000 category, nine out of twenty-seven villages got assigned post offices. If I was able to include the 107 missing villages, a different nine villages might have been assigned post offices. The model might even have assigned post offices to more or less than nine villages in this category. Ten of sixteen villages in the 2,001-3,000 category got assigned post offices. If the ten missing villages were included, surely some of them might have got post offices. I know that there were eight villages that had post offices but are not part of my dataset. One of these missing villages is a subdivision headquarters, and so is likely to belong in the rightmost three or four yellow bars. Had the others been included, they might have exerted a pull in an indeterminable way.

*Visual comparison of the map:* Comparing the scatter plot of the locations of the villages in the dataset with the map of Poona (*Map 6.1*) suggests that no particular region of the district is completely excluded in the dataset. The villages included in the dataset are uniformly spread across the district. This still leaves us to explain the geographical distribution of the 1,101 remaining villages. While it is not known how or why these hundred villages were selected to be included in the District Gazetteer, it is good to know that they are not geographically concentrated.

Figure 6.1a: Shares of villages in Poona district, by population size, that are included in the social planner's model

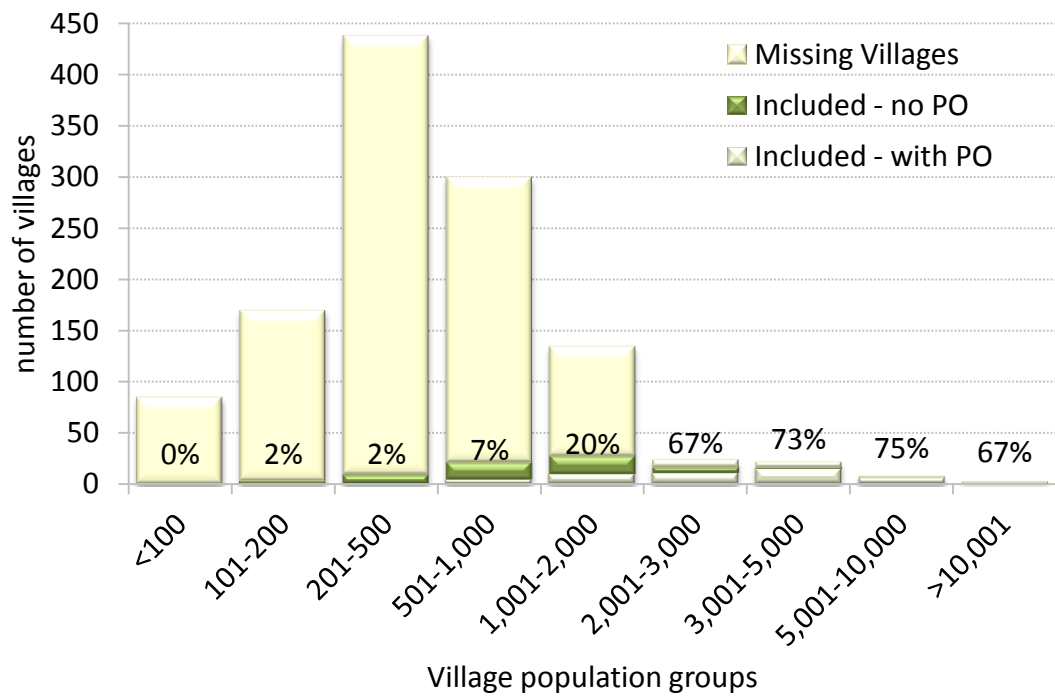
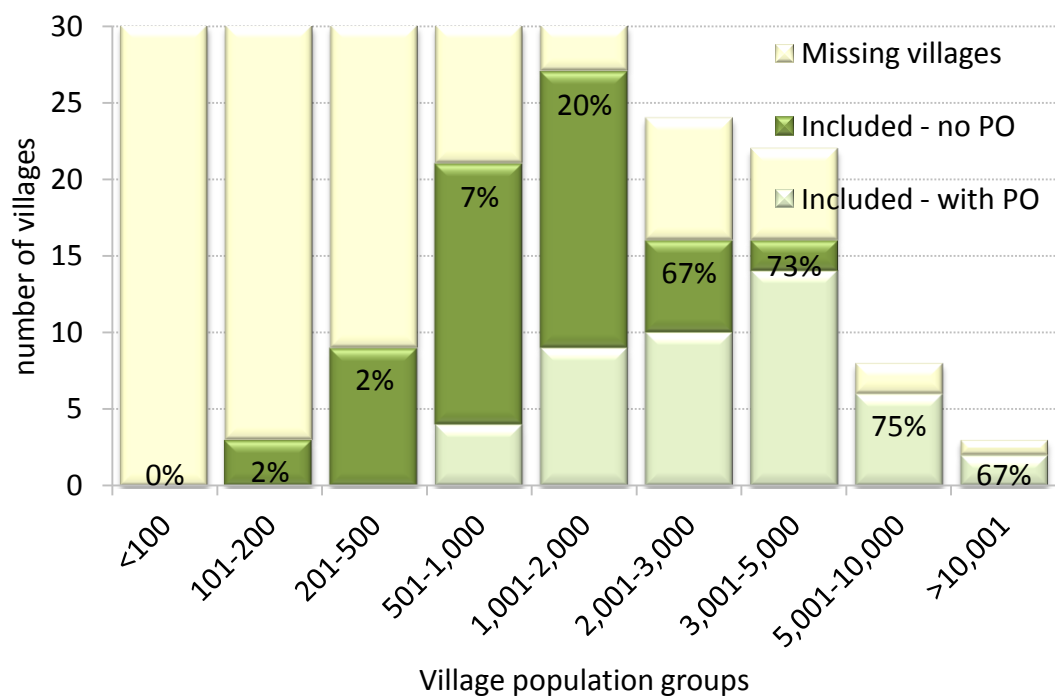


Figure 6.1b: Distinguishing villages that got assigned post offices by the social planner from those that did not



Source: District Gazetteer, Poona 1885

*Distribution of large missing villages:* Bhimthadi, Haveli and Sirur have the highest populations per missing village (*Table 6.A*). Kirkee Bazar and Alegaon may have had large enough populations to account for Haveli and Sirur. In fact, it is possible that, given its political importance, Kirkee Bazar is that one missing village with over ten thousand people. Chas Kaman is listed as a village adjoining the town of Chas. Chas had silk plantations and one of eighteen government vernacular schools in the district. Since Chas Kaman had 2,225 people, Chas surely had more. That said, the other sub-divisions have less than a third of their populations represented in the model. So the eighteen missing villages with over two thousand people each might be spread across all the sub-divisions. The eight missing villages with post offices listed in the last row of *Table 6.A* have been accounted for by reducing the number of post offices being assigned by the model by eight. But if these eight villages were included, they might have exerted a pull in a different direction.

Mindful of these limitations, some simple conclusions can be made from a comparison of the social planner's model with the real postal allocation in Poona district in 1881.

*Table 6.1* shows that the average population of villages that really had post offices was less than of villages that got assigned post office in the model, but only slightly so. The villages that were preference by the British in terms of postal connectivity must have had reasons other than population size for being important. The following pages discuss these reasons in detail and then they will be analysed again in terms of the three motives.

*Table 6.1: Summary of village population data and model results*

	Average population (Poona 1881) <sup>a</sup>	Average population (model)
Villages that got assigned a post office	6,081	6,141
..... <i>excluding Poona City</i>	3,270	3,332
Villages that did not get a post office	1,125	1,076
Villages for which I do not have data		513

<sup>a</sup> *Source: District Gazetteer, Poona, 1885*

Results and comparison:

*Maps 6.2a* and *6.2b* show the real distribution of post offices in 1881 and the results of the model. It is clear that the social planner’s network is more evenly spread out than the real network in 1881. As a simple exercise to further compare these results, I piece apart the villages that were assigned post offices by both the British in 1881 and the social planner, by either but not both, and by neither. Some statistics on these four groups of villages show why some were favoured by the British and some by the social planner.

*Table 6.2* shows that there were twenty-four out of hundred villages that the British postal department and the social planner disagree on. The “yes-yes” and “no-no” categories are easy to explain. The larger villages were assigned post offices by both the British and the social planner, and the much smaller ones were not. This is clear from the average population sizes of the villages in these two categories – 3,863 and 918. Given that the average population of these hundred villages (excluding Poona city’s 129,751 inhabitants) was 2,096, the village with the mean

population did not have a post office. But this statement could be misleading because sixteen out of the forty-five post offices were in villages with population smaller than 2096. There were clearly other factors behind the choice of villages for post office allocation than simply population size.

*Table 6.2: Comparison between Poona's and the social planner's networks*

Number of villages		social planner's Poona	
		Yes	No
Poona 1881	Yes	33	12
	No	12	43

preferred by:	villages	average population	HQ	municipality	railway line	river	police station	fair
both	33	3,863	10	15	7	20	10	17
British	12	1,690	3	0	4	8	1	2
planner	12	1,917	1	0	0	4	0	3
neither	43	918	2	0	5	18	0	14
total	100		16	15	16	50	11	36

*Source: Poona District Gazetteer, 1885*

Comparing some characteristics of the “yes-no” and “no-yes” categories is more interesting. I refer to the “yes-no” category of villages as being preferred by the social planner, and the “no-yes” category as being preferred by the British postal department. The villages preferred by the social planner have a larger average

population than the ones preferred by the British postal department. This means that a larger population was being served by the social planner's postal network than the actual one. This is also apparent by looking at the catchment area of each post office. While five miles might be a long way to a post office, it might be manageable on occasion. A five mile radius around each post office is marked in *Maps 6.2a* and *6.2b*. A smaller overlap between the catchment areas of adjacent post offices indicates a larger population served by the social planner's network, compared with the real network in 1881. Since the terrain was easy through most of the middle and eastern section of the district, a denser network in the central belt (through Junnar and Khed subdivisions and Poona city) is not justified on grounds of accessibility.

Of the twelve villages preferred by the British, three were subdivision or petty division headquarters. That village headquarters had post offices was obvious – in several instances the district headquarters office functioned as a post office. In the Bengal Presidency, even police stations functioned as post offices. Four villages were along the railway line and eight were along a river. If a village is along a railway line or navigable river, establishing a post office in it is much cheaper than for a village to which transport has yet to be organised. Information on these characteristics was not included in the social planner's model. The planner's model is based purely on inter-village distances and population.

A probit approach:

A simple probit model for Poona district postal allocation helps find out more precisely how far these village characteristics predict the presence or absence of a



post office in a village. It uses data for the hundred out of the district's 1,201 villages that accommodate a third of Poona's population. The variables include one continuous variable, population; and four indicator variables, presence of a rail line, river, headquarters (sub-division/petty-division), and whether the village is home to an annual religious fair. As will be seen below, each of these variables says something about motivations for establishing post offices.

A village does not necessarily have to have a railway station (or river) for it to be assigned a value of 1 for the rail (or river) variable. It is enough for a rail line (river) to be passing near it.

Sixteen villages were various kinds of headquarters. These were meant to be revenue collection offices. Since Poona district had eight subdivisions, there were eight subdivision headquarters too. There were eight more that were petty division headquarters. Petty divisions were smaller than subdivisions and may have been under their administration. Of these eight petty division headquarters, three had a population of less than a thousand and did not have post offices. All other headquarters had post offices.

Other data also available are police stations, municipal offices (with revenues and expenditure) and dispensaries (number of out-patients treated). All the villages that had either a police station, a municipality or a dispensary also had a post office. Since they perfectly predict success, they have not been included as predictors in the probit regression presented below.

Fixed effects control for unobservable (or rather, unmeasurable) factors at the sub-division level. Only two of these coefficients are statistically significant –

Khed (positive coefficient) and Haveli (negative coefficient). This is apparent even by looking at *Map 6.2a*. Khed had a particularly dense postal network and Haveli, a particularly sparse one. Reasons are discussed below.

The results of this model do not strictly imply causality because there may be some endogeneity and unobserved heterogeneity. Endogeneity is less of a problem for the variables rail, river, headquarters and fair because it is not likely that the presence of a post office in a village caused a rail line to pass through it, or for it to be turned into an administrative headquarters. Religious fairs predated all of these other factors<sup>6</sup>; they are certainly exogenous. It is possible that population is endogenous. Ten to fourteen percent of the people born in Poona district lived elsewhere in the subcontinent according to the 1881, 1901 and 1911 Bombay Census reports. Migration pattern within the district is unknown. It is conceivable that some people migrated to the sub-division headquarters and other commercial hubs for employment.

The probit model is:

$$PO_i = \alpha + \beta * population_i + \gamma * rail_i + \delta * HQ_i + \lambda * fair_i + \rho * river_i + \epsilon_i$$

The probability of success (presence of a post office) depends on the values taken by each of these indicator variables, and it varies by village population.

Probabilities in a probit model with a continuous variable do not change by a

---

<sup>6</sup> The fair in Alandi (population: 1,754) was attended by over 50,000 people every year. It was said to be home to a saint Dnyaneshvar (1271-1300) who performed two miracles to prove that he, his two brothers and sister were in fact incarnations of Gods Vishnu, Shiv, Brahma and Lakshmi. “The two miracles were endowing a he-buffalo with speech and making him recite Vedic *mantras*, and inviting in person the ancestors of a man when he was performing their *shrāddh* ceremony [paying homage to deceased ancestors]” (Poona District Gazetteer 2:104).

common difference or common factor. So for any given set of values of the indicator variables, the marginal effect of population will be different at hundred inhabitants as compared with that at two thousand inhabitants. Percentages for each variable in the first column of *Table 6.3* are marginal probabilities at the mean values of all other variable. Percentages in the latter columns are total probabilities for villages with the given population sizes. Each row shows what the probability of a village having a post office is in cases where it has or does not have a rail line, a river, an annual religious fair and whether it was some kind of an administrative headquarters.

*Table 6.3: Predicted probability of the presence of post offices in villages in Poona district in 1881*

Dependent variable : presence of a post office in a village  
 Number of observations : 100 villages  
 Fixed effects used : sub-division

marginal probability	mean		total probability for villages with population:				
			100	500	1,000	2,000	3,000
1.35 <sup>a</sup>	3,355	Population (***)					
		Constant (***)	0.03	0.16	0.90	11.72	49.57
11.56	0.16	Railway line (***)	8.18	17.83	36.97	80.12	97.85
13.17	0.16	Headquarters (***)	29.50	47.31	69.91	95.55	99.80
9.98	0.36	Religious fair (**)	0.80	2.64	8.90	43.31	84.37
0.08	0.50	River	0.03	0.16	0.91	11.86	49.85

*Note: \*\* and \*\*\* indicate statistical significance at 5% and 1% respectively*

<sup>a</sup> *The marginal probability for population is for one hundred inhabitants. So at the mean population of 3,355, if a village has hundred more inhabitants, there is a 1.35% higher chance of it having a post office.*

From a quick look at the marginal effects of the variables, it is clear that headquarters and railways are the strongest predictors of the presence of a post office in the average village. Annual religious fairs are the next best predictors. Since there is a lot of variation in village population size, it is also instructive to see the predicted probabilities for villages of some different population sizes. A village with five hundred people or fewer is extremely unlikely to have a post office, unless it is a headquarters. If a village with five hundred inhabitants is a headquarters the probability that it will have a post office is almost half. This result is smaller than would be expected because all district headquarters were automatically used as post offices. These estimates are smaller because of the three petty division headquarters that did not have post offices.

For a village with two thousand people, having a rail or being a headquarters almost ensures that it will also have a post office. Any village with three thousand inhabitants is almost certain to have a post office, irrespective of other characteristics. Even if it has none of the three statistically significant predictors, there is still a near fifty percent chance of it having one. This is also borne out in *Table 6.1* which shows that the average population size of all the villages with post offices is 3,270 (excluding Poona city). The last category of villages (five thousand inhabitants) has post offices with near certainty. There are only eight villages in the dataset with over five thousand inhabitants, and they all had post offices. Dropping these villages from the data does not significantly change the results for the other categories.

The river variable comes out statistically insignificantly. One would expect that a village located at the banks of a navigable river might get precedence over more remote villages as far as ease of postal connection goes. An explanation of this lack of relation might be that many of these rivers were not navigable throughout the year. So villages near them were not necessarily easier accessible than any of the others.

So overall, the headquarters variable is the most important predictor of the presence of post offices. This can be seen as a reflection of the political necessities of the time. This phenomenon of district and police headquarters being well connected by post is discussed further in the following chapter on the Indian subcontinent. Railway lines are also an important predictor. The rail line passing through Poona district was the line connecting Bombay and Madras, one of the very early lines laid out. As will be seen in the following sections on the growth of the postal network, the close association between railway stations and post offices strengthens further over the following thirty years. The railway was increasingly being used for mail transfer over long distances. This connection is just a reflection of operational efficiency. Putting post offices in small villages that held religious fairs for two months a year could be attributed to the welfare motive. Post offices were presumably being set up in these villages so that pilgrims could communicate easily during the fair.

Sub-divisional analysis:

The results of the social planner's model and the probit analysis of Poona's postal network as it was in 1881 have given an overview of the important determinants of post office allocations. A detailed understanding of the key characteristics of each subdivision helps ground this understanding in the political and economic facts. Some subdivision level population and area data can be found in *Table 6.A*.

i. *Junnar* - Weaving and paper making were Junnar's two major industries. Paper was sent to Poona, Sholapur and Hyderabad (Poona District Gazetteer 2:88). Trade from Ahmednagar district on the east crossed Junnar on its way to Bombay. Junnar was also able to make use of the manure from the sheep going to Bombay (89). Arable land made up among the lowest proportions of land area in Junnar – 60 percent, but the chillies, onions, wheat, *bajra* and oil-cake got exported to Europe. The northern village of Ale sent thirty to forty thousand rupees (three to four thousand British pounds) worth of plantains to Poona (89), even though less than one percent of the arable land was used for growing fruit and vegetables. Junnar's arable land was extremely fertile. Its dammed rivers and regular rains made it an attractive centre for British presence and trade.

While Junnar's postal density was less than the southern neighbour Khed, it was higher than the eastern subdivisions of Sirur, Purandhar, Bhimthadi and Indapur. Its most important attraction was commerce.

ii. *Khed* – Khed had a much higher postal density than the social planner would have assigned. It is easy to explain the importance of Khed and Chakan in the southeast for British interests – pepper (90). The pepper grown in these villages was of superior quality and was exported to Europe. Khed did not have a railway line passing through it due to the hilly topography, but had an excellent road network. A lot of the activity in Khed was directed towards providing for Poona city. The Poona-Junnar road passed through Khed and there was heavy merchant traffic on this road, mostly because it was passable even through the monsoon months.

Just like Junnar, export to European markets was a factor that gave Khed a high postal density.

iii. *Maval* – Khadkala and Khandala were two cities that had a very small population, but they had post offices. Khadkala, though a small village, was the sub-division headquarters, and Khandala was a very popular tourist destination due to its forts, rock temples, pleasant weather and beautiful scenery (Khandala continues to be popular for the same reasons today). Over a third of all the land in Maval was devoted to growing grass for Poona and Bombay cities. So the sub-division did not have a very strong economy of its own. All the villages that the British assigned post office to lay along the railway line.

iv. *Haveli* - The sub-division that had the nationally important city of Poona had only four villages with post offices. One factor explaining this lack of post offices in Haveli is that the city of Poona was given the importance it commanded by making it the

headquarters of the Poona Postal Division and giving it two sub-offices. Apart from this, the northern half of the sub-division to the east of Poona had the poorest villages that had poor quality land better suited for sheep grazing than agriculture. That said, the southern half below the Mula-Mutha river did not have any post offices either, in spite of better rains and richer soil. This is strange, since the railway line passed through the centre of the sub-division, yet there were no post offices along the railway line other than at Chinchvad, Kirkee and Poona, all in the north-west.

Another factor that could explain this is that the entire economy of Haveli was centred around Poona. All the villages in and around Haveli were focused on supplying for the big city. Nine percent of all the land in Haveli was growing grass to send to Poona and only forty-four percent was under tillage.

v. *Sirur* - Weaving robes, turbans and blankets was the chief industry of Sirur, but most of the produce was consumed locally – very little exported even as far as Poona city (101). The Bengal-Bombay road that passed through Sirur was apparently not carrying in a lot of trade. Agriculture was not very productive either, since most of the streams in Sirur ran dry by March and rains were only due in July. The poor economy of Sirur is one of the reasons for the breaking out of a riot against extortionist moneylenders and the government in 1875. Of course, extortionist moneylenders might have been a reason for the poor performing economy. This is discussed further in the next section.



vi. *Purandhar* – One reason for this sub-division being important is for the high quality raw sugar that it produced and exported. This was enabled by the several streams that flowed through it, some large ponds and good rain (95). Over the following thirty years, Purandhar got several new post offices due to the extension of the railway line through it. The Gazetteer mentions “unachieved potential” and the “unusual energy in cultivation” shown by the farmers (95) as reasons for experimenting with agricultural banks. Presumably, these expectations are fulfilled after the railway line passes through Purandhar.

vii. *Bhimthadi* - Bhimthadi had rivers flowing along its northern, eastern and southern borders, it had good rains in the north-west, the part of the district that did not have any post offices. It did not seem to have too much of an industry. People were almost entirely engaged in husbandry, and some of the agricultural produce was sent to Poona city.

This was one of the sub-divisions, together with Indapur, where the British officers thought the entire population would have to rely on government support in the event of a severe draught (East India Letters 1876, 26). Given that this sub-division did not have any major commercial interests for the Crown, the only reason that it had as many post offices as it did might have been welfare.

viii. *Indapur* - Indapur had a very sparse population with three post offices in Diksal, Indapur and Narsingpur. Diksal lay on the Peninsular railway line, Indapur was the headquarters, and Narsingpur was at the extreme south-east of the Poona district

and so probably warranted a post office to facilitate communication with the neighbouring Sholapur district.

The sparse population of this region might have been due to the poor rain. It was prone to draughts. The construction of the Nira canal during the 1890s greatly helped agriculture and the postal density increased during the same decade. This is another welfare motive for the establishment of post offices in Indapur, a subdivision that did not seem to have any commercial attractions.

#### *Growth of Poona's Postal Network*

Discussed above is the postal allocation of Poona district as it was in 1881. I have used data from the Postal Guide to put together a growth chart of the postal network in Poona District from 1881 till 1911 (*Maps 6.3a-c*).

#### Growth from 1881 to 1890 (*Map 6.3a*):

Two new post offices were opened along the Poona-Junnar road, which saw active trade. The fruit and vegetable exports from Junnar and Khed to Europe have already been mentioned. Three were opened along the railway line passing through Poona, one in Maval, and two in Haveli. Most of the new post offices in this decade came in Haveli – the eastern part of it that did not have any post offices and which was poorer than the rest of the subdivision. These offices might have been set up just to allow the local populations access to postal services, possibly as extra-departmental post offices. Three new post offices in Indapur might have been

related with the canal work that was going on here to provide relief from the frequent draughts that Indapur was prone to.

There was a very important reason for the negligible growth in the postal density in Sirur, Purandhar, Bhimthadi and Indapur. Riots had broken out in 1875 against the local moneylenders. They started in Karde (just south of Sirur city), but soon spread to the rest of Sirur subdivision, to neighbouring subdivisions of Baramati, Purandhar and Indapur, and to Ahmednagar district. An eye-witness account of the beginning of the riot appeared in the Marathi language newspaper *Dynan Chaksu* (Deccan Riots Commission 1878, 1). A moneylender gained possession of a house when the owner forfeited and started to pull it down. He refused to give the owner extra time to pay back. The owner gained the support of the villagers and boycotted some prominent moneylenders. The Report acknowledged that the moneylenders had government support (3). It added:

It was not so much of a rebellion against the oppressor, as an attempt to accomplish a very definite and practical object, namely, the disarming of the enemy by taking his weapons (bonds and accounts), and for this purpose mere demonstration of force was usually sufficient... It is so far from their [local Kunbi peasantry] natural tendency to resort to physical force that the fact of their having done so is advanced generally by the officers of the disturbed districts as a proof of the reality of their grievances (4).

The seriousness of these riots and the rate at which they spread to the neighbouring parts certainly got the British officers worried enough to prepare this report after three years. Tension probably lasted for a few years after these reported incidences. The entire eastern half of Poona district had a much lower

postal density than the west. This slow growth in postal density might also be attributed to the general poverty of the region.

Growth from 1890 to 1899 (*Map 6.3b*):

Haveli got four new post offices during this decade – very near Poona city.

The Indian National Congress was established in 1885 and its first meeting was held in Poona. Members included prominent Indian thinkers and some British members of the Theosophical Society. Their main demand was greater voice of the Indian people in India's governance. Till this time, the higher administrative and political positions were all in British hands. Educated Indians were employed mostly in clerical posts. With an increase in the membership and nationwide participation in the activities of the Congress, the British might have wanted to stay better connected with the large and spreading city of Poona. The introductory section of this chapter also lists some of the key nationalistic activities that were centred around Poona city – the establishment of a secret revolutionary group and the Rand assassination (Schwartzberg 1978, 70). These new post offices are a symbol of possible insecurity. They probably also helped take some of the local distribution load off the three post offices that Poona already had.

Purandhar seems to have become important for unexplained reasons – it got five new post offices this decade. Of these two were along the new railway line. The Gazetteer reports in 1885: "Once Poona-Londha or West Deccan Railway line is finished, Purandhar will be one of the most favoured parts of the district" (97), and that due to the "thrifty skilful husbandmen" and excellent water resources

Purandhar will become “the most favourable part of the Deccan in which to try the experiment of an Agricultural Bank” (98). This optimism is not explained, though it was realised over a decade later.

Bhimthadi got two new post offices along the railway line and three more along the Nira river in the south, where canal construction was under way in the early 1890s – another example of the welfare motive for better connecting a subdivision with poor rains and no exports.

Growth from 1899 to 1911 (*Map 6.3c*):

The area surrounding Poona city exploded with postal connectivity this decade. The freedom struggle had picked up pace under the aegis of the Congress; and this mushrooming of post offices around Poona is just another signal of British insecurity. Another reflection of this insecurity was the Post Office Act of 1889, which permitted postal officers to intercept and detain letters that they suspected to contain “seditious” material. Letters reaching Gopal Krishna Gokhale, a resident of Poona city, an active member of the Congress and a prominent freedom fighter, were also intercepted.

Junnar got six new post offices during this decade. While it is unclear what new events occurred here to cause this increase, it is possible that the cholera epidemic of the late 1890s was a reason. Junnar was the one sub-division that receives special mention in government reports as having among the highest death rates in the entire Bombay Presidency – it lost one percent of its population to

cholera in 1899 alone, as compared with the urban average for Bombay of 0.23 percent.

The broad pattern:

*Poona-Paper-Pepper-Plantains:* There was a dense vertical strip of post offices passing through Junnar, Khed and Poona. Each of these places was important for a different reason – Junnar for paper and plantains; Khed for pepper and Poona for political reasons.

*Railway line:* there was a thin line of post offices all along the railway line that connected Madras to Bombay through Poona. Given the strict condition of cooperation with the post that Lord Dalhousie had laid down for the railway, this was a matter of convenience. Over the span of thirty years, this line got dotted with more and more post offices.

*Riot prone and poverty stricken east:* Sirur, Purandhar, Bhimthadi and Indapur, the four eastern subdivisions, each had their own problems with draughts, riots, famines and consequent poverty. None of these sub-divisions had any major commercial attraction, except the parts of Purandhar. As a result, the network was very obviously sparse in these regions throughout the thirty year period from 1881 till 1911.

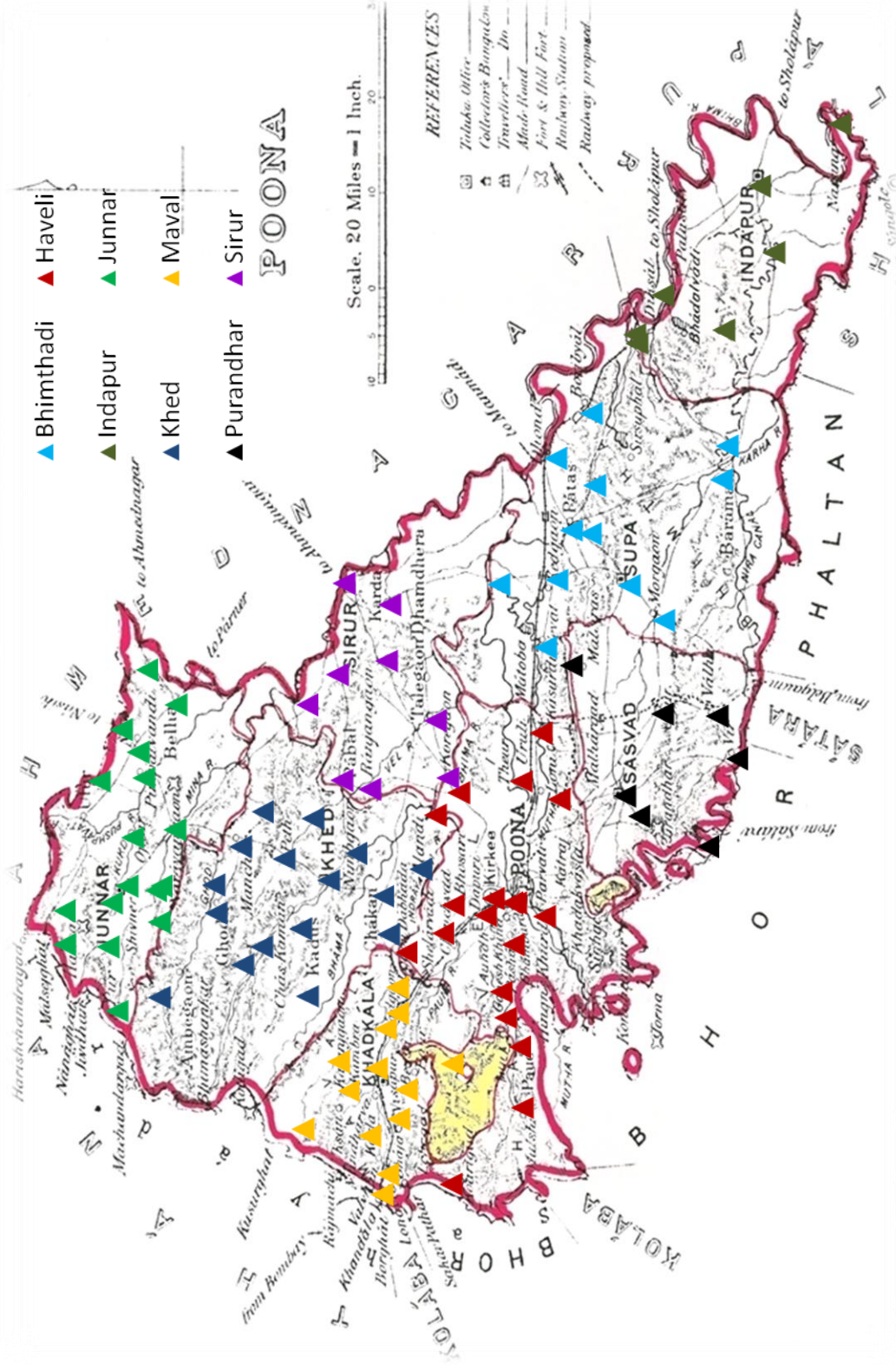
The above discussion of the postal network in Poona district adds weight to the hypothesis that the EIC and later, the Crown had three broad motivations for being interested in the post and a specific allocation of post offices in India –

commercial, political and welfare. Onions, chillies and pepper were the three main exports of the district and the sub-divisions that grew these products had a much greater postal density than the rest. Other industries that were not focused on export, such as weaving and food production, did not attract post offices to the same degree.

A reflection of the political motive is the dense network that grew around Poona city after the establishment of the INC and when the freedom struggle had started strengthening in the early 1900s.

Given the lack of political and commercial attractiveness of the eastern sub-divisions, most of the post offices that came up here must be attributed to the welfare motives. A more direct reflection is the setting up of post offices around the same time that the canal works started in Bhimthadi and Indapur – both sub-divisions that tended to suffer the worst from draughts.

Map 6.1: Poona district map marked with 100 villages in eight subdivisions included in the model

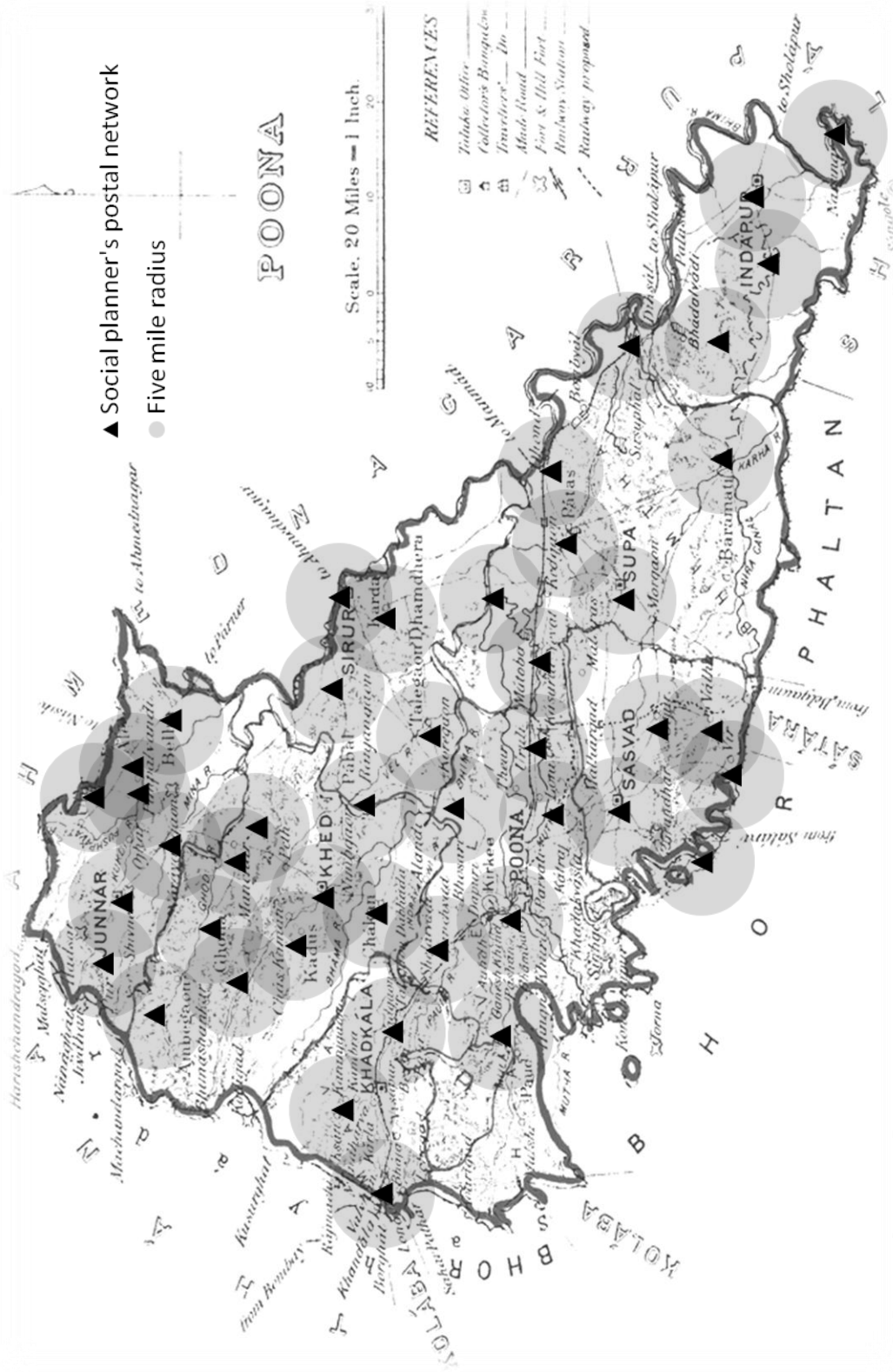


Sources and notes after Map 6.4



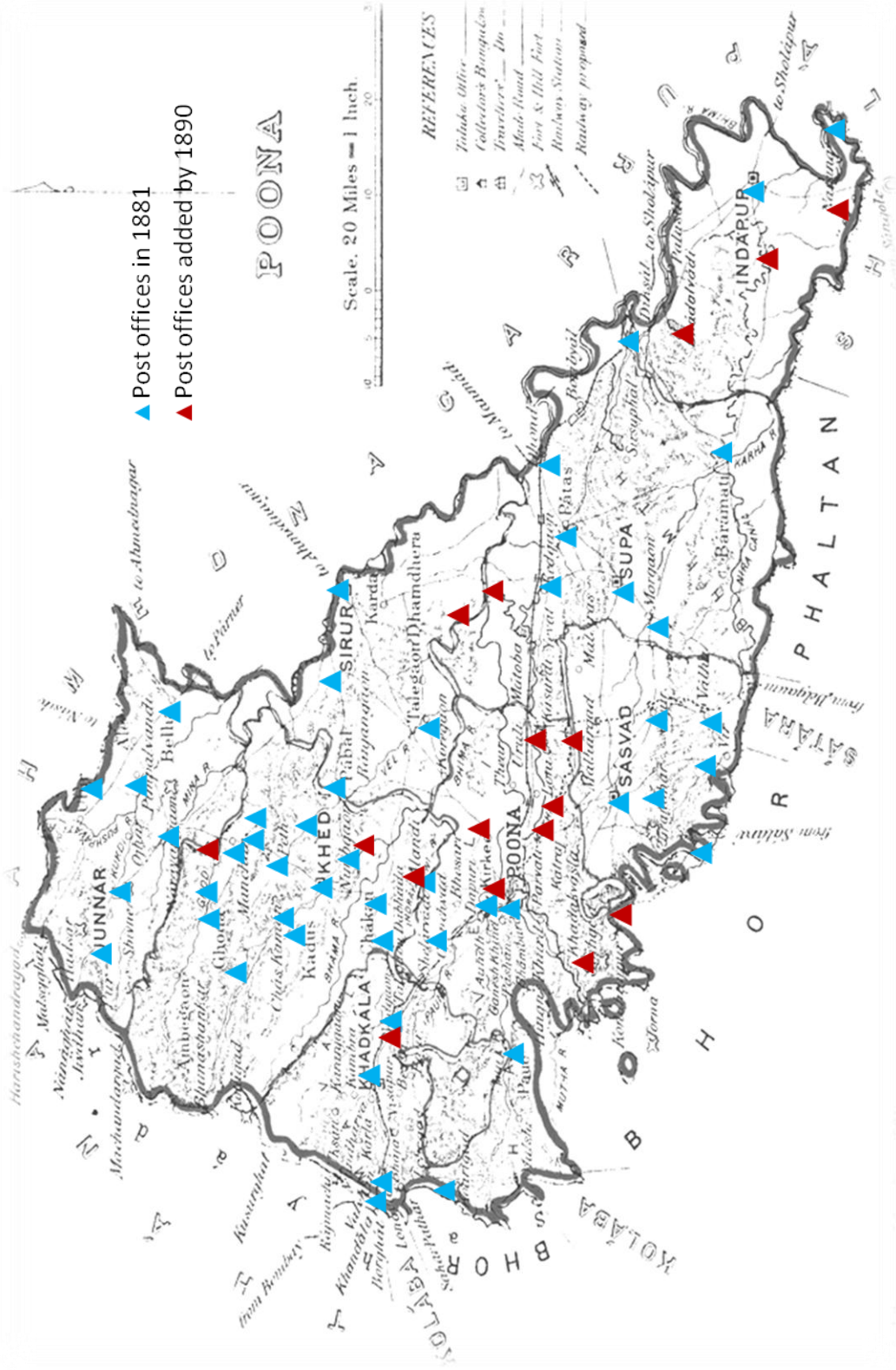


Map 6.2.b: Social planner's post office map



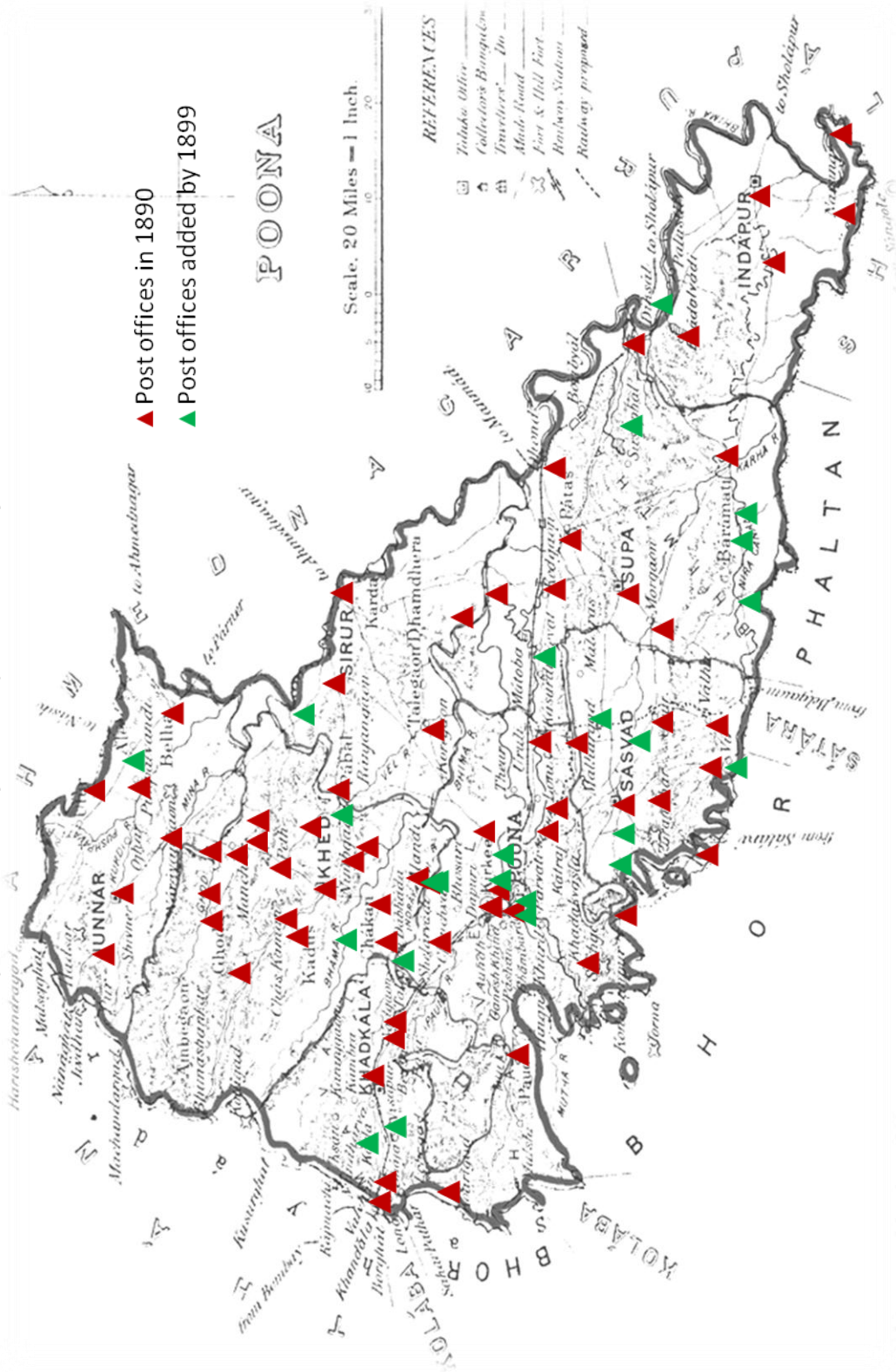
Sources and notes after Map 6.4

Map 6.3a: Growth of Poona's postal network from 1881 to 1890



Sources and notes after Map 6.4

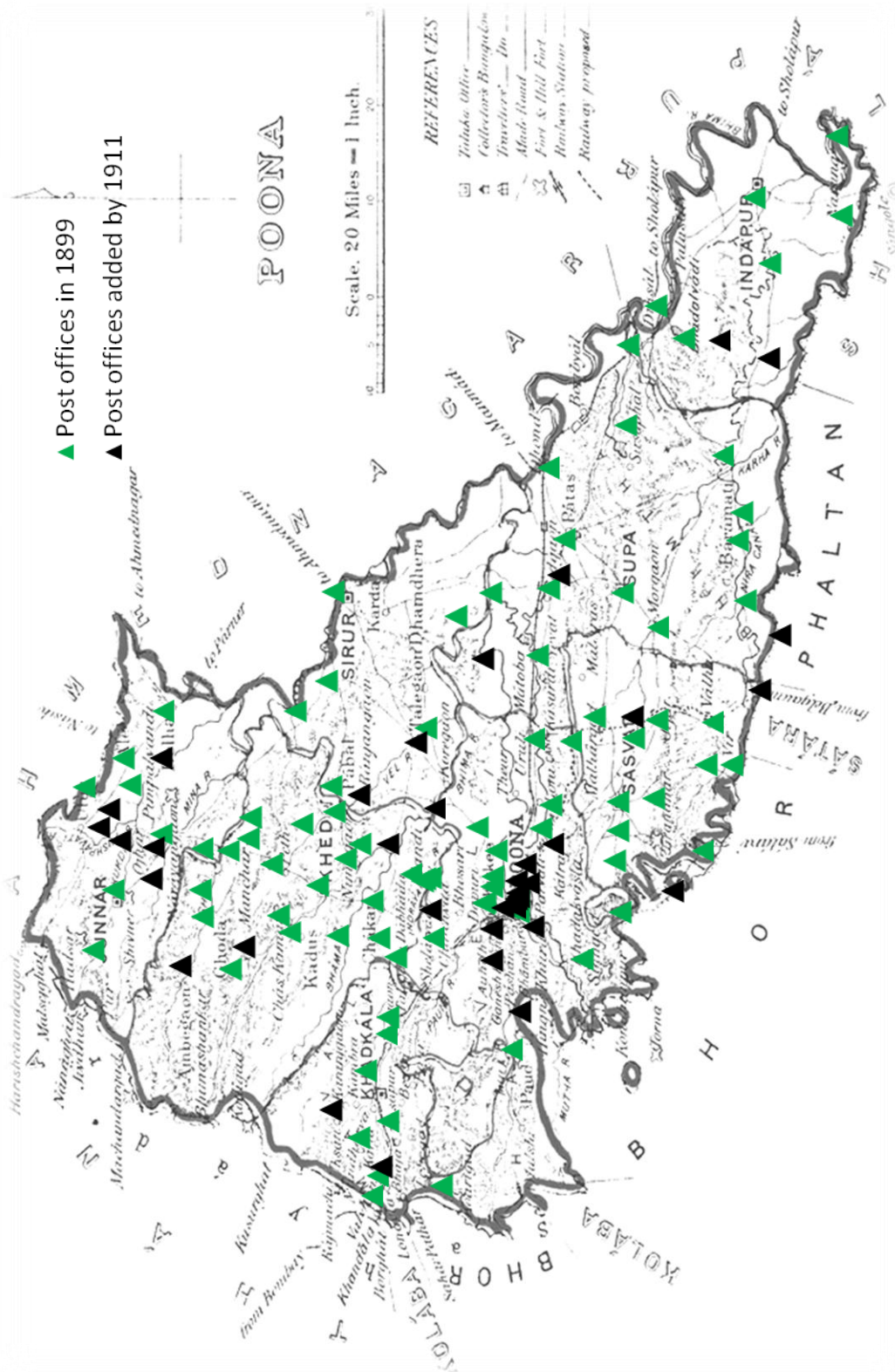
Map 6.3b: Growth of Poona's postal network from 1890 to 1899



Sources and notes after Map 6.4

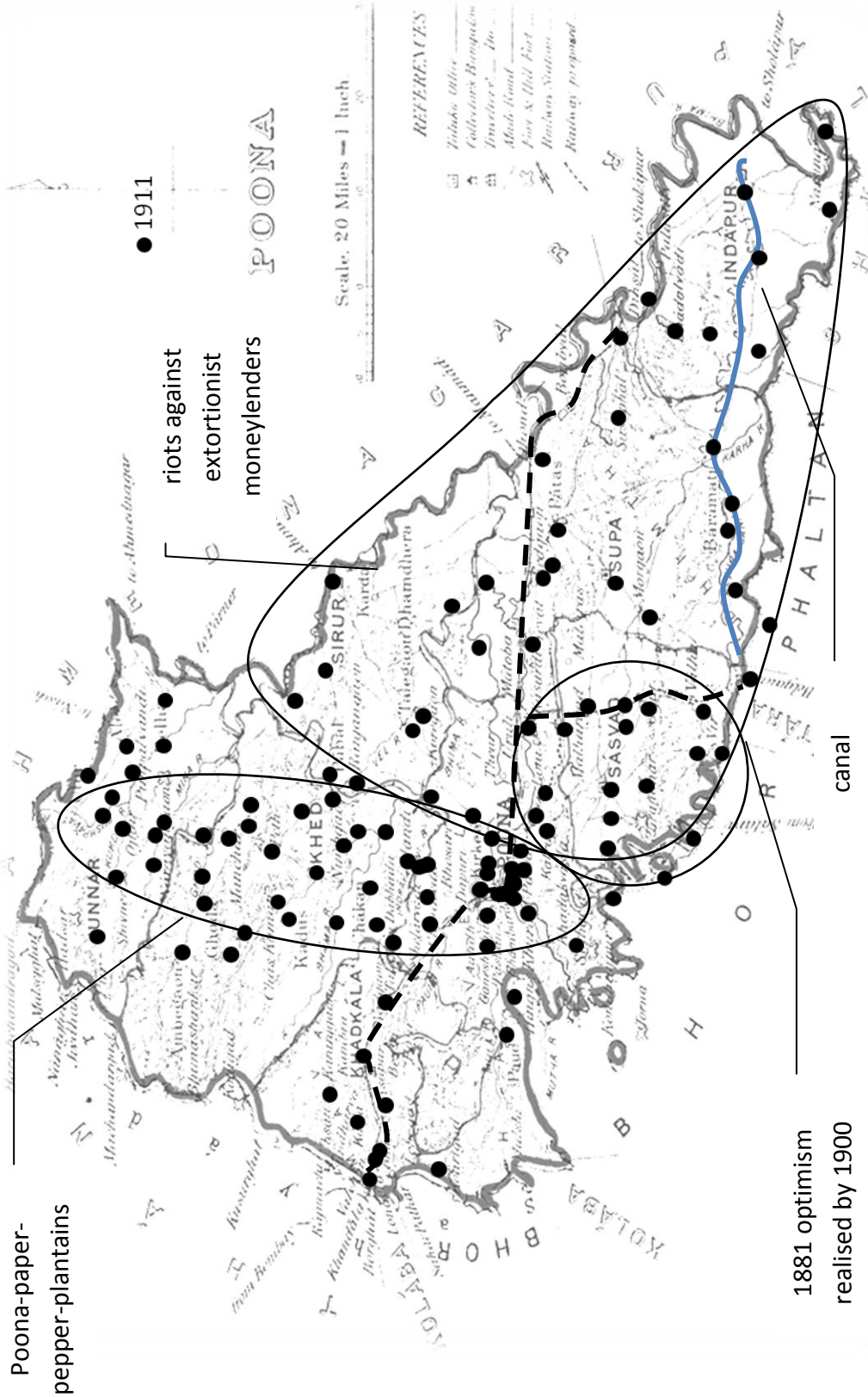


Map 6.3c: Growth of Poona's postal network from 1899 to 1911



Sources and notes after Map 6.4

Map 6.4: The broad pattern



Sources and notes below

Table 6.A: Summary statistics of included and missing village data for Poona district

Sub-division ---> headquarters ---->	Bhimthadi		Haveli		Indapur		Junnar		Khed		Maval		Purandhar		Sirur		Included population	
	Supa	Poona	Indapur	Poona	Indapur	Indapur	Junnar	Junnar	Khed	Khed	Khadkala	Purandhar	Purandhar	Sirur	Sirur	Included		Missing
<100 population	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85	85	0
101-200	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	170	167	449
201-500	1	1	1	1	2	1	3	0	0	0	0	0	0	0	0	438	429	2,688
501-1,000	3	5	0	3	3	1	6	2	1	1	2	1	1	1	1	300	279	16,369
1,001-2,000	4	7	4	3	3	6	1	1	1	1	1	1	1	2	2	135	107	40,675
2,001-3,000	1	3	1	1	1	3	0	1	1	1	1	1	4	4	24	10	34,548	
3,001-5,000	2	1	0	4	4	4	3	2	1	1	2	1	1	1	22	5	62,856	
5,001-10,000	1	0	1	1	1	1	0	1	1	1	1	1	1	1	8	2	37,816	
>10,001	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3	1	140,124	
<b>Total included</b>	<b>12</b>	<b>19</b>	<b>7</b>	<b>17</b>	<b>16</b>	<b>13</b>	<b>7</b>	<b>9</b>	<b>100</b>	<b>1,185</b>	<b>1,085</b>	<b>1,085</b>	<b>1,085</b>	<b>1,085</b>	<b>1,085</b>	<b>1,085</b>	<b>335,525</b>	
<b>Total villages</b>	<b>130</b>	<b>242</b>	<b>86</b>	<b>163</b>	<b>244</b>	<b>168</b>	<b>92</b>	<b>76</b>	<b>=1,201</b>	<b>&lt;---</b>	<b>↑ (discrepancy)</b>	<b>76</b>	<b>=1,101</b>	<b>76</b>	<b>=1,101</b>	<b>76</b>	<b>=1,101</b>	
<b>Missing villages</b>	<b>118</b>	<b>223</b>	<b>79</b>	<b>146</b>	<b>228</b>	<b>155</b>	<b>85</b>	<b>67</b>	<b>85</b>	<b>67</b>	<b>85</b>	<b>67</b>	<b>85</b>	<b>67</b>	<b>85</b>	<b>67</b>	<b>85</b>	
<b>Total population</b>	<b>110,428</b>	<b>287,062</b>	<b>48,114</b>	<b>102,273</b>	<b>141,890</b>	<b>62,382</b>	<b>75,678</b>	<b>72,793</b>	<b>=900,620</b>	<b>↑</b>	<b>↑</b>	<b>↑</b>	<b>=900,620</b>	<b>72,793</b>	<b>=900,620</b>	<b>72,793</b>	<b>=900,620</b>	
<b>Included population</b>	<b>24,534</b>	<b>154,544</b>	<b>15,550</b>	<b>40,176</b>	<b>40,621</b>	<b>18,302</b>	<b>18,263</b>	<b>23,535</b>	<b>=335,525</b>	<b>&lt;---</b>	<b>&lt;---</b>	<b>&lt;---</b>	<b>=335,525</b>	<b>23,535</b>	<b>=335,525</b>	<b>23,535</b>	<b>=335,525</b>	
<b>% included pop</b>	<b>22%</b>	<b>54%</b>	<b>32%</b>	<b>39%</b>	<b>29%</b>	<b>29%</b>	<b>24%</b>	<b>32%</b>	<b>37%</b>	<b>&lt;---</b>	<b>&lt;---</b>	<b>&lt;---</b>	<b>37%</b>	<b>32%</b>	<b>&lt;---</b>	<b>&lt;---</b>	<b>&lt;---</b>	
<b>Missing population</b>	<b>85,894</b>	<b>132,518</b>	<b>32,564</b>	<b>62,097</b>	<b>101,269</b>	<b>44,080</b>	<b>57,415</b>	<b>49,258</b>	<b>=565,095</b>	<b>&lt;---</b>	<b>&lt;---</b>	<b>&lt;---</b>	<b>=565,095</b>	<b>49,258</b>	<b>=565,095</b>	<b>49,258</b>	<b>=565,095</b>	
<b>% missing pop</b>	<b>78%</b>	<b>46%</b>	<b>68%</b>	<b>61%</b>	<b>71%</b>	<b>71%</b>	<b>76%</b>	<b>68%</b>	<b>63%</b>	<b>&lt;---</b>	<b>&lt;---</b>	<b>&lt;---</b>	<b>63%</b>	<b>68%</b>	<b>&lt;---</b>	<b>&lt;---</b>	<b>&lt;---</b>	
<b>Pop/missing village</b>	<b>728</b>	<b>594</b>	<b>412</b>	<b>425</b>	<b>444</b>	<b>284</b>	<b>675</b>	<b>735</b>	<b>675</b>	<b>735</b>	<b>675</b>	<b>735</b>	<b>675</b>	<b>735</b>	<b>675</b>	<b>735</b>	<b>735</b>	
<b>Pop/village</b>	<b>849</b>	<b>1,186</b>	<b>559</b>	<b>627</b>	<b>582</b>	<b>371</b>	<b>823</b>	<b>958</b>	<b>823</b>	<b>958</b>	<b>823</b>	<b>958</b>	<b>823</b>	<b>958</b>	<b>823</b>	<b>958</b>	<b>958</b>	
<b>Area in sq miles</b>	<b>1,032</b>	<b>813</b>	<b>566</b>	<b>612</b>	<b>887</b>	<b>385</b>	<b>470</b>	<b>578</b>	<b>470</b>	<b>578</b>	<b>470</b>	<b>578</b>	<b>470</b>	<b>578</b>	<b>470</b>	<b>578</b>	<b>578</b>	
<b>Population density</b>	<b>107</b>	<b>353</b>	<b>85</b>	<b>167</b>	<b>160</b>	<b>162</b>	<b>161</b>	<b>126</b>	<b>161</b>	<b>126</b>	<b>161</b>	<b>126</b>	<b>161</b>	<b>126</b>	<b>161</b>	<b>126</b>	<b>126</b>	
<b>Missing villages with a post office</b>		Kirkee		Kalamb	Avsari,		Parincha,	Alegaon										
		Bazar			Chas,		Purandhar											
					Davdi													

The top left box contains a count of villages, data for which I have

Source: District Gazetteer of Bombay, Poona, 1885

## 7. IN THE INDIAN SUBCONTINENT

The previous section on Poona district has shown how the allocation of post offices was determined by the three motives – political (including administrative and military), commercial and welfare. This section takes a wider approach, by looking at evidence of these motives in the allocation of post offices as well as postal policy at the level of the entire subcontinent. I will also discuss some unintended consequences of postal policies that may have advanced or hindered the original motivations.

This section is divided into three parts, each discussing one motive. The chapter on *Economics of the Postal System* ended with a list of postal characteristics that I am willing to accept as evidence for each motive based on the theoretical discussion. Each of those characteristics is presented in this chapter and discussed in the light of contemporary political and economic events.

### *Political motive*

Since it is expected that postal systems were first established in any civilization for reasons of administration, and such indeed has been the case in India, I begin with a discussion of this motive. A case might also be made for discussing the commercial motive first because the British East India Company was a trading body and was in India for explicit commercial reasons. But the EIC did not establish its own postal network from scratch in the Indian subcontinent. As has been discussed



at length in the *Historical Background* chapter, it inherited the *Mughal* runner lines when it won political control over Bengal after the Battle of *Palāshi* in 1757. Their earliest fundamental reasons for engaging in postal communication were commercial, but in order to maintain an advantageous trading relation, they had to maintain political control over India. This is where the British political motive for establishing elaborate postal communication in India comes from.

The EIC had their reasons to want to maintain control over India. Avenues for trade were many, profits were high and demands from the Crown and shareholders back in London were high too.

The total revenues of India during the last ten years of the Queen's reign – 1891-92 to 1900-1 – came to 647 millions sterling. The annual average is thus under 65 millions, including receipts from railways, irrigation works, and all other sources. The expenditure in England during these ten years was 159 millions, giving an annual average of nearly 16 millions sterling. One-fourth, therefore, of all the revenues derived in India, is annually remitted to England as Home Charges... Those who earn £42 per head ask for 10s. per head from a nation earning £2 per head. (Dutt 1901, xiii).

While there is debate about the magnitude of Home Charges, what they consisted of is broadly agreed on – interest on debt, interest on investments in the railways, and civil and military expenses. These flows by themselves would have justified British interest in India. But Home Charges did not exist when the British were just positioning themselves in the sub-continent.

In the early days of the EIC's presence in India, when its trade had not yet reached its peak, it intended for postal services to be established as a means to collect revenue as well as to facilitate communication. Majumdar (1990, 323) cites an officer's letter written in 1688:

We... request you to erect a Post Office for all letters to be brought to and delivered at, setting such rate upon each single letter, and so proportionately upon double and treble letters, as may in few years bring in insensibly a vast revenue to the Company and a much greater conveniency to the merchants and trade in general than ever they yet had or understood.

That the post would bring in “insensibly a vast revenue to the Company” was not going to become a reality till almost the end of the nineteenth century. The first time that even postage was collected on private letters was almost a century later when Warren Hastings was the Governor-General from 1773-85 (Clarke 1921, 14). One measure to ensure that the post did not lose too much money was taken in the form of the Post Office Act of 1837, which declared that postal services were to be a government monopoly and any private party caught carrying letters or parcels for a charge would be fined fifty rupees.

Views on the post as a source of revenue changed. This shift was in line with the thinking back in England. The EIC did not mind so much if the post and telegraph did not bring in revenues (House of Commons – Parliamentary Papers 245, 21), because they were performing a critical strategic function. By the mid nineteenth century, the post had never shown a surplus and the 1851 Postal Commissioners’ Report said that “so long as the department pays its own expenses nothing more is desired” (2).

The functions to be performed by the post for state administration and for military reasons were recognised early. The EIC had gained control over large parts of the subcontinent in the first few decades of the nineteenth century. By 1830,

most of the settlements (villages or towns) that had post offices (*Map 7.2b*) are identifiable as district headquarters<sup>7</sup>.

The probit model for 1881 postal network in Poona district shows that the fact of a village being any kind of administrative headquarters was the strongest predictor of the presence of a post office. Villages that had a municipal office, a government dispensary or a police station also had a post office, in all cases. This finding is not surprising, and can be generalised to all British districts in India, because the system was constructed in the first instance to allow for administrative communication.

Till 1837, all these post offices were part of the district *dāk*, also known as the *zamindāri dāk* because these lines were maintained by *zamindārs* (large landowners). In the Bengal Presidency, they were known as the police *dāk* (Majumdar 1984). Warren Hastings laid out in 1776 that the postal establishment could be used by private individuals on payment of a fee. Before this year, the *zamindārs* who maintained the runner lines were not permitted to use them for their personal communication. Even after 1776 they were unhappy about having to pay two annas to send a single letter through a network that they themselves maintained (Clarke 1921, 17). Two annas could buy 3-3.5 kg of rice or wheat during the latter half of the eighteenth century as shown in *Figure 7.10*.

---

<sup>7</sup> The number of post offices in the Bengal Presidency in 1800 (*Map 7.2a*) seems to be higher than the number that appear in Bengal in 1830. There are two alternative explanations for this: (i) the 1830 list comprises only post offices of a certain level, not the smaller post offices subordinate to them; (ii) the 1800 list is from the 1854 Bombay Gazette, not from an 1800 document, and there is an error in this list.

There seems to be some discrepancy in the information regarding the private use of the district *dāk*. Sen (1875, 116) and Majumdar (1984, 40) point out that even after 1776, when the use of the post was supposed to have been opened up for private individuals, *zamindārs* were “precluded entirely from making use of these Daks for their private correspondence even on payment of the customary postage” (Sen 1875, 116-7). It is not clear why this might have been the case. Clarke (1921, 17) points out, as expected, that the *zamindārs* “felt it a distinct grievance that they should have to pay for the upkeep of these [district *dāk* lines], as well as fees for their correspondence”. It is possible that this difference stems from the fact that rules varied by province.

Richards (2011, 7) shows that the post earned a revenue of £10,744 as early as 1782 and these earnings increased slowly but steadily till the mid 1850s (after which the increase was much quicker – *Figure 7.2*). Postal expenses were sometimes greater in this period, and so the department made a loss, but the fact that it earned a revenue shows that the service was being used by private individuals during the eighteenth and early nineteenth centuries, though to a very small extent. The main purpose of the postal establishment was still administration and maintenance of law and order, and this communication was not charged.

This network was formally expanded to all district headquarters in 1784 (Majumdar 1984, 22) but other arrangements still had to be made to reach the interiors. A description of the arrangement from a 1793 Police Regulation (31-3) follows:

In cases where the darogahs [chiefs of police] shall be stationed at a considerable distance from the road by which the dawk may travel, the following officers shall deliver the letters to the head person of the village on the road that may be nearest to the place at which the darogah ... shall reside and take a receipt from him for it specifying the date of delivery. The head person of the village shall be held responsible that the letter being delivered to the darogah ... without delay unless the distance of his place of residence shall exceed five cross [15 km] in which case such head person of the village ... shall deliver it to the head person of the first village the distance of which may exceed five cross from the dawk road and take receipt for it. In this manner the letter shall be forwarded by head persons of the villages for the distance of five cross each until the letter reaches the officer to whom it is addressed.

This task of handing over letters from the dāk runners to the intended recipients in the interiors was often given to the village watchman who was not interested in this extra responsibility since he was not officially paid for it, apart from the *bakshish*, or legalised tip from the recipient of the letter (72). The *bakshish* remained part of mail delivery for decades and was an indication of the corruption built into the system.

Even as late as 1870, this provision was written into the Postal Guide as follows:

“Private letters &c., delivered through the agency of the District Post are subject to a delivery fee of a quarter anna per cover when the delivery is effected otherwise than by rural messengers or ordinary letter-carriers”.

An 1817 Regulation made the rules regarding rural mail transfer clearer and stated that in cases where “wilful disregard of these provisions” was proved, the landlord or proprietor or farmer was liable to pay a fine of hundred rupees or be imprisoned for up to one month (47). Sometimes, *zamindārs* preferred to pay the fine rather than undertake the responsibility of maintaining the *dāk* line (51-2). Consequently, “letters seem to have had very uncertain careers” and senders of

important news just had to hope that their letters arrive at the intended destination (Clarke 1921, 17).

This poorly organised system co-existed with private posts organised by merchants, financiers and even *zamindārs* themselves (Majumdar 1984, 39; Clarke 1921, 17) and were often quicker and cheaper, even if restrictive in geographical scope compared with the government *dāk*. The competition was not good for EIC postal finances and the Post Office Act XVII of 1837 gave the government a postal monopoly. This was an important step in the development of postal communication in India. Without a monopoly, it is difficult for one network to become large and dense enough to serve the remotest populations. This move did indeed drive the expansion of the postal system through the latter half of the nineteenth century, but its immediate effect was not encouraging. “The Act of 1837 caused a great deal of dissatisfaction owing to the abolition of many private and well-organized services which were not at once replaced, or else replaced very inefficiently, by Government services” (Clarke 1921, 17).

Under this Act, the Imperial Post was started as a system running parallel with the existing district *dāk*. While the Imperial post “controlled all the main routes and large offices” (18), the district post was under local authorities, as it probably had been for centuries. The uncertainty regarding the availability of the district post services for private use crops up again; Sen (1875, 117) reveals that “in the North-Western Provinces ... these Daks were thrown open for transit of private correspondence in 1838, but they were not put on a proper footing, nor was the fact of their being so available made generally known until 1846” (this is substantiated by

Majumdar 1984, 61). Sen says that the Madras and Bombay district posts “had for some years been open to the public” and that experiments had started in Bengal in 1848. According to the Act of 1776, private individuals should already have been permitted to use the district post. So the significance of these new developments in various provinces is unclear. District post offices were certainly many more in number than Imperial post offices. By some means or other, letters could reach any part of the subcontinent. If indeed private individuals were permitted to use the services at Imperial post offices only, then the reach of these postal services must have been very low.

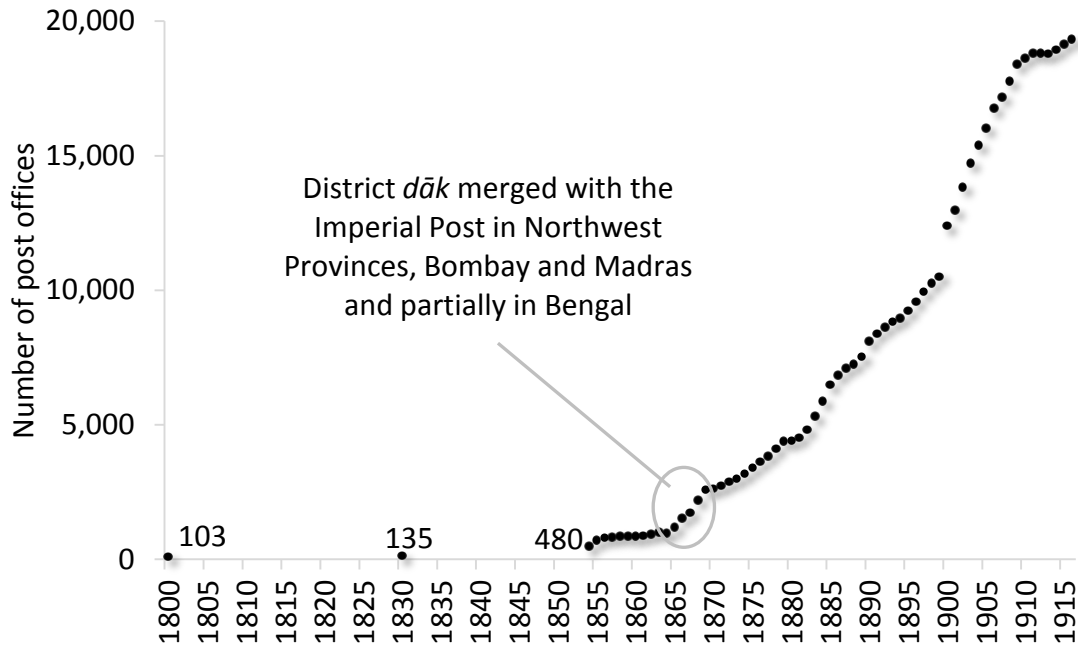
For this reason, the 1850 Postal Commission recommended that the district and Imperial posts be merged. The management of the two was merged slowly between 1864 and 1878 in the different provinces, though they still maintained financial independence till 1906. The Imperial post had a convenient arrangement with the district authorities in 1863 (Majumdar 1984, 101-2):

The object in view would be attained more efficiently and appropriately by having the district postal services placed on an efficient footing by the local Governments with the understanding that as soon as the general correspondence (official & private) of any station might be found to fulfil the prescribed conditions of self support, the district postal service would be taken over by the general (Imperial) Post.

So the district post functioned as a sort of “nursery” (Majumdar 1984, 107) for the Imperial postal system.

The district post started as the channel through which official communication travelled. The privilege of sending mail free of postage is called franking. There was initially no restriction on franking. The privilege was available not just for official

Figure 7.1: Number of post offices in British India from 1800 to 1917



Source: Majumdar 1990, 338, 362, 366, 399

mail, but also the personal mail of the European population in India. Hastings noted in his 1774 Minute that “the Dauks ... are loaded with packages of the most frivolous kind and of unreasonable weights” (Majumdar 1990, 324). The category of officers permitted to frank their letters then started to be specified, but was always large and changed often. This list in 1798 included several administrative officers of various ranks, their Persian interpreters and secretaries, judges, customs collectors, military officers and “commercial residents, Behar and Benares Opium Agents” (Majumdar 1990, 335-6). Banaras and Patna districts on the north bank of the Ganga continued to remain the most important for opium cultivation. Patna district was in Behar province of Bengal Presidency at this time, and Benares district was in



Oudh native state, though the EIC was constantly negotiating for greater control over it. When the state undertakes trade itself, rather than just supporting merchants, the political and commercial motives for establishing a postal system are indistinguishable. This list therefore also lends credence to the commercial motive discussed next.

An 1834 Postal Commission recommended the abolition of franking, but the government did not do it (Majumdar 1990, 238). After 1837, “the list of officers authorized to frank became so large that the Post Office could not exercise any proper check” (Clarke 1921, 35) and the privilege was abused blatantly. The Postmaster General of Bombay records an instance of this abuse when an officer left his envelopes with his family and servants so that they could use the post free of postage too (Hamilton 1910, 151).

The 1850 Postal Commission too recommended the complete abolition of franking. This time it was accepted, though not immediately. The 1866 Act laid out that all government departments must purchase “service stamps” and affix them to official letters. Official postage and weight limits were different from those for private letters. Service postage was less and the weight allowance was more (Majumdar 1990, 243). It now became easier to maintain a record of official correspondence. Till this year, all official mail from a department was weighed together and some estimated amount of postage was debited from their account. Till 1871, all official mail travelling within a district, by means of the local post, was still exempt from service postage (Majumdar 1984, 105). As the schedule of profits shows (*Figure 7.2*), if revenue from official mail is included in calculations of postal

profit, then the postal department had been making a profit since at least 1854<sup>8</sup>.

Nonetheless, the postal department was not generally perceived as making a profit.

It was perceived “as an institution deriving a revenue from the public only, in return for services rendered both to the public and to the Government” (Sen 1875, 155-6).

Private mail was meant to cross subsidise official mail. Consequently, it was expected that the post should cover all expenses from all revenues except the sale of service stamps. This was first achieved during the early 1890s.

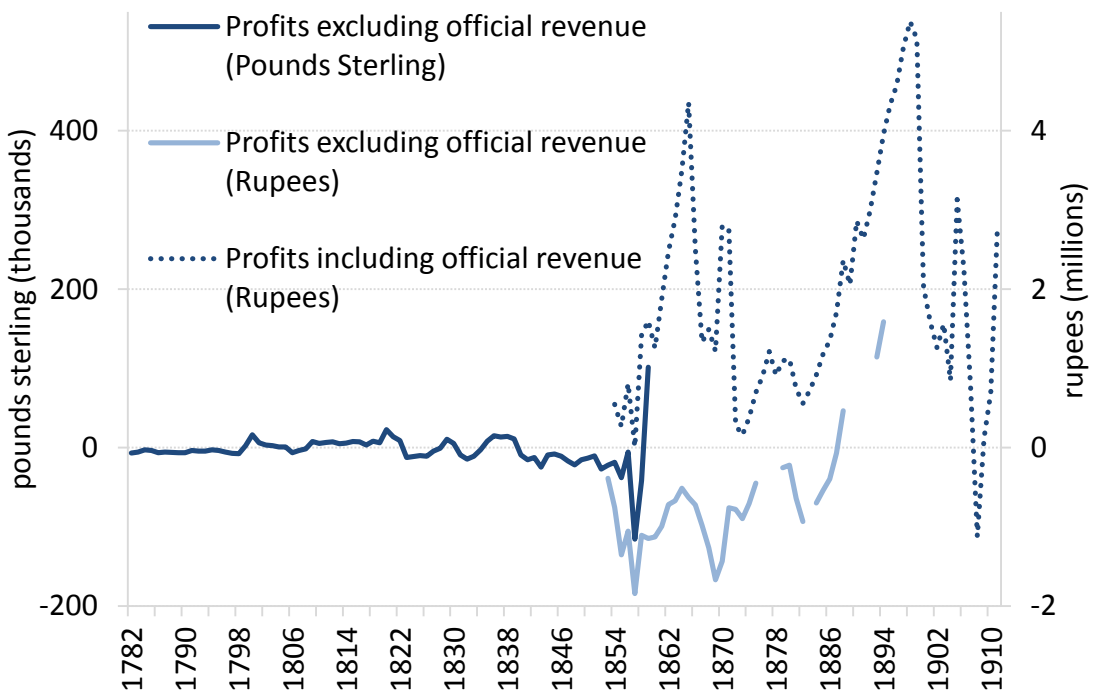
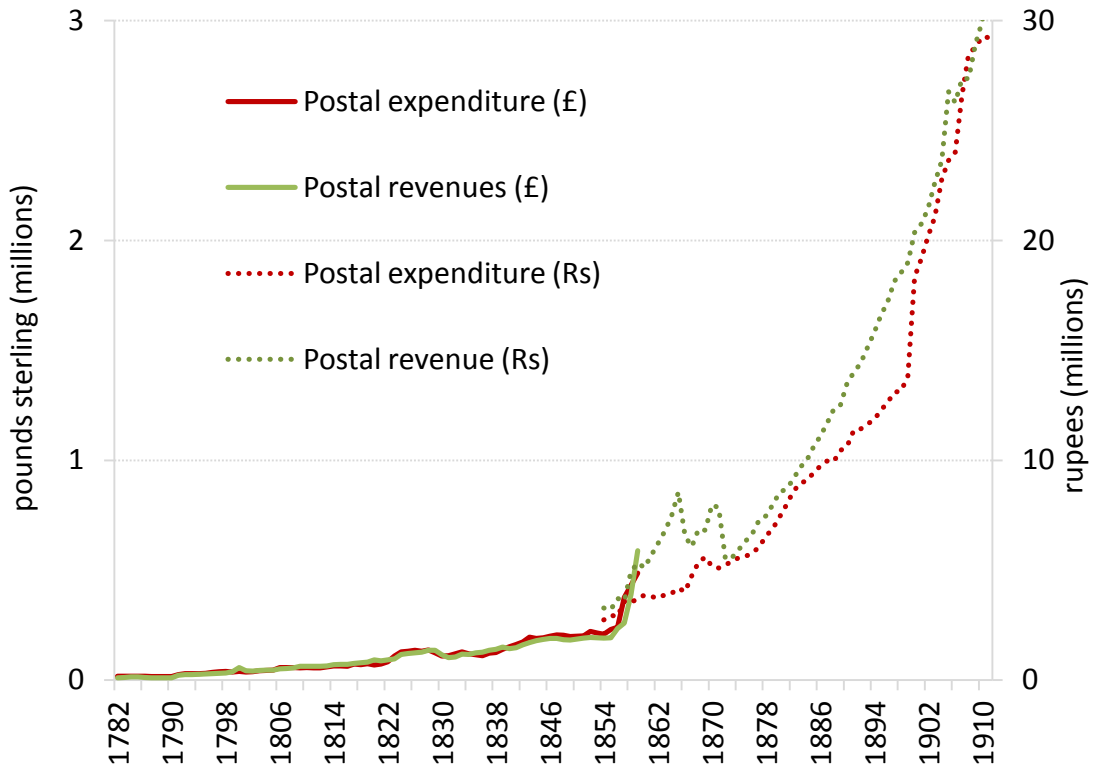
The justification behind this expectation was that official mail was for purposes of government and the government is meant for the benefit of the population; so it is reasonable to expect the people to pay for a service that they receive, even if indirectly. The civil service was a very large body of officers and their responsibilities towards these people involved education, health and sanitation, land and crop yield surveys, demographic surveys, maintenance of law and order, among several other functions. Several of these functions required British officers to live in, visit, or at the least, collect information from remote villages. The district post was the medium through which this vast administration ran.

The post was also the medium through which military information was disseminated and collected. An earlier section has already suggested that military communication may be among the early reasons for establishing a postal system. In the case of India, the *Mughal* empire already had well established relays of runners and horse riders. The EIC may have made use of these lines of communication

---

<sup>8</sup> Before this year, data for revenue from official mail were not collected or are not available. These data are from the Annual Reports of the Post Office of India – these were probably first published in 1855-56.

Figure 7.2: Post office finances from 1782 to 1917



*Sources: 1782-1858 data (in pounds sterling; left axis) are from Richards 2011; 1854-1911 data (in rupees; right axis) are from Ahmed 1995.*

*Notes: The revenue series are in shades of green, expenditure in red, and profits are in shades of blue.*

*Data on revenue only from official or service mail for some years between 1854 and 1911 are available in Sen 1875 and the Annual Reports of the Post Office of India. If official revenue is excluded, profits would be negative in all years from at least 1854 till 1889. Since the profits from Richards' data are negative in most years, I infer that official mail revenue is not included in his dataset. As explained in the text, that was the norm.*

*The exchange rate between the pound and the rupee (alignment of left and right axes) is assumed to be rupees 10 = £1. The 1885 Poona District Gazetteer uses this exchange rate throughout and the Imperial Gazetteer (3:260) use it for the 1830s. These series are nominal. Converting the values from 1801 till 1871 to real using the wage index from Broadberry and Gupta 2012 dampens the increase in revenues and expenditure during this period, but does not change the graph significantly.*

---

during its struggle against the failing *Mughal* empire. But after winning the *diwani* (land revenue collection rights) in Bengal, Clive gave high priority to efficient communication with the EIC factories in Bengal, with the other Presidencies and with London (Chattopadhyay 2004, 34). Later, Madras and Bombay adopted similar postal policies. After the EIC was established in the subcontinent, the post, now improved with experience of the Royal Mail in England, continued to serve the military purpose through the many skirmishes within and outside the borders. Chattopadhyay (2004, 40) points out that “military needs underlay the extension of postal routes beyond Benares” at the western edge of the Bengal Presidency, in Oudh state. Till mid nineteenth century, “postal lines either followed military routes or the army took advantage of expanding postal communication facilities for establishing their routes and locating their cantonments” (Anand 1954, 14). Much of

this activity was directed towards hostile neighbours who were trying to recapture or capture British provinces. Several native states were interspersed with British provinces, and so danger was always at hand.

Clarke (1921, 165) considers the post “as an important part of the military organization of the country”. Before the railways spread across the empire, the post was also entrusted with the task of carrying military supplies and personnel over long distances. After serving in tens of wars in difficult situations during Crown rule, the field post officer, Clarke (169) notes:

has become an expert in stealing transport; a mule, a cart, a few coolies, a motor lorry, even an idle railway train, all serve his purpose as occasion rises, and his motto is “Get there, if not by fair means, then somehow,” and get there he generally does. He has an uncanny instinct for finding out the secret destination of his brigade and is often on the ground, sorting the mail, before the troops arrive.

Expeditions that the field post office served in stretched from the Mediterranean to Burma, and when World War I broke out, its field of service expanded even more.

*Maps 7.3a-d* show the change in district level postal density for each decade from 1881 to 1911. They show that there had been a very slow growth or no growth at all in the post office density in the border districts of Sind (north west face), Kashmir (far north) and the north eastern districts west of Nepal in Punjab and North West Provinces (later United Provinces), and in Burma (far east). As frontier provinces through history have been the site of war and rebellion, so was the case in these districts at the frontiers of the British empire. Communication with these areas was facilitated through a system of field post office. It was conceivably

dangerous or potentially wasteful to establish permanent post offices in sensitive areas that may go into the hands of the enemy.

This finding is in contrast with the expectation that there should be more post offices in politically sensitive areas to afford quick and timely communication regarding rebellious activities. This was true in the case of the city of Poona – after the establishment of the Indian National Congress, and after its role and influence started to grow, the postal density around Poona greatly increased.

The native states within the boundaries of the British empire too had a lower postal density than adjacent British districts. The four native states of Rajputana, Central India, Hyderabad and Mysore are marked in *Maps 7.3a-d*. People moved across boundaries freely and a smooth postal system would be required across the native states and British districts. Since these states operated with varying degrees of British involvement in the military and in commerce, a uniform postal system was difficult to achieve. This point is discussed further under the section *Welfare motive*.

These were external considerations. The EIC faced rebellion within India too, and these had to be quelled quickly if power and commercial advantage were to be maintained. One most significant telegraph message sent by a young signaller from Delhi to Lahore on 11<sup>th</sup> May 1857 regarding the spread of the mutiny is said to have “saved India” (Clarke 1921, 151) from the Imperialistic perspective, of course. From the perspective of the mutineers, this was the beginning of India’s freedom struggle. The post was the perfect position to convey strategic intelligence from the remote districts and transport troops and materials. Since English speaking employees were in short supply, they had to be paid higher salaries to keep lines open (159). The

post was now very obviously seen by the mutineers as a tool for Company dominance, and several lines of communication and telegraph infrastructure were destroyed and staff killed. In some cases, their specific strategy was the plunder of mail carts and capture of guns and money being transported.

Though Robert Montgomery, the Lieutenant-Governor of Punjab province, thought that the telegram message had saved India, relief was both temporary and partial. The EIC was ousted from India and the administration passed to the Crown in 1858. The freedom struggle evolved slowly after the First War of Independence in 1857 and through the remaining decades of the nineteenth century and took several forms – legitimate formation of associations demanding more rights for Indians and a greater role of the Indian population in the governance of India, violent attacks on British persons and institutions, non violent struggles against economic policies and racial discrimination, to mention a few. Reduced postage for letters and newspapers, and the introduction of the book post and other means to share literature greatly encouraged the production of literary and political works that furthered the nationalistic cause. The Crown did not entirely anticipate this burst in nationalist activity, nor did it realise how postal policy was fanning the flames. The ninth Duke of Devonshire, also the Secretary of State for India, warned in 1883 (Naoroji 1921, xi):

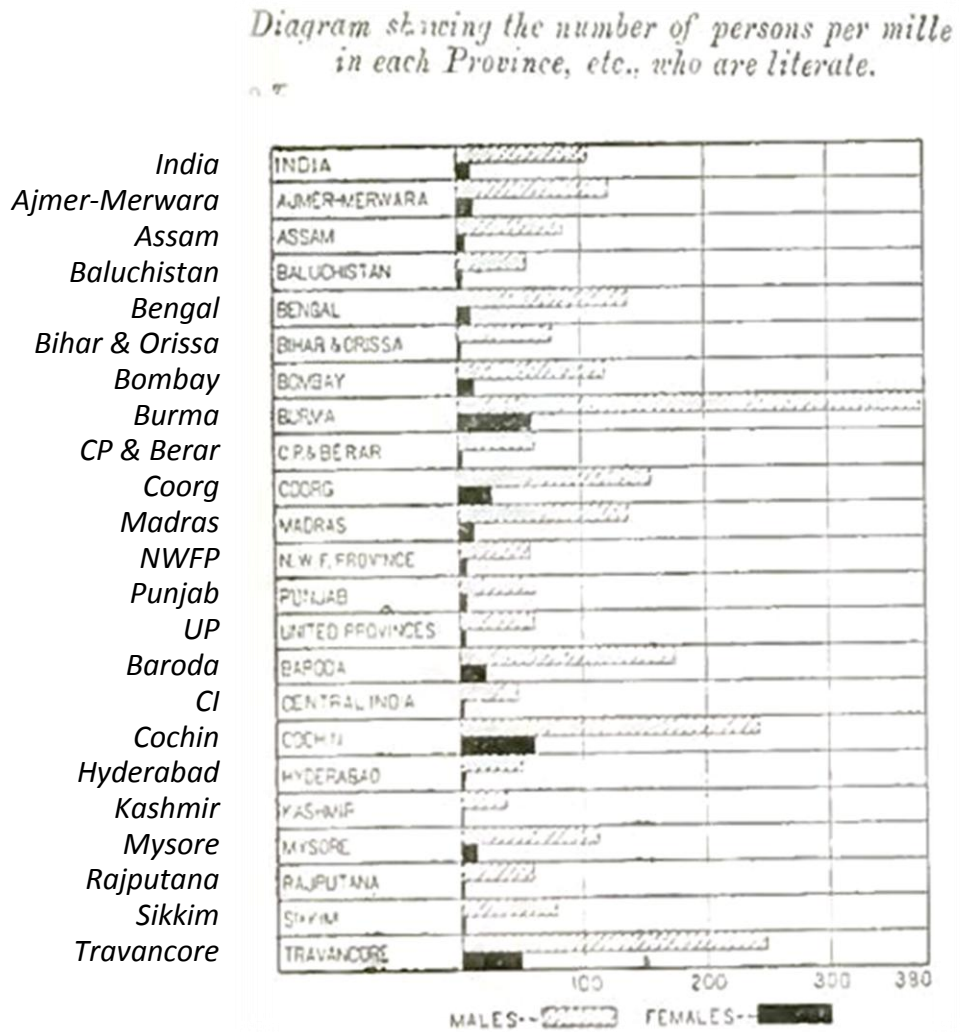
It is not wise to educate the people of India, to introduce among them your civilisation and your progress and your literature and at the same time to tell them they shall never have any chance of taking any part or share in the administration of the affairs of their country except by their getting rid in the first instance of their European rulers.

Some of the participants of the struggle were secretive and employed a strategy of ambush. But a very important part of the struggle was spreading of nationalistic literature all over the country and abroad, increasing awareness of political and economic issues of the time, and gathering support. This support might have meant a financial contribution or physical participation at an event, or simply an understanding of a principle. For any mass struggle to gain momentum, an able leadership must have the means to disseminate literature to a large amenable readership. The Indian National Congress was formed in 1885 in order to bargain for a greater voice for educated Indians in India's governance. It had managed to gather support from all over the country. This was only possible by distributing pamphlets and magazines through the post.

The next obvious question is: what percentage of the Indian population was literate, and were therefore able to participate in the struggle or understand political events through the pamphlets and newspapers being circulated? *Figure 7.3* shows that national average literacy was just over ten percent for men, and less than two percent for women. The 1881 census shows an 8.1 percent literacy rate for men and less than one percent for women. The disproportionately high literacy in Burma is most certainly related with the high rate of commerce related immigration through the nineteenth and early twentieth centuries, which will be discussed below. Cochin and Travancore were two small native states in the far south of the peninsula. They were clearly performing better than the British provinces – about twenty-five percent of their men and five percent of their women were literate. This was the highest of any other province or state, except Burma.



Figure 7.3: Literacy in British provinces and native states in 1911



Source: Census of India 1911 vol 1, part 1, 293

This vast majority of the Indian population that was illiterate was not completely excluded from participation in the freedom struggle. The post office became the gathering place for people to discuss the latest news and politics. One literate person could read the news out loud for others (Chandra *et al* 1989, 103). “The date of a newspaper went for nothing among the natives and it continued to be

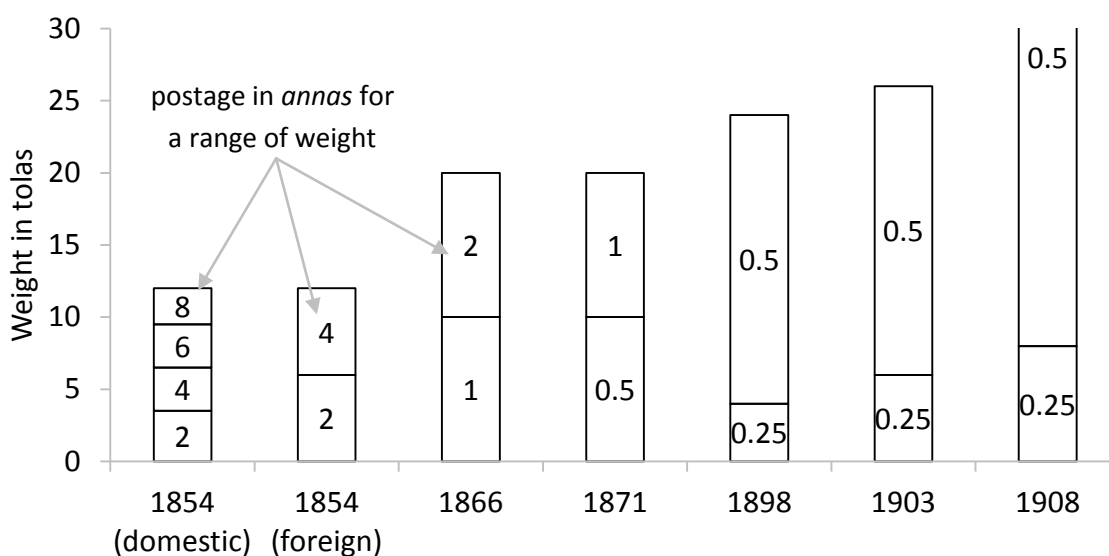
read as long as it held together” (Ahmed 1995, 303). The Imperial Gazetteer too notes that the circulation of most newspapers was small; “the number of readers is, however, much greater than the number of copies printed” (4:452). The Imperial Gazetteer further points out a general shift in journalistic content:

As late as 1850, most of the vernacular newspapers were still religious or sectarian, rather than political. During the last half-century [before 1910] the character of the press has undergone a marked change, and the majority of the newspapers owned by natives now devote themselves to current topics and political discussion (451-2).

Activist groups circulated newspapers and pamphlets widely through the medium of the postal system and gathered support from the far ends of the empire. There were 430 newspapers in 1772, of which 255 were in vernacular languages whose combined circulation was over 9.36 million copies (Ahmed 1995, 356). After the newspaper postage was reduced that year, the number of newspapers increased quickly to 17.5 million in 1884 and twenty-eight million in 1894.

The 1851 Postal Commissioners recommended that the differential postage for foreign and Indian newspapers instituted by the 1837 Post Office Act be removed. This recommendation was not accepted until over a decade later. “This difference in postage encouraged the circulation of newspapers and printed matter imported from England, but the high internal rates must have greatly hampered the postal circulation of journals printed in India” (Clarke 1921, 32). Since the railways made the carriage of bulky newspaper packages easier to transport, this differential rate was done away with in 1866.

Figure 7.4: Newspaper postage for different weight ranges from 1854 to 1908



Source: Hamilton 1910, 173-181, Clarke 1921, Majumdar 1990, 222

Note: 2.43 tolas equal an ounce. Sixteen annas equalled a rupee.

The higher weight bracket for 1908, the postage for which was half an anna, went from eight to forty tolas.

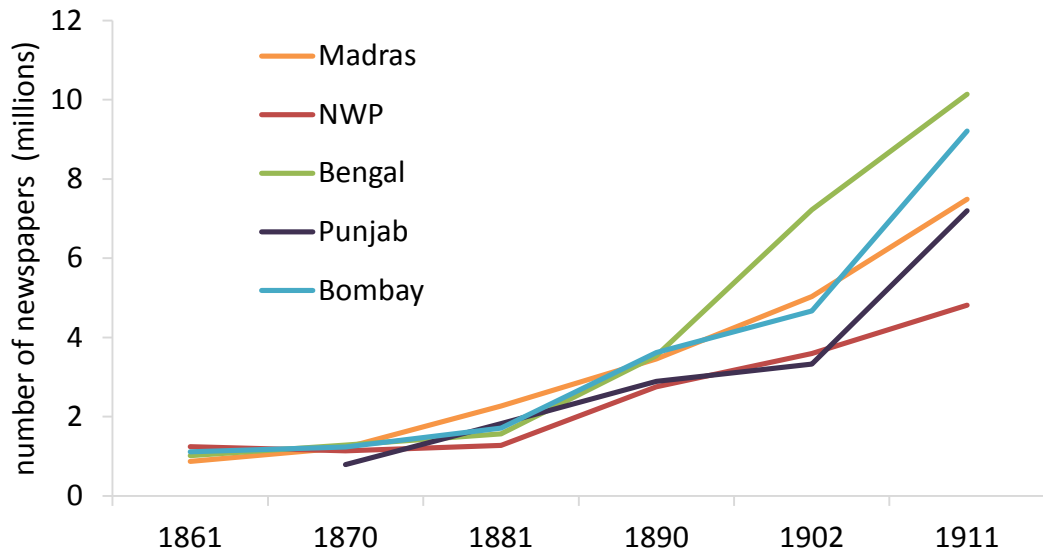
The effect of reductions in postage in 1966 and thereafter, together with the heat of political events, was large scale mobilisation of the Indian population by nationalist thinkers. The increase in newspaper circulation in the first decade of the twentieth century coincides with a significantly greater participation of the rural masses in the freedom movement. Chandra *et al* (1989, 131-2) point out that during the middle of the first decade of the twentieth century, *zamindārs*, school teachers, college students, women and generally more inhabitants of small cities for the first time started to participate in processions and picketing. While the movement was not really centred on the economic demands of peasants, they “were exposed for the first time to modern nationalist ideas and politics”. The increase of newspaper

circulation (*Figure 7.5*) was rather sharp in Bombay and Punjab provinces. Bombay and Poona cities were important meeting places for the annual meetings of the All India Congress. The newspaper with the largest circulation in Bombay province was Marāthi language newspaper, *Kesari* of Poona, “which is an organ of the extreme section of the Congress party” (Imperial Gazetteer of India, 8:379). A sharp increase in the number of post offices around Poona city is obvious during the first decade of the twentieth century. This can be related with the high level of revolutionary nationalistic activity centred in this city (*Maps 6.3a-c*).

As anxiety over these “seditious” activities increased, the Post Office Act of 1898 gave authority to postal officers to intercept and detain letters and newspapers that were suspected to undermine British rule. This was acted upon when letters between Sarojini Naidu (a poetess who joined the freedom struggle) and her daughter, Padmaja were intercepted. Sir William Wedderburn wrote angry letters to the postal authorities asking for an explanation for his letters to Gopal Krishna Gokhale being tampered with. His letters had arrived opened and with red pencil marks. Sir Wedderburn was a founding member of the Indian National Congress and Gokhale, who worked out of Poona, was an early participant of the independence movement. Gokhale’s main weapons were non-violent deliberation on the rights of the Indian population, and social reform of certain practices of Hindu society such as child marriage and untouchability.

Just like the free carriage of newspapers through the post encouraged widespread participation in governance in America, cheap newspaper postage led to greater political mobilisation in India. The post, which had been shaped as an

Figure 7.5: Newspaper circulation in major provinces from 1861 to 1911



Source: Annual Reports of the Post Office of India

Note: Looking at newspaper circulation per capita would have been more informative. Newspaper data from the Annual Reports of the Post Office of India follow boundaries based on postal circles, but the population data are from the Census reports. Since these boundaries did not always match and due to major changes in province boundaries, any calculation of newspapers per capita might be inaccurate. Nonetheless, a graph of newspapers per capita in each of these districts from 1861 to 1911 shows that Bombay and Punjab provinces had the highest circulation of newspapers per capita and the increase in these districts was the highest too. Bengal is no more the highest because of its dense Gangetic population.

instrument of power for British merchants in India was now serving as a binding and organising force for the freedom struggle. But the American Post Office Act of 1792 had promised correspondents that the post would not be used as a surveillance mechanism (John 1995, 31). More than a century later, respect for privacy was not a norm in British India.

This anxiety over the spread of sensitive information was not new. During the late eighteenth century, the transmission through the post of the *Bengal*

*Gazette*, India's first published newspaper, was prohibited. James Hickey founded this weekly newspaper and tended to write offensive articles about several of the officers of the EIC and their families. Since this newspaper became popular among English speakers of all ranks, Warren Hastings might have considered it dangerous to encourage material "tending to vilify private character and to disturb the peace of the Settlement" (Majumdar 1990, 327) to be circulated widely.

While the 1850 Postal Commission did not carry this fear in their report, they also did not recommend reducing postage for newspapers because the cost of carrying newspapers through the post were already twice the postage collected (46): "We are not insensible to the great advantage which the country derives from the free circulation of newspapers, and conceive it to be the duty no less than the interest of the Government to encourage it by every proper means *consistent with considerations of finance*" (emphasis added).

In summary, the institution of the post played a key role in helping the EIC and the Crown maintain political control over their prized colony. They used the district *dāk* to communicate with other government offices, to collect information to facilitate land revenue collection, to help maintain law and order by connecting police stations and courts with other administrative offices, among other uses. It was a vast network that connected all district headquarters, and any unconnected villages could be reached by other means. In addition, private individuals did not have the use of these districts post offices for most years till the 1860s, when they were gradually merged with the Imperial Post. Official mail travelled free through this network as well as through the Imperial Post till 1869. It was expected that

revenues from private mail should cover the expense of official mail too, though this did not happen till around 1889. The revenue from official mail showed a sudden increase in the later 1850s, probably in connection with the first war of independence. The post and telegraph performed critical functions that helped quell the rebellion. After the Crown took over, it intended to make information sharing cheaper by reducing newspaper and letter postage, as a service for the people; but the kind of information that started to be shared spurred the freedom struggle and turned out to be detrimental to the long term political interests of the Crown.

---

### *Commercial motive*

The political motives of the EIC and Crown were linked in an important way with the commercial motives. The Imperial Gazetteer (3:262) points out that suppressing the 1857 mutiny greatly increased India's debt. These expenses were necessary to maintain Britain's political control of India. Tax revenues had to be raised somehow to meet the interest payment on this debt. This led to the realisation that India's commercial potential had to be developed. Spread of means of transport and communication was one of the methods cited for achieving this end. They had to adopt measures to "stimulate the producer to activity and to encourage him to pursue the peaceful ways of trade". In other words, taxes were to be raised from the Indian economy to pay for the debt incurred by the British officers running the Indian government for quelling the rebellion by the Indian

people against the government. By improving communication and developing India's resources, India was being better prepared to export raw material for British factories and to receive manufactured goods in return. This was the most significant pattern of British-Indian trade, as seen below. In addition, for all the investments made in India, including railway construction and civil and military administration, the Indian government paid Home Charges to London.

Trade with India was the reason the EIC was established and given a monopoly; but trade made up a relatively small portion of revenues in the early decades of the EIC's presence in India as political entities. Over eighty percent of their revenue through the 1760s and 1770s were from land revenue collections, and "tribute or plunder" (Richards 2011, 7). The amount of land revenue increased from around one million pounds sterling to eighteen million at the end of EIC rule, but its share of total revenues decreased to under fifty percent. Other sources of revenue that had gained importance were those from the cultivation and sale of opium (twenty percent), production and sale of salt, and customs (seven to eight percent each). These calculations are all excluding the Home Charges, which amounted to two to four million pounds sterling a year.

The EIC's commercial advantages from India were several and obvious. These advantages also had a bearing on post office allocations and postal policy in general. *Map 7.2a* shows the postal allocation in Bengal Presidency – this was the earliest part of the subcontinent that the EIC was able to gain control of. The reason that Bengal was targeted first was Dacca muslins, tea and opium, all of which were cultivated in the Bengal Presidency (Robins 2006, 3).



The Select Committee on telegraphic and postal communication

acknowledged the importance of communication for commerce in their 1866 Report

(iii):

upwards of 25 per cent. of the whole of the external commerce of the United Kingdom is transacted with [British India, Singapore, Ceylon, Mauritius, China, Egypt, Philippine Islands, Japan and Australia]. The great importance of rapid and regular systems of communications between countries transacting business of such magnitude and importance, can hardly therefore be over-rated.

Twenty percent of all British imports came from India in 1863 and 1864, and about thirteen percent of British exports went to India in these years (Statesmen's Yearbook 1866, 277-81).

When the stakes are as high as this, even a reduction of seven to eleven days in the speed of communication between India and England was considered "a matter of urgent necessity" (v). This was to be achieved by making Bombay the point of weekly contact between the two countries, and carrying mail for other cities in India over land – either by railways or all weather roads. Till this point, mail was sent twice a month each to Bombay and Calcutta. Several chambers of commerce in England and in India had attested to the benefits of such a rearrangement (vii). But since this would also greatly increase costs, it was suggested that either the post office of India should increase postage to cover costs, or the Government of India should bear the expense. The India Office disagreed with this suggestion (vii):

There can be no doubt that increased postal communication with India implies increased relations with that country, increased commerce, increased investment of English capital, increased settlement of energetic middle-class Englishmen; and from all these sources the wealth and prosperity of England are more greatly increased than that of India.

After the Committee added that postal communication between the two countries was an important enough matter that it should not be decided by the magnitude of postal profits or losses, the India Office reluctantly conceded that even though millions of Indians “have no direct interest in the matter at all” (viii), the Indian Government will bear the expense of this weekly service to Bombay.

The public good nature of postal services is apparent in this discussion. Being a natural monopoly, postal services must be established or expanded, as the case may be, by one body or responsibility must be shared in a coordinated fashion. Both parties in the above instance were trying to free ride on investments made by the other by presenting arguments to show that the other party benefited more than themselves from efficient postal services.

The way post office density within the subcontinent grew also reveals the specific interests that were in focus. It bears out a statement made by Lord Salisbury, the Secretary of State for India in 1875: “As India must be bled the lancet should be directed to the parts where the blood is congested or at least sufficient, not to those which are already feeble from the want of it” (Naoroji 1921, ix). *Maps 7.3a-d* show how district level postal density increased between 1881 and 1911. A simple exercise to glean motives is to look at the districts which achieved the highest postal density in each decade and understand what special characteristics each had. A clean method that could yield potentially strong evidence for the three motives would be to connect postal density with the events immediately preceding it – changes in export focus, changes in international prices of export commodities, long term investments that improved productivity, *etc.* But the economic, political and

social factors which had the ability to determine postal density had had a long sweep over time. The postal density in each district was not necessarily the result of events that occurred during the preceding year or even the preceding decade, but in fact were a build up from events from over a century earlier. For instance, Hugli and Howrah districts of Bengal (*Map 7.3a*) did not suddenly gain importance during the 1880s; these were the first few districts to be settled by the British after victory at *Palāshi* in 1757, and had had a head start in accumulating post offices before other districts came under British possession and before they had had a chance to become important for specific commercial or military reasons. Here I glance at districts that had more than eight post offices per hundred square miles, for no reason other than that this is the highest bracket in the postal density maps. It is fascinating to find the political and economic events of the eighteenth and nineteenth centuries recreated in a subtle way in the way postal density grew across districts between 1881 and 1911. The information for each district is from the respective sections of the Imperial Gazetteer.

The only short term effect visible from these maps is that the postal density increased largely with the spread of the railways. It is of course possible to go one step further back in the chain of causation and ask why the railway lines spread in the fashion that they did. The *Literature Review* chapter has already discussed the military, commercial and welfare reasons for expanding the railways. I have also mentioned that it made economic sense to establish a post office or at least a mail sorting station at a railway station, because no expense needs to be incurred by the postal department on transport to and from that new post office. In the *Maps 7.3a-*

d, the increase in postal density along the railway lines is much greater than warranted by the establishment of post offices simply for reasons of efficiency. There were clearly other factors driving this increase that may be related with the spread of the railway lines.

After the EIC had established its political influence in Bengal, its economic influence started to expand too. It set up several factories in Bengal near water ways. Hugli and Howrah had the highest postal densities in 1881 (*Map 7.3a*); at the end of the following decade, Bardwan, Naddia, Pabna and Dacca also caught up to the highest level of postal density (*Map 7.3b*). These were districts that grew jute and indigo among other exportable raw materials, and had coal mines, railways, water ways. During the following two decades, the postal density increased in Tippera, Nokahali, Backergunj, 24-Parganas, Birbhum, Murshidabad and Maimensingh, which were all excellent for jute and rice cultivation. These districts also served as markets for the cotton piece goods imported from British factories due to their proximity to easy means of transport and general wealth compared with the interiors of the subcontinent. Some of these districts also provided labour for the huge expansion under way in Burma (discussed below).

Patna and Ghazipur had the highest postal density in the Ganga basin in 1899 – these were the headquarters of the Opium Department. A decade later, the other opium growing districts of Saran, Fyzabad, Sultanpur, Rae Bareli and Partabgarh also had over eight post offices per hundred square miles. The question of opium cultivation and export and their continued importance in the late nineteenth century are discussed further below.

The importance of Bengal in British times is obvious in all of Indian economic history. Madras and Bombay clearly lagged. Tanjore and Chingleput districts on the eastern coast achieved a high postal density in 1899 (*Map 7.3c*) mostly after the railways had already arrived here. They had railway workshops and were excellent for trade because of their water ways. There was some raw cotton exported from here, but not as much as from Bombay. These ports were used to export most goods from the rest of the Deccan and to import British manufactures for the south Indian market. The districts of Tinnevely, Godavari and South Arcot (*Map 7.3d*) too were able to export some cotton, indigo and other raw materials to Europe and were geographically positioned for easy trade.

The districts along the western foothills of the Himalayas in Punjab (*Maps 7.3c and d*) that saw a sharp increase in postal density during the 1890s were all along the railway line that was constructed for military reasons. The western frontier of the colony had to be secured against Russian approach through Afghanistan and this railway line was meant to connect the men and materials with Bengal, the seat of British power. Punjab province also supplied soldiers in a far greater proportion than other provinces. But these are unlikely to have been the reasons for the increase in postal density. The districts that saw this sharp increase in 1899 were Peshawar, Gujrat, Gujranwala, Gurdaspur, Sialkot, Amritsar, Hoshiarpur, Jalandar, Ludhiana, Ambala, Delhi and Karnal. Hazara, Lahore, Meerat and Agra join this list by 1911. Part of the reason might have been the passing trade with Afghanistan, and some export of raw cotton and other raw materials. But a more important reason was probably the canal construction work of the 1890s,

which relieved some districts in the region of severe and recurring famines. This is discussed further under the *Welfare motive* section.

Bombay never achieved Bengal's level of postal density, except in Kolaba and Broach (*Maps 7.3c and d*), even though the statistics for cotton trade, mostly out of Bombay, are striking. As of 1863, fourteen percent of all British imports from the whole world were raw cotton from India and nine percent of all British exports to the whole world were manufactured cotton to India (*Statesmen's Yearbook 1866, 277-81, 640-3*). The importance of the cotton trade for Britain is also apparent in the district post office density in Bombay province (*Maps 7.5a-d*). The districts of Kaira, Surat, Broach and Baroda had a much higher postal density than the others. These were the districts growing the best quality cottons and had the highest area devoted to cotton cultivation of all other districts in the entire empire. The coastal districts too had a higher postal density than ones further inland. Merchants exporting produce needed to be in frequent communication with the growers. It is clear from the maps that the interiors of the peninsula were being approached only after the opportunities at the coasts had been identified and exploited.

Private cotton interests in Britain as well as the Bombay government conducted several cotton experiments between 1830 and 1860 (Logan 1956); but since most of them were unsuccessful, the government was hesitant to continue spending money in this direction. When supply of raw cotton from America to British factories was threatened by the Civil War, these experiments were taken up again. "English manufacturers looked to India as the one great hope not only to relieve the immediate distress but also to relieve permanently their dependence

upon the [American] South as the principle source of supply" (35). Indian cotton was of much shorter staple than American cotton, but there was still hope that it could be greatly improved if only growers had access to the best seeds and were sufficiently careful with the cultivation. Even when the New Orleans seeds were brought to India and sold at a subsidy or given away free of charge, the crops failed miserably in all districts, except Dharwar (37). This was because Dharwar has a climate similar to that in New Orleans. Since these seeds did not really take in any of the other districts, their cultivation could not be expanded. Nonetheless, the American Civil War brought a great deal of prosperity to the merchants and growers of cotton in the Bombay Presidency (Imperial Gazetteer, 3:458).

The role of Surat district in British trade was not limited to growing cotton. Much has been written about the *bania* and *shroff* communities of Surat and the neighbouring districts of Gujarat region of Bombay province (Subramanian 1987, Torri 1991). These were mostly financiers or bankers for merchants, but sometimes took on the roles of merchants themselves. The British in Bombay had made an alliance with the *Bania* community over difficult times in the eighteenth century. Through the sixteenth, seventeenth and early eighteenth centuries, there was hectic maritime trade out of the port of Surat. The *Banias* took advantage of these activities and gained a high level of proficiency with brokerage and banking.

Controlling the supply trade at crucial intermediary levels from the primary production areas to the principal distribution centres inland and on the coast they accounted for a sizeable and probably the most influential section of Mughal Gujarat's commercial population (Subramanian 1987, 467).

In the eighteenth century, the British merchants in Bombay were still trying hard to protect their establishment in India from getting dissolved and to position themselves as an important commercial centre in the empire. Bengal was clearly more powerful politically, but Bombay was important too. Even though the total value of produce was just around the average, produce per head was very high because of a relatively low population (*Table 7.1*). This means that a lot of the produce was available for trade. The Gangetic basin, where Bengal was located, was much more densely populated.

The British merchants borrowed money from the *Banias* for military as well as commercial purposes. Their military activities involved fighting the *Marathas* who were also trying to control Bombay (*Map 7.2a*). As the *Mughal* rule was getting weaker and chaos ensued, the *Banias* also needed to tie up with the British to insure against the insecurity in trade and transportation (Subramanian 1987, 479), the basis of their earnings. They started supporting British trade from the port of Bombay more than the old centre of Surat, where Indian merchants traded. In the early nineteenth century, trade with China exploded largely with the help of the *Banias*. The exports that left India in exchange for Chinese tea were opium, pepper, tin and raw cotton (486).

A very important reason for the success of the *Banias* was their excellent connections with all parts of the empire. At any given time, they had precise knowledge of the rates of exchange to be charged on currencies from different provinces. Since trade came from all parts of the country, they needed to keep up



*Table 7.1: Value of agricultural output and produce per head in British Indian provinces in the 1860s*

Provinces	Value of Produce (in million rupees)	Population (in millions)	Produce per head (in rupees)
Central Provinces	148.5	9	16.5
Punjab	353	17.6	20.1
North-West Provinces	391.1	30	13
Bengal	954	67	14.2
Madras	361.6	26.5	13.7
Bombay	384	11	34.9
Oudh	126.4	9.5	13.3

*Source: Naoroji 1901, 4-23*

*Note: Naoroji disagrees with the official methods of calculating crop yield averages. He points out that district level crop prices had been simply averaged to arrive at the province level average crop price. This method did not account for the quantity of produce in each district, and was therefore misleading. The same method was used in calculating average yields per acre. Naoroji (4), instead, calculates the quantity, acreage and price of each crop, finds the total number of acres and total value of each crop, and then computes the average value and yield per acre. This way, the yields and acreage of different crops are accounted for in the province averages. He makes these calculations for only the major two or three crops in each province due to data limitations; his estimates are therefore an upper bound.*

with the latest developments from all over the subcontinent (Subramanian 1987, 501). The post, and later, telegraph services were invaluable to their immensely successful operations. This is evident in the dramatically higher postal density in Surat and Broach, compared with any of the other districts in the Bombay Presidency (*Maps 7.5a-d*). Before the post was able to enforce its monopoly of mail transfer, the Surat *Banias* had their own private communication channels.

The opium trade that the *Banias* helped start, went a long way in enhancing the finances of the EIC and later, the Crown. *Table 7.2* and *Figure 7.6* give an indication of this.

*Table 7.2: British and Indian Exports to China from 1763 to 1833*

	British Silver (£)	British goods (£)	Indian goods (£)
1763-1770	2,493,190	1,113,951	155,040
1771-1780	750,363	1,482,967	3,078,795
1781-1790	3,168,626	2,865,392	7,121,936
1791-1799	1,609,743	6,852,858	9,961,004
1801-1810	Negligible	11,000,000 <sup>a</sup>	22,000,000 <sup>a</sup>
1811-1820	Negligible	8,500,000 <sup>a</sup>	21,502,772
1821-1830	Negligible	7,604,126	38,754,787
1831-1833	Negligible	2,601,289	13,539,173

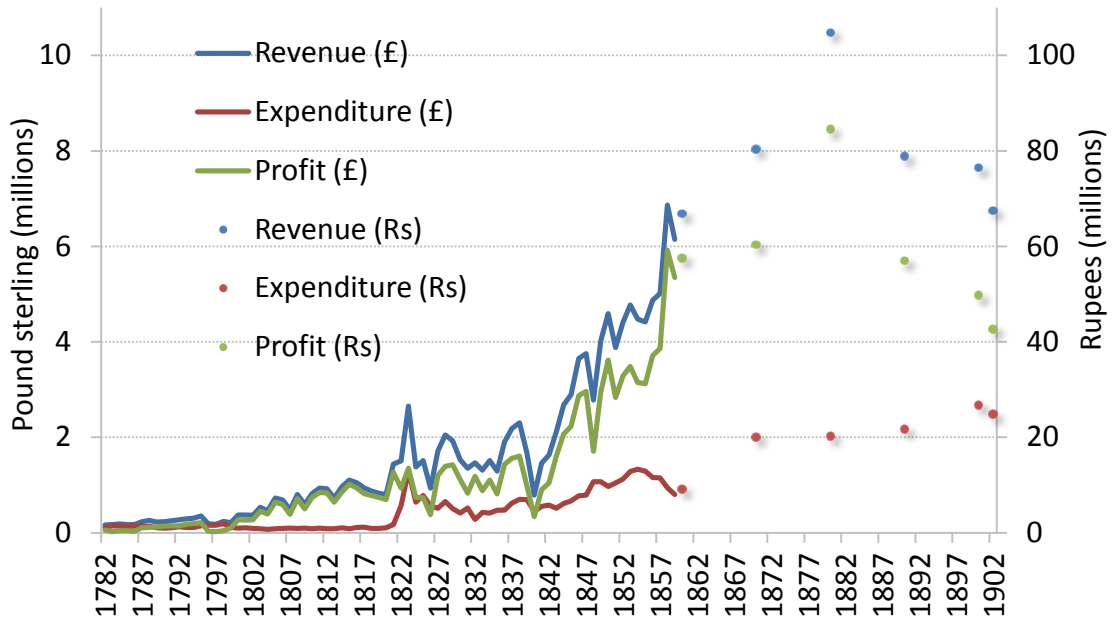
(a) these figures are estimates

*Source: Chung 1974, 413*

Through the first half of the nineteenth century, Britain understood beyond doubt the importance of the opium trade and the need to protect it. Britain needed Chinese tea – the best in the world; but China was not interested in British manufactures. This meant a large outflow of bullion from Britain. But after 1801, Indian opium was able to pay for the Chinese tea going to Britain, thus saving bullion (Chung 1974, 413).

*Map 7.2a* shows the allocation of post offices under the Bengal Presidency alone in 1800. Bombay and Madras had post offices too, but they fell under

Figure 7.6: Opium finances from 1782 to 1902



Source: 1782 to 1859 data (in pounds sterling; left axis) are from Richards 2011. Data for the following years (in rupees; right axis) are from the Imperial Gazetteer 4:275.

Note: The exchange rate between the pound and the rupee (alignment of left and right axes) is assumed to be rupees 10 = £1. The 1885 Poona District Gazetteer uses this exchange rate throughout and the Imperial Gazetteer (3:260) uses it for the 1830s.

'Excise' opium was the name given to opium sold within India. It is not clear if Richards' data includes excise opium, but the latter data do. This data shows finances for 'provision' opium, which was all exported.

different administrations. It is interesting to note that the native state of Oudh was not officially under British rule, but the Bengal Presidency had post offices there. This is because the British negotiated for greater control of Oudh through the first half of the nineteenth century till they wholly acquired it in 1856. Oudh soil on the north of the river Ganga was excellent for opium cultivation. Opium was grown here under a *Mughal* monopoly and the EIC carried on the system.

Opium cultivation required close monitoring on the part of the EIC administration, though expenditure in terms of payments to growers was low. Cultivators had to acquire a licence from the government. An agent of the EIC, a *gomasta*, surveyed the field at an advanced stage of cultivation and made an estimate of the quantity of produce. At the end of the season, if the grower turned in any less than this estimate, he was tried in the civil court (Allen 1853, 9). Apart from the *gomasta*, there were at least three other individuals in the administrative hierarchy between the government and the grower. In fact, the convenience of opium merchants was cited as one of the reasons for establishing uniform postage irrespective of distance by the Postal Commissioners in their 1851 Report.

When news affecting the price of Opium arrives from China, or on an Opium sale day, they have to send circulars to several persons in Bombay. These they lithograph on slips of thin paper, and send under cover to their correspondents by whom they are distributed (19).

This was also used to illustrate an example of the practice of “clubbing” multiple letters in a single envelope to evade postage.

The result of this elaborate arrangement was profits several times greater than expenditure. The spike in revenues and expenses around 1820 is due to the commencement of sales at multiple ports of China (Allen 1853, 13) and also due to some administrative changes in opium cultivation. The drop around 1840 is due to the first opium war. Opium profits started to decline after around 1880, even as a percentage of total revenues, for at least four reasons (Newman 1989): (i) Competition from china grown opium; (ii) Peasants in the North West Provinces could now use the railways to transport bulky produce to far away markets instead

of having to grow opium and sell it to the government at low fixed prices; (iii) Peasants in Central India faced the famine of 1899-1900 and consequent labour shortages; (iv) A report of the Royal Commission on Opium stated that opium could be beneficial if consumed in moderation and that this trade need not be stopped. But it was apparent that “the whole affair was ruthlessly stage managed” (529-30) and even the Journal of the American Medical Association (24:728) recognised that this decision was “dictated by commercial considerations”. This was representative of a general change in international opinion regarding profiteering from opium sales.

So England was still greatly interested in continuing the profitable opium trade, in spite of the declining trend in revenues and profits. Newman points out “the overpowering efficiency with which [the Government of India] organized the [Opium] Commission’s itinerary, selected witnesses and cosseted the Commissioners in the comfort of official bungalows” (529). This continued interest in opium trade is also reflected in the increasing postal density in the key opium cultivation districts of Bengal – Patna and Ghazipur in 1890 (*Map 7.3c*), and also Saran, Fyzabad, Sultanpur and Rae Bareli in 1911 (*Map 7.3d*).

Apart from these major crops – cotton and opium, England also imported other agricultural produce. The previous chapter on Poona district discusses some of them. The parts of the district that grew pepper, onions and chillies had a higher postal density. This produce was being exported to Europe. Purandhar subdivision was growing a lot of sugar; but since this sugar was not being exported to Europe, Purandhar’s postal density was not as high as in Khed and Junnar. In the matter of soil quality and agricultural productivity, Poona district was not much better or

worse than other districts. There was a lot of variation within Poona, just like in other districts. The example of Poona can be extended to the entire subcontinent. The districts that grew exportable crops had a higher postal density than others that grew crops for home consumption. Rice and wheat were grown extensively and traded within India, but this did not seem to be a special reason for high postal density.

There are several ways in which the establishment and expansion of post offices furthered the commercial interests of the EIC and the Crown. They gave access to information related with quantities and quality of the crops in the interiors, prices in export markets, and any news on potential competition or shocks in demand or supply. These same benefits also accrued to Indian merchants dealing with internal markets. The 1851 Postal Commissioners' Report presents quotations from several chambers of commerce as well as individual merchants who felt that their use of the post would be much freer if postage were lower and if it did not depend on distance (17).

The introduction of railways brought distant markets much closer together. There is research that shows that the railways afforded arbitrage opportunities and consequently reduced price disparities among districts (Hurd 1975, Mukherjee 1980, Andrabi and Kuehlwein 2010). These are studies of price convergence in India only. There are other such studies conducted for Prussia, Russia, Mexico and America – countries that are large enough that the introduction of long distance railways perceptibly facilitated trade and brought prices together. The railways permitted the law of one price to function. The law of one price dictates that the difference in

commodity prices between districts must be no greater than the cost of transport between these two districts. If the difference in prices is greater than this band permits, then arbitrage will be profitable and the result will be price convergence. Most of this research attributes market integration to the introduction of railways. This is because railways afforded the obvious and important transport link between markets. But the law of one price assumes perfect information. Surely, farmers and merchants need to have access to information on prices in other markets before they load produce onto a railway carriage. A nearby post office can provide this information.

Some preliminary work<sup>9</sup> suggests that the effect of postal density is only slightly less than that of railways in bringing grain prices closer to the mean for about 160 districts in British India. The presence of a railway line at a district headquarters is associated with a 6.2 percent smaller deviation of rice prices from the mean between 1881 and 1911, whereas this figure is 4.3 percent for post offices per capita. These figures are 5 and 1.7 percent respectively for wheat prices. The introduction of a quadratic postal density term in the wheat regression brings both the figures to about 4.7 percent. In the rice regressions, introduction of a quadratic postal density term renders them statistically insignificant.<sup>10</sup> In both cases, as expected, the coefficient on the linear postal density term is negative (reduces price deviation) and that on the quadratic terms is positive (the negative effect decreases).

---

<sup>9</sup> This is part of a working paper with Prof. Michael Kuehlwein and Prof. Tahir Andrabi from Pomona College, Claremont. An early draft can be found here ([www.ehs.org.uk/ehs/conference2012/Assets/EHSBooklet2012.pdf](http://www.ehs.org.uk/ehs/conference2012/Assets/EHSBooklet2012.pdf))

<sup>10</sup> These specifications include year and districts fixed effects. One reason for these low estimates is that most of the price convergence had already happened before 1881, when our postal data begins.

These results suggest that the role of the post in bringing about market integration was almost as important as that of the railway. There were, of course, interactions between these two systems and a clear distinction between the transport function of the railways and the communication function of the post cannot be made. The railway was used extensively for mail transfer, and the post offered transport services over short distances or difficult terrain. Studies that find an important role of the railways in price convergence must be understood to include the effect of post offices as well, even though a post office variable may not have been explicitly added.

Market integration certainly came with benefits for farmers, merchants and consumers. As Jensen (2007) points out with a study of the same subject in modern times, the use of cellular phones by south Indian fishermen increased consumer and producer welfare and reduced wastage because fishermen now knew which markets offered the best prices. Integrated markets also afford a greater potential customer base to merchants. In this way, the value-payable (VP) or cash-on-delivery system provided a stimulus to domestic trade between the large commercial centres and the rural hinterlands.

The vast majority of V.P. parcels, V.P. registered letters, V.P. book packets posted in this circle are posted by tradesmen in Calcutta for their customers in the interior of Bengal and rest of India. Of the total number, 96.81% were posted in the Calcutta G.P.O. & its Town Sub Offices; of V.P. registered letters and book posts 94.60% were posted in the Calcutta G.P.O. (Majumdar 1990, 294).

Of the rupees 2.2 million collected by the post, 2.15 million had to be returned to the tradesmen on behalf on their customers. The post suffered also

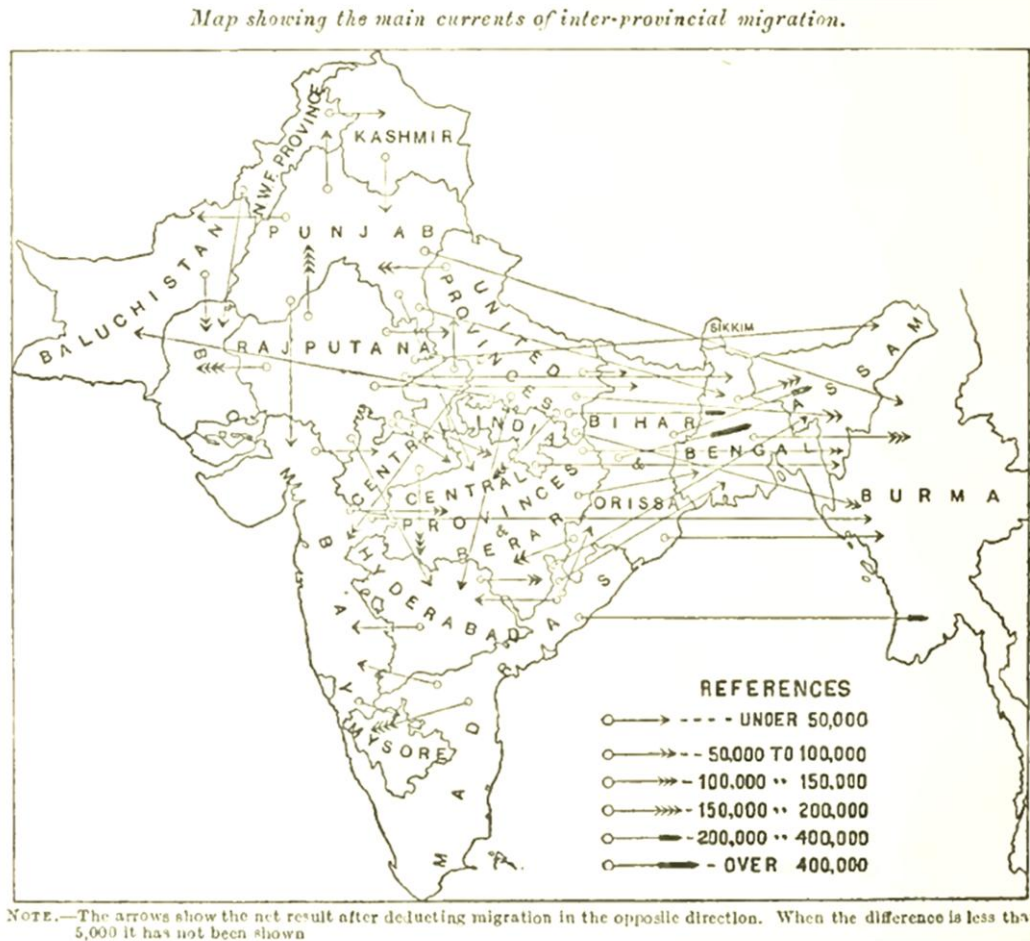


because there were several merchants who sent merchandise to people who had not requested them, with the hope that some recipients might decide to keep the product and pay for it. The loss to the merchant for such transactions was just the low postage (Majumdar 1990, 297). Most addressees refused and the post had to return the article without charge. The rules were then modified to prevent such abuse.

Some more serious negative effects have also been attributed to market integration. The Imperial Gazetteer (3:496) notes that “there has been a tendency in some quarters to detract from the advantages of railways”. It cites (497) the Famine Commission Report of 1901 in saying that earlier, farmers had to save their grain because they did not have access to arbitrage opportunities. Since the introduction of cheap railway transport, they could sell their grains for a good price. “Owing to their improvidence, the money slips through their fingers. But this change in the habits of the people is a regular attendant of progress: it is merely a transient phase of a great economic movement, which makes for national prosperity”. While market integration, which was brought about jointly by the railways and the post, might have to some extent been responsible for the frequent and severe famines of the late nineteenth century, they were also attendant in the famine relief efforts – this is discussed under the Welfare motive.

Migration over long distances too had become common during the latter half of the nineteenth century. The early census reports show that several important cities attracted migrants from adjacent districts within the same province, as well as other provinces. Map 7.1 shows the migration pattern as it was in 1911. It is clear

Map 7.1: Main currents of inter-provincial migration as of 1911



Source: Census of India 1911, vol I, part I, 92

that most of the migration was happening just across province borders. Bengal attracted over four hundred thousand immigrants (net of emigrants) from neighbouring Bihar and Orissa. There were also some long distance migration streams to Baluchistan, Burma, Assam and Bengal. Of these, the one province that seemed to have been the most attractive to migrants from several far away provinces is Burma. The numbers of net immigrants (total immigrants - emigrants) into Burma were 49,873 from the United Provinces (earlier called North West

Provinces), 132,389 from Bengal, and 245,369 from Madras (Census of India, vol. I, part II, 122).

The 1911 Census of India (vol. I, part I, 93-4) notes that most of the migration from Madras to Burma was of “untouchable” persons with no land and low incomes seeking employment in Burma’s quickly growing economy. A lot of this migration is therefore seasonal, though several people stayed on. Mahadevan (1978) discusses the great migration of *Chettiar* financiers from Madras to Burma during the nineteenth century. Two key reasons for this migration were unavailability of profitable investment opportunities in Madras, and the creation of an attractive new market in the resource rich, newly acquired Burma (331). This is substantiated by *Table 7.3* showing where *Chettiar* working capital was spread.

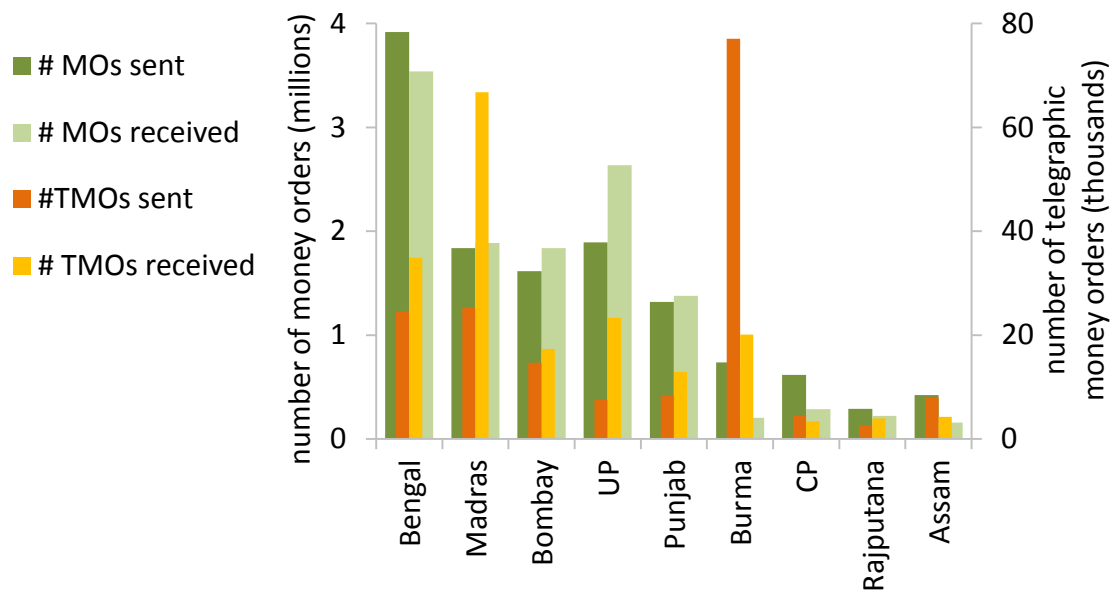
*Table 7.3: Region-wise break-up of Chettiar working capital around 1929-31*

Ceylon	Rs 140 million
Malaya	Rs 250 million
Madras	Rs 10 million
Indo-China	Rs 50 million
Burma	Rs 750-800 million

*Source: Mahadevan 1978, 333*

Two major reasons for this migration are when: (i) Britain acquired Burma in the 1850s and made vast investments in infrastructure and administration (334). This attracted attention to the vast natural resources and abundant rice cultivation, and consequent trade potential; (ii) The Suez Canal opened in 1869 and “served to

Figure 7.7: Money orders and telegraphic money orders sent by and receive in some provinces in 1901-2



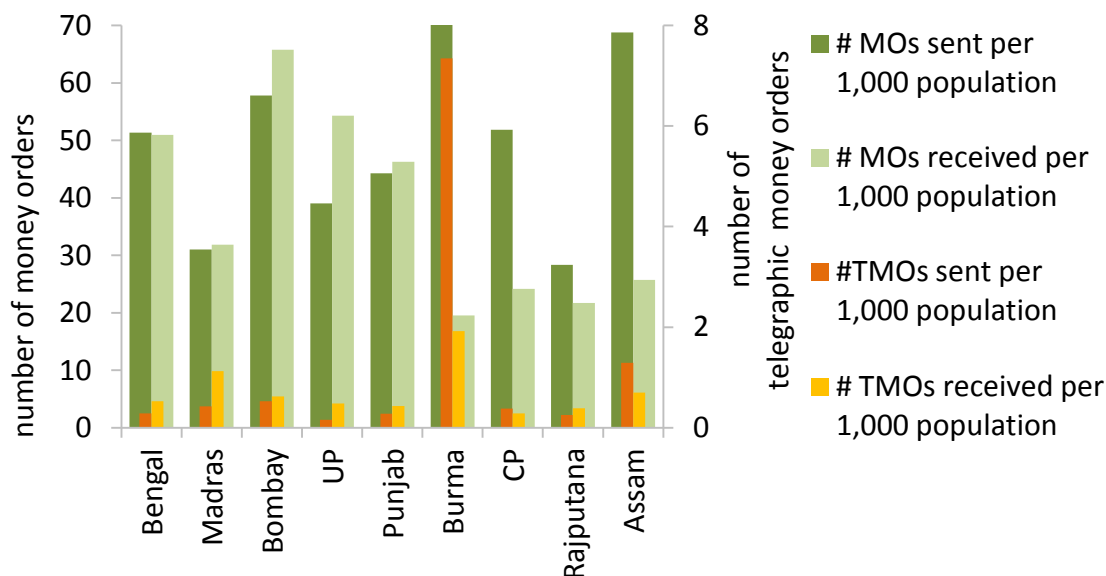
Source: Annual Reports of the Post Office of India 1901-2

Note: Data for 1901-2 are represented here because both money order and population data were available only for this year.

integrate colonial Burma with the world capitalist economy” (337). This caused another great wave of *Chettiar* migration to Burma.

*Chettiar* firms had their head offices in Chettinad, Madras province and functioned in Burma through their agents. Communication between principle and agent, and remittance facilities must have been important. Even labourers from Madras and elsewhere would have needed to communicate with their families. The 1911 census shows that of the 247,360 persons who had migrated from Madras, only 41,453 were women – less than seventeen percent. The men who had travelled here for employment would have had to communicate with their families and maybe send back some of their earnings. Roy (2006) says that "migration and money orders

Figure 7.8: Money orders and telegraphic money orders per capita sent by and received in some provinces in 1901-2



Source: Money order data from the Annual Reports of the Post Office of India 1901-2, population data from the Census of India 1911.

Notes: Some provinces have been merged to minimise discrepancies between boundaries of postal circles (used by the Annual Reports of the Post Office of India) and administratively defined provinces (used by the Census report).

The Sind region (merged with Bombay, because separate population for Sind is not available) sent more than two and a half times the number of money orders it received during the year. But this excess is counteracted by the excess in the rest of Bombay of money orders received over those sent.

... were synonymous. One could hardly exist without the other. In safety, cost, and wide reach, nothing like the postal money order existed [before the 1880s] for the remittance of individual savings within India" (305). High levels of migration therefore must in some way show up in the use of postal services as well.

Money orders could be sent from any post office; so frequent use of this service required easy access to a post office. But *Maps 7.3a-d* show that Burma had

a low postal density compared with the other districts of the empire, and this density grew little over the span of thirty years from 1881 to 1911. If most immigrants went to one or two big cities, then of course, the postal density would not need to be very high to cater to these people. But official records suggest that even though a lot of the migration was in fact to the big trading centres, postal facilities even in these big cities were inadequate. "Postal communication with Burma is so restricted that resort to the wire is naturally more frequent there than in the case of the other provinces" (Annual Reports of the Post Office of India 1885-6, 14). *Figure 7.8* shows that Burma sent out a much greater number of telegraphic money orders per capita than any other province. *Figure 7.7* also clearly indicates that Madras province received the highest number of telegraphic money orders. "With the improvements in railway communication in India ... the pre-eminence of Burma in the matter of telegraphic money orders is likely to continue owing to her isolation and the largely expanding trade of Rangoon" (Clarke 1921, 78). Since telegraphic money orders cost a whole rupee to send, as against a quarter of a rupee for a money order (of value from ten to twenty-five rupees, in which range the average money order was till the early 1900s), it is reasonable to assume that these telegraphic money orders were *Chettiar* profits being repatriated. The poorer labourers were unable to use the expensive telegraphic money order service, but the same trend is apparent in regular money orders too. The number of money orders sent from Burma was three times the number received.

Comparing *Map 7.1* with *Figure 7.8*<sup>11</sup>, it is clear that the provinces seeing a large net immigration (Burma, Central Provinces, Sind and Assam) were also the ones sending a greater number of money orders. United Provinces had the greatest excess of money orders received over those sent. It also saw a net emigration to all provinces except the native states of Rajputana and Central India. Hamilton (1910, 36) adds Bombay, Punjab and Behar to the list of provinces seeing net emigration, and receiving more money orders than they sent. He confirms that “a very large proportion of the inland money order business consists of remittances to their families made by native soldiers, police constables, labourers on railway works and coolies on tea gardens”.

The reason for this discussion of migration appearing in the section on *Commercial motive* needs some explanation. Migration is closely related with the phenomenon of market integration, which was one of the outcomes the British expected to see from railway construction. The post aided this process also, though not as obviously. The relation that the post had with migration was more obvious, as seen above. The *Chettiar* financiers were able to travel to Burma and establish their business and the “untouchable” farmers were able to travel to Burma to find seasonal employment with the confidence that there were remittance services they could use to transfer their profits or meagre savings back to their headquarters or families. It is on the strength of this migration that the trade of Burma grew as

---

<sup>11</sup> *Map 7.1* represents migration for 1911. *Figure 7.8* gives money order statistics for 1901. They are comparable because the broad migration patterns being discussed here remained through most of late nineteenth and early twentieth centuries. Migration statistics from the 1901 and 1911 Census reports supports this.

quickly as it did. The British were as interested, if not more, in the trade of Burma as were the *Chettiars* or the immigrant labourers. That is why they struggled to bring it completely under their control in three parts between 1826 and 1886. With the increase in demand for Burmese rice in Europe and other parts of Asia, the British had to improve the local agriculture through the injection of funds, skills and technology from outside and by appropriately altering the land tenure system. Mahadevan (1978, 334) points out: “the British had realised the importance of the Delta region as a potential market for British manufactured goods and as a source of raw materials”.

This section discusses not only the commercial benefits that accrued to the British, but also those that accrued to the Indian merchants and work force. Having the opportunity to remit savings or profits to and communicate with their families in the village helped break traditional bonds that tied sons to their fathers’ occupation. This shift in the method of choosing a livelihood is one of the ways that an economy shifts to a modern, market driven mode (Heilbroner 1986, 19).

---

#### *Welfare motive*

While the commercial and political motives for establishing, fine-tuning and spreading the postal network throughout the Indian empire were important, the network might not have been as widely spread out in rural parts had it not been for a genuine interest in making communication services available to the rural population. It is clear from the words employed in the 1851 Report that along with



any other motives of self interest, there was an interest in allowing the poor to communicate cheaply and efficiently.

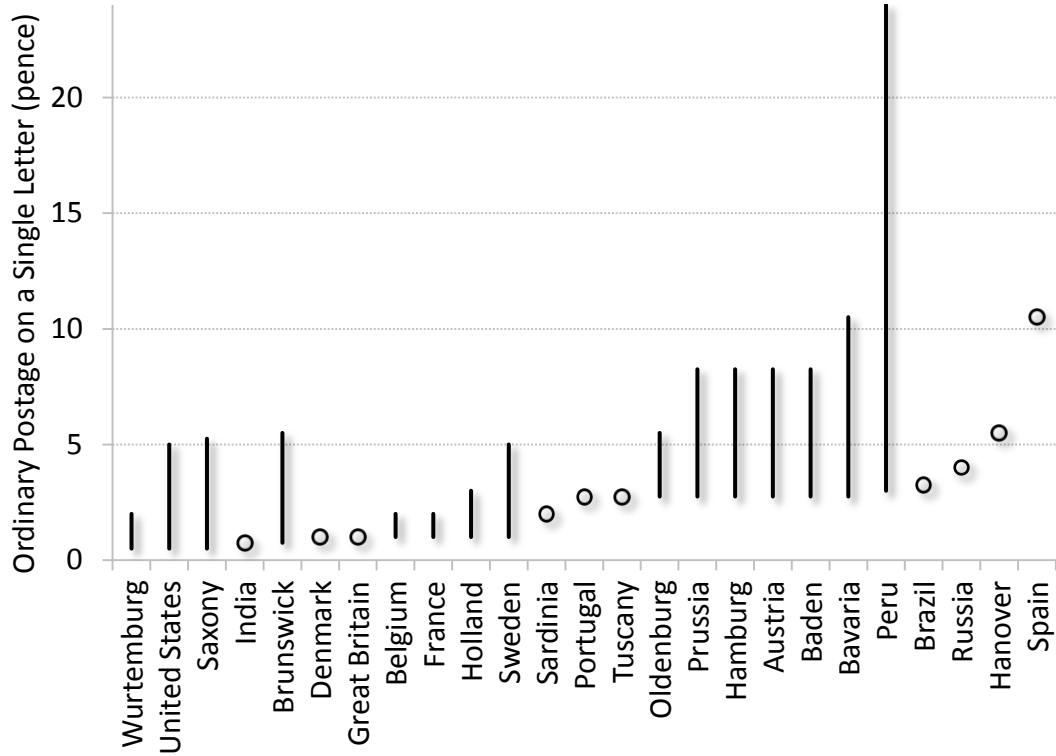
By almost annihilating distance... [uniform postage] makes the Post Office, what under any other system it can never be, the unrestricted means of diffusing knowledge, extending commerce, and promoting in every way the social and intellectual improvement of the people (16).

Dalhousie pointed out in his 1856 Minute that the rate of postage offered by the Indian postal department was significantly cheaper than in England (House of Commons Parliamentary Papers 245, 18). It in fact was the cheapest uniform rate in the world, as shown in *Figure 7.9*. Wurtenburg, Saxony and the United States had slightly lower rates on the single letter, but they varied by distance. India offered a low uniform rate.

England already had uniform postage since 1840 on Hill's recommendations. But the reasons for adopting this policy were different in England and in India. Hill (1837, 14) had made some simple calculations to show that, not considering the use of the fixed postal establishment, "the cost of mere transit incurred upon a letter sent from London to Edinburgh, a distance of 400 miles, is not more than *one thirty-sixth part of a penny*". If postage should be determined by distance, therefore, this unreasonable fraction of a penny must somehow be collected. This being impractical, he recommended uniform postage irrespective of distance.

The Indian colony was much larger than the British Isles. The above reasoning might not have ended in a suggestion of uniform postage. Uniform postage was nonetheless applied in 1854. The 1851 Report (5-8) cite a report by the Assistant Post Master General of the United States of America and suggested that

Figure 7.9: Cross country comparison of postage on single letters around 1850



Source: Sen 1875, 27

Notes: Sen presents “the best approximation to such a synopsis which is attainable, taking as a foundation the result of the elaborate enquiries of Mr. Pliny Miles, contributed to the New York Banker’s Magazine in November 1857, but with needful variations”. What these variations are is not mentioned. It is therefore not clear whether these postage values are adjusted for purchasing power.

This graph shows postage on single letters whose permitted weight could have been different across countries. The circles represent a single flat rate irrespective of distance, and bars represent rates varying by distance.

Countries are sorted by their lowest postage.

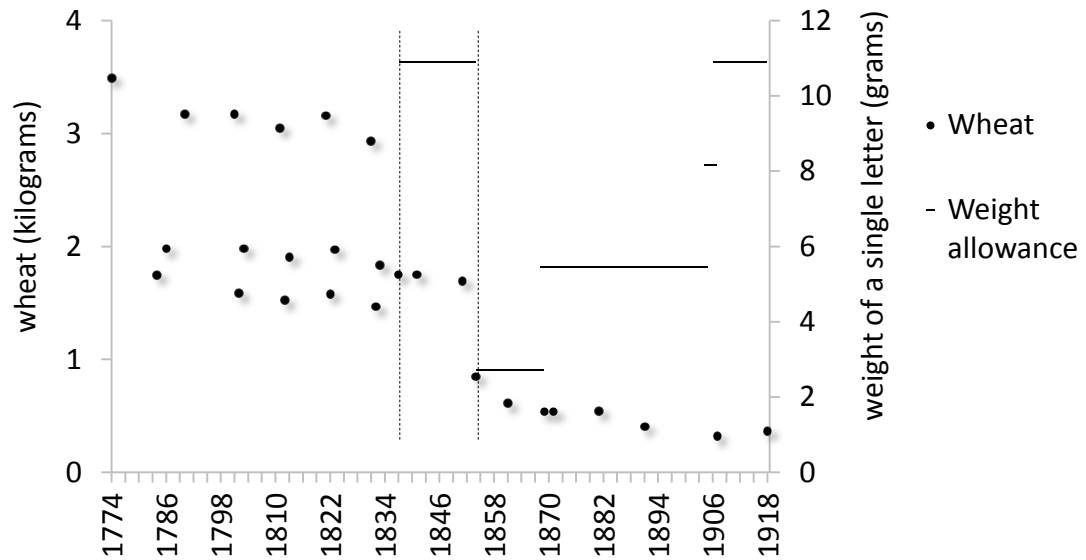
long distances are actually a collection of smaller distances. If one bundle of letters has to go from city A to city B, and another further ahead to C, then the bundle getting offloaded at B can alone bear the whole expense of transporting all the letters from A to B. The letters going further to C will only bear the expense of

transport from B to C. Cost is therefore to be calculated as the ratio of {transport cost between one station and the one immediately before it} and {the number of letters getting offloaded at each station}. The Commissioners who wrote this report seemed to have suggested adopting the principle of uniform pricing on the basis of average variable cost. Their suggestion of fixing postage at half an anna for a single letter was enacted in 1854.

*Figure 7.9* compares nominal postage across countries. Looking at the real postage in India from when the post was first made available for private use till early twentieth century shows that it became dramatically cheaper to send a letter in 1837 and then again in 1854 (*Figure 7.10*). After that year, the weight allowance of a single letter was greatly increased, thus allowing more material to be carried for the same postage. Weight brackets were also changed so that heavier letters entered lower postage categories. A further reduction in real postage was experienced as inflation reduced the purchasing capacity of a half anna (postage on a single letter).

Looking at average monthly incomes of some occupations will put this in perspective. Some districts had an average monthly income of about three rupees a month for agricultural labour and about twenty-five rupees a month for a mason or carpenter as of 1873 (Prices and Wages in India 1891, 127). These are not national averages, but some of the lower values. Incomes in Bombay and Burma and at all district headquarters were in general higher. The idea is to see if the poorest communities could afford postal communication. After 1854, the postage on a single letter was half an anna, and a kilogram of grain cost about an anna. For an agricultural labourer who earns about three rupees a month, half an anna would be

Figure 7.10: Real postage in India in terms of wheat



Source: Postage data are from Clarke 1921 and Majumdar 1990. Grain price data for before 1871 are from Broadberry and Gupta 2012, prices after that are from *Prices and Wages in India*.

Notes: Real postage in terms of weight of rice is almost identical.

The two vertical lines at 1837 and 1854 are for the Post Office Acts for those years. The three sets of values pre-1837 are for the Bengal, Madras and Bombay Presidencies, which had different rates of postage, weight allowances, and distance brackets. The highest set of values is for Bengal, where a single letter could be sent up to hundred miles. For Bombay and Madras, the minimum distance bracket was twenty miles, which also changed often till 1837. Between 1837 and 1854, the minimum rate could allow a single letter to go twenty miles. After 1854, a single letter could go anywhere in the Indian empire for a flat rate.

a third of their daily earnings. Given that their daily earnings could buy them 1.6 kg of grain, half an anna could have been a rather steep price to pay for long distance communication, depending on the number of working hands and number of dependents in the family. It is also reasonable to argue that giving up 0.8 kg of grain

for the cost of a postage stamp may have been something a poor family could afford to do on occasion. It was probably not absolutely beyond means.

It is also not surprising to learn that people often wrote on very small and thin pieces of paper so as to not exceed the stipulated weight limit. Those with a greater demand for frequent communication but with limited incomes put several letters on such slips of paper in a single envelope and sent them out together to save on postage. This practice of “clubbing” induced the 1851 Postal Commissioners to recommend a low postage rate. The postage might have been among the lowest rates in the world, but for the poorer populations in India, the post was still a service to be used carefully and sparingly.

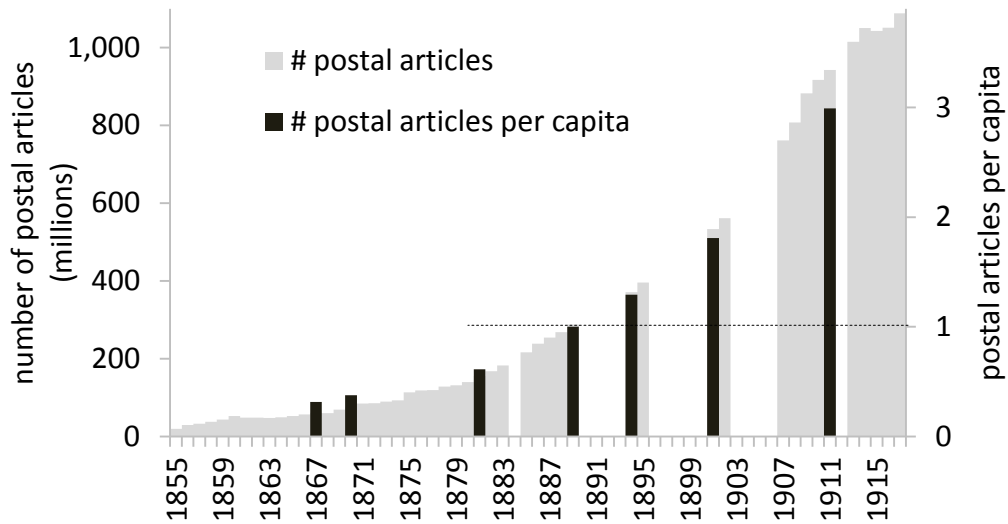
For a mason or carpenter earning twenty-five rupees a month, the single rate would be less than four percent of daily earnings. Their daily earnings could buy over thirteen kilograms of grain; paying half a kilogram for postage would not have been a great burden.

The 1851 Report recommended lower rates for the parcel post:

In consideration of the advantages likely to arise from the more extended diffusion of useful knowledge in the interior of India, it would be very advisable to adopt a rate for pamphlet Banghy [parcel] postage, slightly below the actual cost of conveyance, tolah for tolah, of the whole Banghy mail (118).

The population at large clearly took advantage of these low rates and the use of postal services greatly increased through the latter half of the nineteenth century (*Figure 7.11*). The number of postal articles (letters, postcards, money orders, newspapers and parcels) carried through the post saw a smooth increase from 1855 till the beginning of the First World War, by which time, the post was carrying over a

Figure 7.11: Use of postal services from 1855 to 1917



Source: postal data are from the Annual Reports of the Post Office of India, and population data are from the DSAL and the Census of India reports.

Note: postal data for 1891 was not available, but population data was. So the 1891 population has been used to calculate the number of postal articles per capita for 1889 and 1894.

Postal articles include letters, postcards, money orders, newspapers, packets and parcels.

billion postal articles. Even controlling for population, the increase in the use of postal services in the latter half of the nineteenth century was impressive. India reached the symbolic number of one postal article per capita around 1890.

About half of this total is accounted for by newspapers, which as suggested earlier, were read by more than just one person. The effect that reduced newspapers postage had on their circulation and consequent readership has already been discussed under the head of *Political motives*. But this discussion could equally well have belonged under the current head of *Welfare motives*. Easy access to news

and information is a boon to anyone involved in a market or in any situation where one's best options depend on what is going on elsewhere. The freedom struggle gained momentum to a great extent because nationalist literature had a medium to circulate through the subcontinent and gather support from all the British provinces and native states under indirect rule. A liberal exchange of ideas from other thinkers in India and around the world helped formulate strategies for the struggle.

With the introduction of every new idea – letter boxes, postcards, stamps, *etc.* – there was confusion among the people and often total misunderstanding of the purpose of the new measure; the Department worked to spread information on how best to use them to the benefit of all. Letter boxes were intimidating for several people and some thought that there was a postman sitting inside it, waiting to carry away each letter that is dropped! A postal officer of Muhammadabad, Azamgarh district (Ahmed 1981, 294) reports that he “saw a man drop a letter into the letter box and then putting his lips close to the mouth of the box, calling aloud (very loud) that the letter was to go to Rewah”. Another officer narrated an account of a woman who clearly did not know how the post functioned (Ahmed 1981, 294):

A woman after dropping her letter in the box came up to me and begged me to tell her son that she had been very ill for some time and that the black cow of her husband's brother was dead, and to desire him to come home as soon as possible, or to send some money for her expenses, with a lot of other messages. ... the good woman was under the impression that I was to be the bearer of her letter to her son who was in Trinidad, and she was not certain whether the scribe she had employed in writing the letter had written all what she wished to be written.

Such curious instances abounded. There was also the constant problem of the senders not putting the exact address of the recipient on the envelope.

Addresses were often just put as “To the lotus like feet of my eldest brother, the more fortunate and much worshipped Bipin Behari” or “To the most blessed and fortunate Basi Khan, Calcutta, at the Maizuddin’s shop” without any city or district name (Ahmed 1981, 293). The Department tried to educate people in the vernacular languages through the local postmasters on how to put an adequate address on their letters (Postal Commissioners’ Report 1851, 108).

Another subject mentioned under *Commercial motives*, but left to be discussed here is the famines that cost millions of lives through the nineteenth century<sup>12</sup>. Famines were frequent before the railways arrived and they continued to wreak havoc after, but the nature of official response to famines changed over time. An important element in this difference seems to have been access to village level agricultural information in adequate detail to ascertain the extent of the distress resulting from failed rains. The Imperial Gazetteer (3:478) admits that famine relief during the rule of the EIC was not much different from how it was during *Mughal* rule - “no effective means of remedial action”. An 1868 order stated that “every District officer would be held personally responsible that no deaths occurred from starvation which could have been avoided by any exertion or arrangement on his part or that of his subordinates”. The Report of the Indian Famine Commission, 1880-1885 humbly suggests that this change in the attitude was not because the EIC

---

<sup>12</sup> The worst affected British districts of Gujarat and the Deccan lost a quarter to a third of their population in the great famine of the late 1890s. Mortality was even higher in the native states. Including the mortality due to diseases that often accompanied draughts would increase the figures to half to two-thirds of a million just for Bombay province (Imperial Gazetteer, 1:463). Mysore lost a quarter of its population in the 1874 famine (1:460). Interestingly, the Famine Commission Reports of 1881, 1898 and 1901 do not report mortality figures. They only report the total population of affected districts, and the number of “souls relieved” through government projects.



administration was “less humane” than the Crown (1:30). It attributes this change to the fact that only recently had the administration started collecting detailed data on agriculture, health and economics status. This activity would have required the surveyors and higher up officers to visit or collect information from the remotest parts of the country. The district *dāk* was the medium through which all such communication passed. This institution that was available for use only by government officers and their agents (without postage) played a key role in the administration of relief schemes, but has gone largely unrecognised in the economic history literature. Residents of native states that faced famine situations often migrated to the adjacent British districts in search of relief.

The suggestion, hotly rejected by the Imperial Gazetteer, was that the expansion of the railways and the consequent tendency of farmers to sell their excess grain instead of storing it for a bad season was one of the reasons for the recurrence of famines. While I do not here weigh in one way or another, it is appropriate to add that there certainly was something that British administration did, that mitigated this evil. I have mentioned in the previous section that the expansion of the railways through Punjab was largely for military reasons. Some of these districts (Peshawar, Gujrat, Gujranwala, Sialkot, Gurdaspur, Amritsar, Hoshiarpur, Jalandar, Ludhiana, Ambala, Delhi and Karnal – marked in *Maps 7.3c* and *d*) suffered from severe famines and some others never suffered at all. These differences were largely due to the pattern of winds after they have hit the Himalayas. During the 1880s, irrigation works (construction of canals and wells) were undertaken in Gujranwala, Sialkot, Gurdaspur, Amritsar and Jalandar, and after

this, these districts were able to successfully escape famine years with crop yields being about seventy-five percent of the average. Gujranwala also exported wheat during famines years.

Canal construction in Poona district was also accompanied by the establishment of post offices in the vicinity in the same decade. These works were undertaken in the eastern half of the district that faced severe famine situations and had poor soil and unpredictable rainfall. This provides additional evidence at the level of a single district of the relation between the establishment of post offices and welfare projects undertaken by the administration.

As news, food and goods circulated through the subcontinent, so did people. The financial services offered through the post permitted people to leave their villages in search for gainful employment and break the bonds of tradition that kept them tied to their caste occupation. These travellers may have left for a season or for longer; but they were able to send money orders to their dependents, and trusted that this money would reach those it was intended for. The theme of trust has come up frequently in the literature. People could not really grasp the notion that if they paid money at their local post office, that money could reach their relative in a completely different location. The money order receipt was a “magic slip of paper” (Clarke 1921, 80). This level of trust on the institution of the post and amazement at its services was understandable – neither in England nor in America during the nineteenth century were money orders delivered by the postman at the doorstep. Those expecting to receive money orders had to visit their local post office and collect it themselves. The policy of delivering money orders to the homes

of the recipients was started in India to quickly pay the order, close the account and prevent frauds (Anand 1954, 117). When a poor family received money from the postman in times of grave need, it is understandable, that the postman was perceived as a trusted friend.

On long journeys, there was always a risk of getting robbed, and so carrying money on the person was risky.

An Indian [labourer] in Burma who ... wants to return to his village, seldom carries the money on his person, and he has a strange mistrust for banks ... He usually ... sends to himself a money order ... It may be months before he turns up to claim the money, as he frequently sets a job on the way back or spends some time at a place of pilgrimage, but he knows that his money is safe enough and he is quite content to use the Post Office as a temporary bank to the great inconvenience of the Audit Office. (Clarke 2921, 79-80)

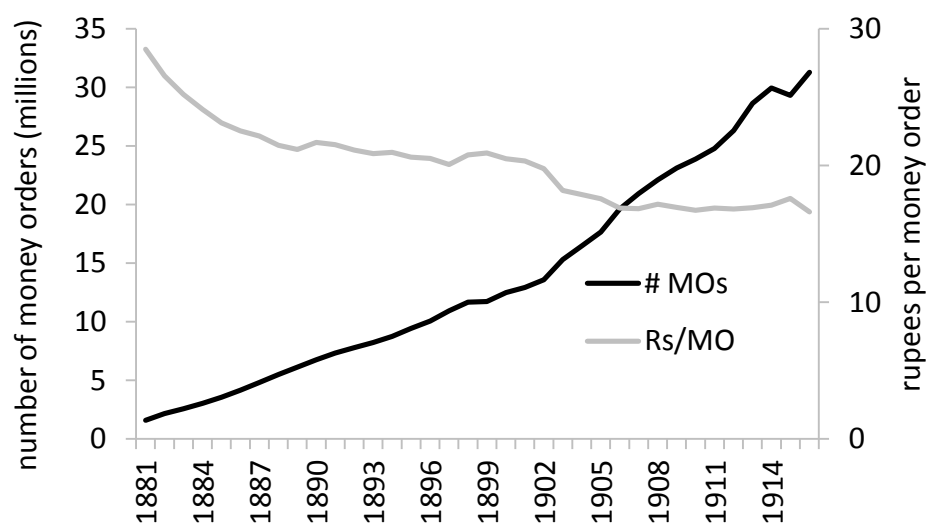
Often, this trusting nature induced swindlers to abuse the system. They got enough information out of visitors at pilgrimage sites to write to their family asking for money immediately because they had lost all that they had brought during their travels. Strict measures were adopted to ascertain the identity of the payee, but swindlers continued to get away with large sums of money.

Nonetheless the money order service greatly increased in popularity over the span of thirty years from when it was introduced. The average value of the money orders decreased over this period steadily from about twenty-eight to sixteen rupees, to show that poorer sections of the population were using this service to transfer their meagre savings to their families (*Figure 7.12*).

Hamilton (1910, 190) describes the system of rent and revenue money orders in detail (*Figures 7.13 and 7.14*). These were special systems introduced to facilitate

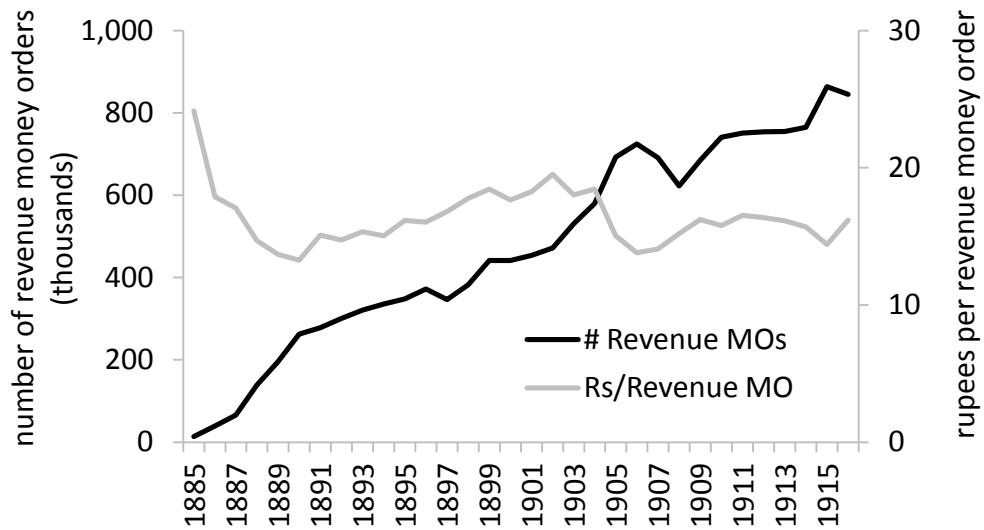
the payment of rent and land revenue (and other kinds of cess) through the post. This was a boon for several small land owners who were constantly under the risk of losing their land to auction under the “sunset law”, in case of delay in payment (Majumdar 1990, 316-7). The amount of revenue paid by this method doubled over a decade around the turn of the century, but this was slow growth compared with other services of the post. One reason for this was that the rent money order arrived being classified as the rent under the appropriate head for the appropriate month or year. The land owner now did not have the liberty to categorise this money as arrears, and still show rent pending! Also, the idea of a landless tenant waiting at the door in a posture of subjugation was so central in the life of a land owner that revenue being paid, on time, by a post man was just not acceptable. This shows how cultural factors precluded the spread of a system that would have benefited small farmers.

Figure 7.12: Numbers and average values of postal money orders from 1881 to 1916



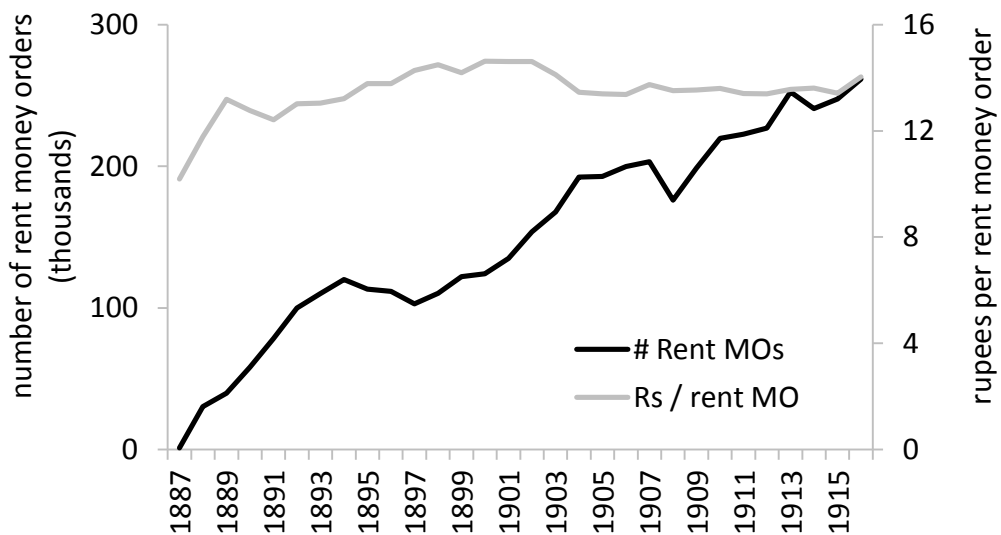
Source: Clarke 1921, 198

Figure 7.13: Numbers and average values of revenue money orders from 1885 to 1916



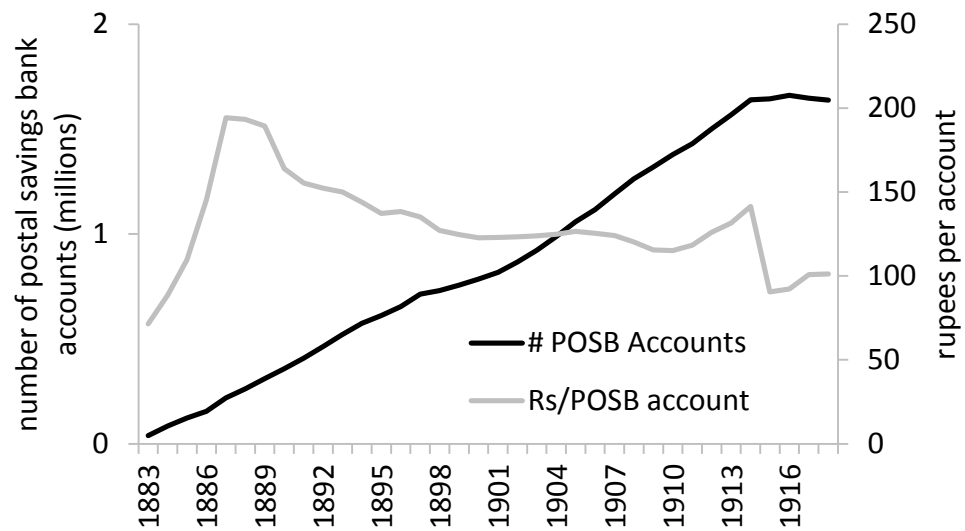
Source: Clarke 1921, 197

Figure 7.14: Numbers and average values of rent money orders from 1887 to 1916



Source: Clarke 1921, 197

Figure 7.15: Numbers and average balance of postal savings bank accounts from 1883 to 1918



Source: Clarke 1921, 198

The post office savings bank facility was also widely used. The number of accounts saw a steady increase through this period and flattened out at the beginning of the First World War (Figure 7.15).

The decrease in the average balance is not as significant as in the case of money orders. Generally, the users of the savings bank facilities were better off than users of the money order services. Agricultural and industrial workers only had about four percent of all post offices savings bank accounts. Professionals with fixed incomes had about a third of all accounts and the category “domestic” had fifteen to twenty percent. The “indefinite” category has the largest share of accounts – forty percent. This could explain the small proportion (four to five percent) of account holders being merchants, bankers or traders. Those who have multiple areas of

work – trading, banking, money-lending, *etc.*, might not have been specific about their profession.

Clarke (1921) discusses the fraudulent practice of some Bombay speculator who had several post office savings bank accounts under their own names and the names of imaginary minors who they were supposedly guardians of. It was against the rules to have multiple accounts in one person's name, but managing a minor's account was permitted. He cites an example of a Dharwar merchant who managed eighty-three accounts, and some merchants in other districts in Bombay had thirty to forty accounts each. This phenomenon was not observed to such a large extent in other provinces. These Bombay merchants used the loopholes in the postal rules to park their funds in a convenient location and have ready access to it at any time. During the three disturbances of the "Russian Scare of 1885", the famine of 1897 and the wave of sedition in 1907, Bombay was the only province that saw a decline in the number of accounts, or the response in Bombay was greater than elsewhere (84-6). This might have been because the inhabitants here were more in touch with the political and economic events in the subcontinent and outside.

The beginning of the First World War caused a scare as news trickled in about all German postal savings bank balances having been confiscated by the government. In response, about one hundred million rupees were withdrawn from Indian postal savings bank accounts within a few months; but "the action of the Government of India in meeting all claims in full did a great deal to allay public fears" (87). Balances picked up soon after and the post office continued to protect the

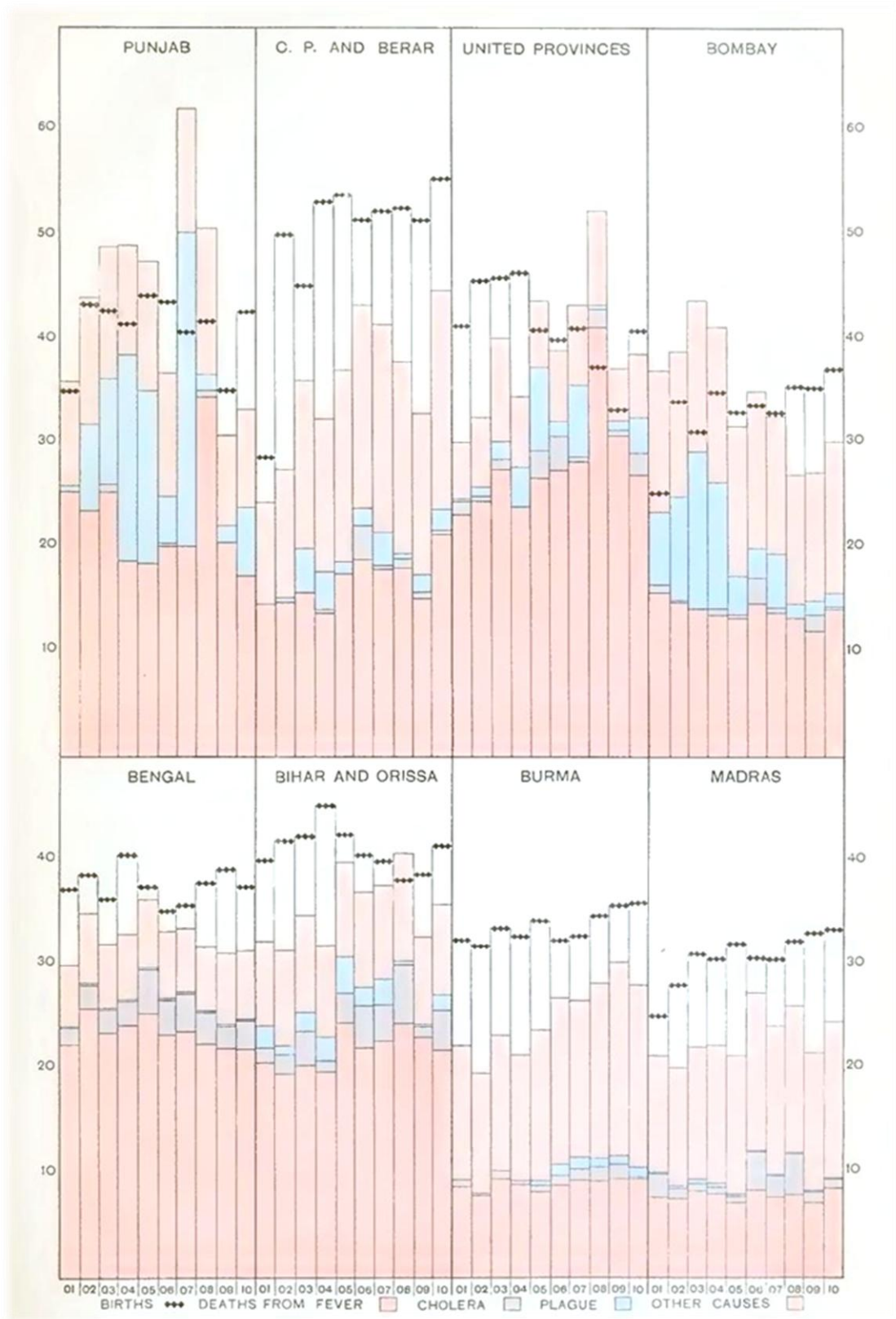
savings of the people. The Indian government was using the sale of war bonds to raise finances for the war and did not touch the postal savings.

The reason for the post being given the responsibility to undertake simple financial transactions was that it had the vastest network of any other branch of the government or any private body. This wide reach was also used to disseminate government notices and provide services for the benefit of the people. Malarial deaths (*Figure 7.16*) ranged from one to three percent of population through the first decade of the twentieth century. It was responsible for more than half of all deaths in Punjab, UP, Bengal and Bihar – all provinces along the river Ganga. The 1911 Census of India notes that this was an average year from the public health perspective, except the plague related deaths (vol. I, part I, 58). The post was referred to as the “poor man’s physician”, when it started selling quinine in 1892 to fight malarial fever (Hamilton 1910, 194). It sold packets of quinine for the smallest coin in circulation – one pice, which was a quarter or an anna, which in turn was the sixteenth part of a rupee. The initial dosage was five grains, but it was increased to seven grains without a change in price. In some provinces, instructions for consumption were included in the vernacular languages and pamphlets were distributed.

These tasks required the full time involvement of thousands of postal employees. As of 1910, the postal department was 92,163 employees strong (Annual Reports of the Post Office of India 1909-10, app. VIII). With such a large establishment, the question of the welfare of the staff begs notice. Clarke (1921, 67) records the dismal working conditions of the railway mail sorters: “The pay was bad,



Figure 7.16: Births and deaths per thousand population between 1901 and 1910



Source: Census of India 1911, vol. I, part I, 58

the hours of duty were long, the work was trying and the discomfort of the old postal vans baffled description". They had to work in ill lit and ill ventilated coaches for extended hours. Significant improvements were made at the beginning of the twentieth century.

Improvements were also observed in other areas. The post was the pioneer in providing life insurance to its employees (Anand 1954, 110). Postal runners often lost their lives on duty – some got swept away by avalanches and some got killed and eaten by tigers (Imperial Gazetteer 3:430). During a span of fifteen years between 1894 and 1909, at least thirty-three runners died from these causes alone. Clarke (1921, 5) points out that runners seldom got paid more than twelve rupees a month. With such risky lives and such small pay, the life insurance scheme meant a boon to several employees. The scheme was soon extended to the telegraph department and then to all government employees.

These are some of the ways in which the government monopoly was being used for the benefit of the people. The chapter on *Economics of the Postal System* discusses the welfare potential of the post at length. The British postal establishment in India did indeed make use of its monopoly status and expand the network to the remotest parts of the subcontinent. These attempts by the Imperial Post may be interpreted as having been part of a self imposed universal service obligation. A study of the relation between postal and population densities reveals better the outcome of this obligation.

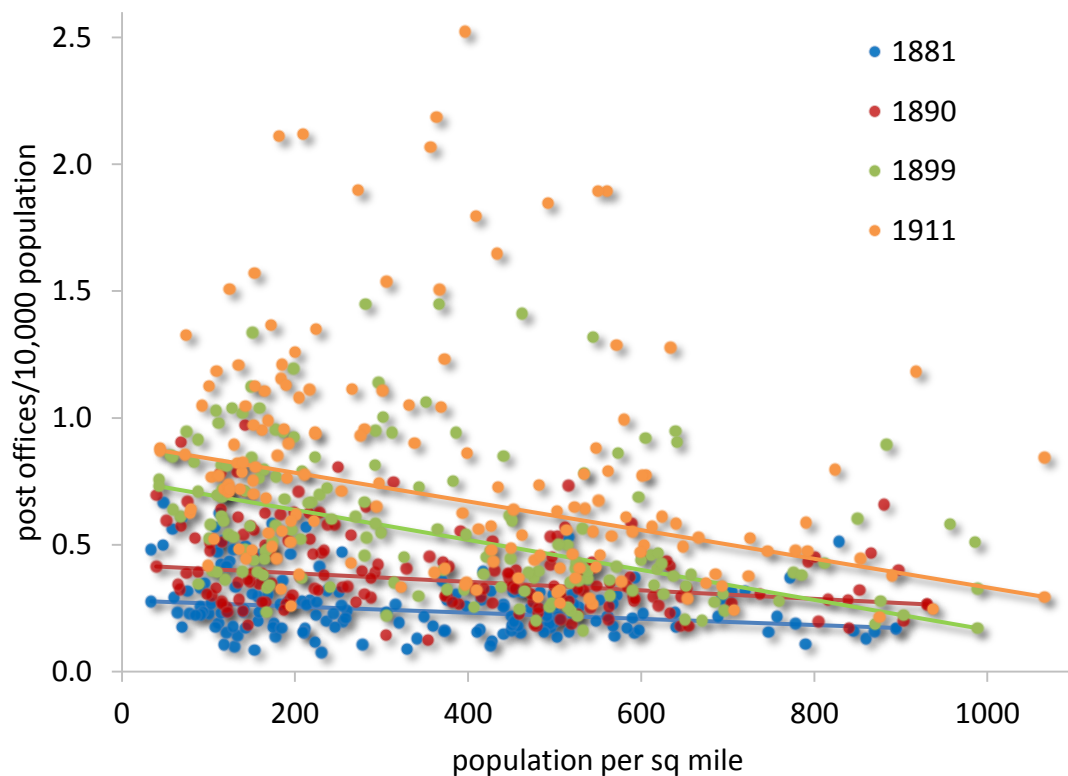
If the number of post office per capita were the same in sparsely and densely populated districts, then the inhabitants of remote or hilly regions would have to

travel far on difficult terrain to access a facility, whereas city dwellers might have more than one within walking distance. If one of the goals of the postal department were easy access for all, then the number of post offices per capita in sparsely populated districts must be greater than in densely populated districts. This was in fact proposed as a rule by the British Treasury for England in 1841: the extension of post offices should “be nearer to one another where the population is dense, but more numerous, as compared with the inhabitants, where the population is scattered” (Daunton 1985, 43). The *a priori* expectation would therefore be to see a negative relation between post officers per capita and population per square mile. This is just barely true of the British districts in India in 1881, but over the following three decades, this relation becomes increasingly negative (*Figure 7.17*). This means that sparsely populated districts saw a quicker increase in postal density than densely populated ones. The postal department consciously expanded the network to afford access to those living in the remotest regions of the empire. *Figure 7.11* shows how the use of postal services increased through the later nineteenth and twentieth centuries. Part of this growth might have been the result of increased access to postal services: the supply of accessible post offices generated demand for postal services. But the increasing demand might also have pushed the department to expand the network because they were now confident that the establishment of these new post offices will more surely generate a profit.

In the case of extra departmental post offices, the revenue generating capacity might have not been a great concern. These were post offices managed by schoolteachers, village priests, merchants or any literate person who was interested

in their village having easier access to postal services. They were given a small fee from the department in exchange for performing these functions. This scheme was started in 1879 in Bengal province according to Majumdar (1984, 125). Bombay province was already employing extra departmental agents for delivery of letters as early as 1866. According to the Poona (2:163) and Khandesh (213) Gazetteers, they also had post offices managed by schoolteachers in 1885 and 1880 respectively.

*Figure 7.17: Relation between postal and population densities in British districts from 1881 to 1911*



*Sources: Post office data are from the Postal Guide 1881, 1890, 1899 and 1911. District level population and area data are from the Census of India records. Note: Only 163 British districts, shown in Map 7.4, are included in this graph. Native states are excluded because their postal systems were not under British control. This graph shows median fit lines instead of mean.*

*Figure 7.17* shows that even the most densely populated districts saw an increase in their postal density, though this increase was smaller than for sparsely populated districts. These districts were densely populated because of some natural resource or economic activity or both, that attracted immigrants. The high level of economic activity and the high proportion of immigrant population were both reasons that warranted greater use of postal services. This high demand was being catered to with a few large post offices, like the general post office building at the centre of the city. Clarke (1921) cites specific examples of post offices in Calcutta and Benares, both important trading cities, where “the parcel window was the scene of a petty riot every afternoon” (107), hinting at the crowds that tried desperately to attract the attention of one or two clerks through the few tiny windows (just large enough for one hand to fit in) to buy stamps or get their letters or parcels or money orders sent. The postal density had to increase to keep abreast of the increase in the number of persons per square mile using postal services, even if the population density itself was not increasing significantly.

In this way, the level of service in British districts was seeing improvement. But if the network effects of the post are to have full effect, then large territories of the subcontinent under native rule could not be left uncovered, especially since the movement of people across these borders was free. This argument stems partly from *Figure 2.1* which shows how the postal network evolves to accommodate larger quantities of mail for lower average costs. The fact of large native states in the midst of British provinces having postal communication under several different administrations or none at all was a source of gross inefficiency. The native states

either did not offer postal services or ran them under their own authority, distinct from the Imperial post. Organising long distance transport and distribution of mail would have been easier with the cooperation of the interspersed native states. The Annual Reports of the Post Office of India complain of a high number of letters reaching the Imperial Post dead letter office because postal officers in the native states did not try hard enough to deliver mail with names and addresses that are hard to decipher. The number of letters ending up at the dead letter office decreased every year, but a large portion was due to the native states.

For the first time in the 1880s, a convention was signed with some northern native states agreeing upon some points along the lines of which the Imperial Post could function within native territories (Clarke 1921, 114): the Convention states could use Imperial postage stamps overprinted with their own seal; they had to bear the expense of transport within their territories; the Imperial Post would not set up post offices in native territories without prior permission, unless it was a military cantonment or a railway station; monthly accounts were to be submitted, *etc.* But these arrangements were found to be rather unsatisfactory and future proposals to native states were in the nature of the Imperial Post fully running the postal establishment in the native states. Even though Mysore state had its own elaborate postal system before British arrival in the subcontinent, it still merged its post with the Imperial Post in 1889. The number of articles delivered in Mysore increased by a million in just a year (116). By 1904, 637 or India's 652 native states permitted this complete amalgamation. Of the remaining, the largest ones were Hyderabad, Gwalior, Patiala and Travancore, and they were steadfast in their refusal in spite of

repeated requests. Clarke laments that “arguments of prestige and prejudice are used to contest those of uniformity and convenience” (118). The princes had kept their territories secure from complete British influence, and they obviously felt that they should not give away the postal sector in the form of a foothold.

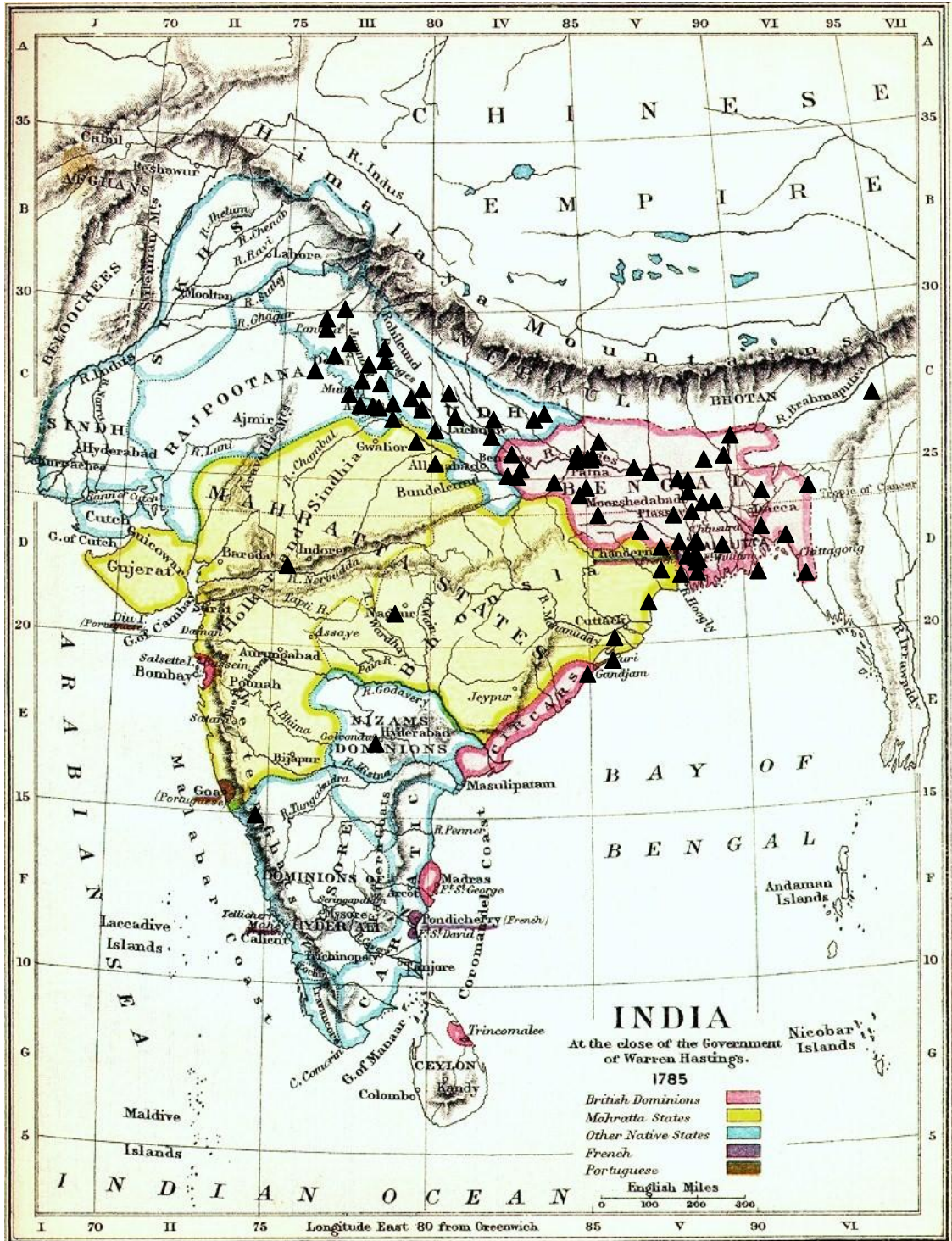
The intention behind the British insistence on supplying postal services within the boundaries of native states might have been just what was stated – to allow for smooth postal communication across British provinces and native states boundaries. On the other hand, it is possible that they meant for the post to give them a foothold in achieving greater political or commercial control over these territories. Gwalior, after all, did grow opium, and the British administration had no control over this production. Hyderabad was a large state that had successfully fought off British control for decades, and continued to be independent till Indian independence in 1947. Mysore was cited as an example of a native state that permitted the amalgamation and benefited from it, while still retaining its independence.

This section has presented several pieces of evidence to show that the post was used as a service for the people not just living in British provinces, but also in the native states. The chapter on *Economics of the Postal System* lists several ways in which the post could be used as a welfare enhancing tool – spread of beneficial health and education related information, access to information on employment opportunities, greater participation in the national democratic process through access to news and government policies, and a general widening of the world view. Not all of these potential influences of the post can be measured, but this section has shown that the post in India did indeed perform several of the listed functions.

The frequent reduction in real postage and the supply of new financial and other services permitted poorer and poorer sections of the population to participate in the larger economic and political processes of the nineteenth century and benefit from them. Most of this was planned by the British and the effects were as expected. Few were unintended, like the effect that the reduction in newspaper postage had on the freedom struggle. Apart from any considerations of what was planned and what was not, the post was an important element in the changing political and economic situation in the Indian subcontinent.



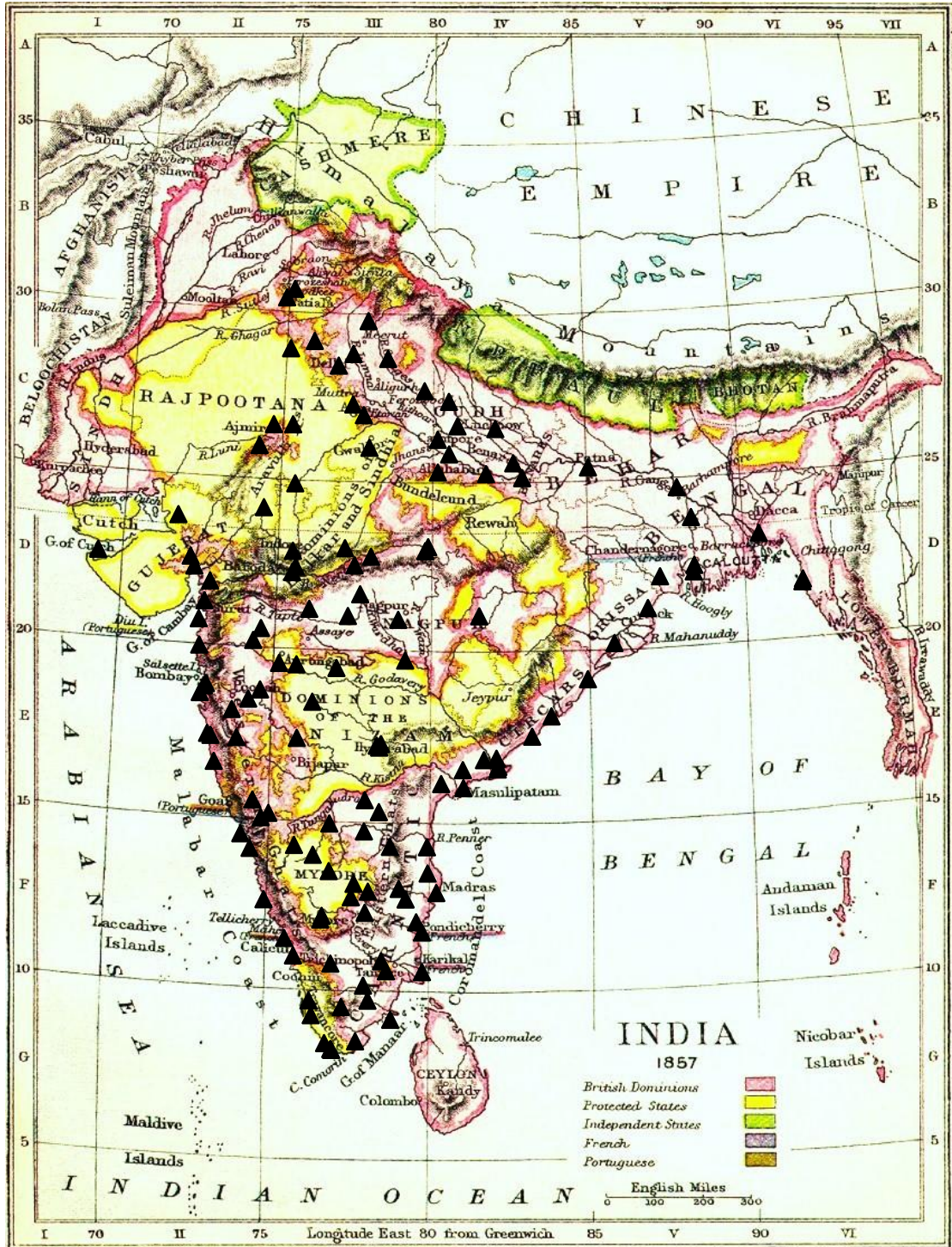
Map 7.2a: Post office allocation in Bengal Presidency in 1800



Source and notes after Map 7.2b



Map 7.2b: Post office allocation in India in 1830

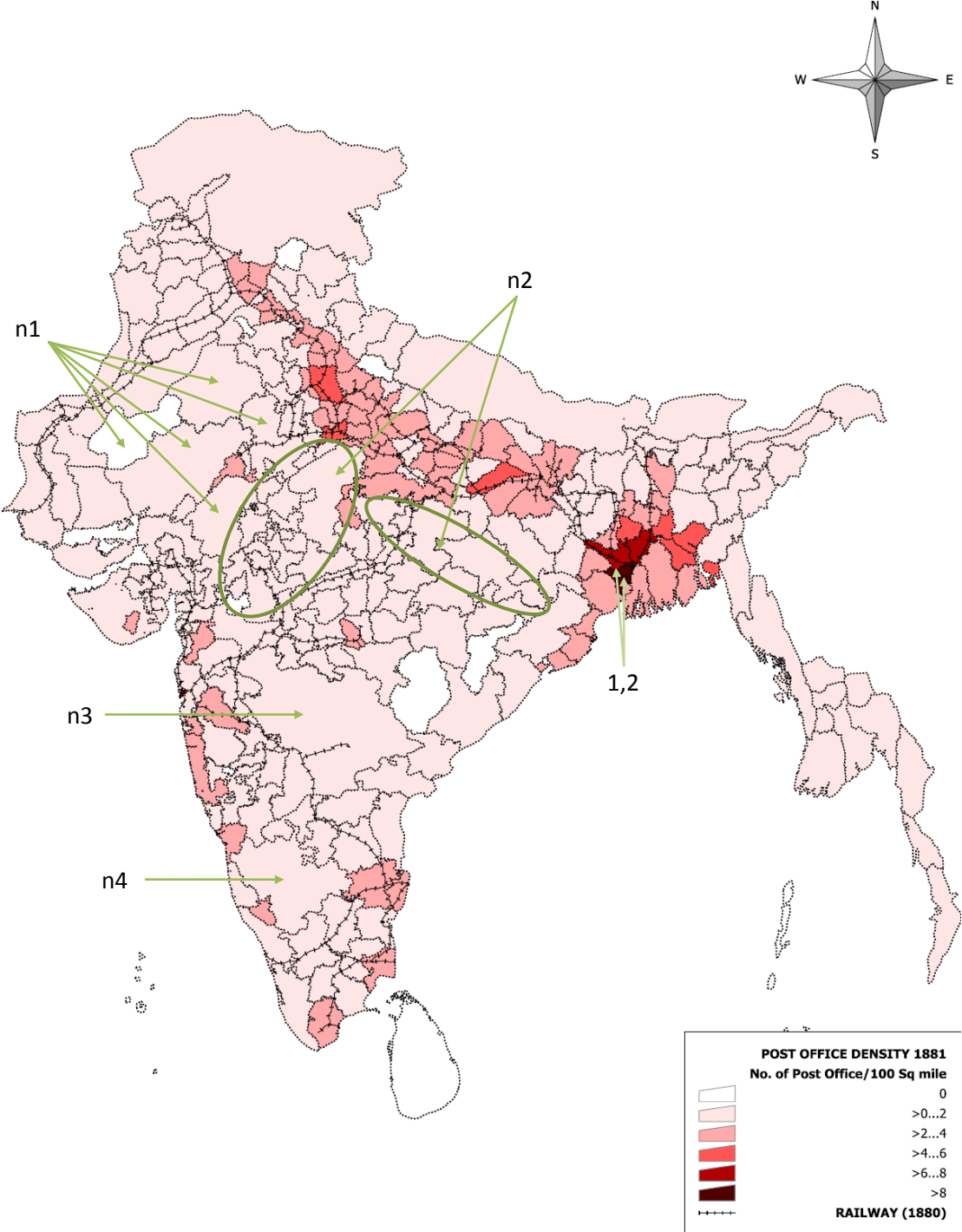


*Sources: 1785 and 1857 maps are from Ancestry.com, 1800 Bengal Presidency and 1830 India post office lists are from Majumdar 1990, 338 and 362.*

*Note: Ten cities with post offices do not appear in the 1800 map and three in the 1830 map. Their names are unidentifiable either because British spelling of Indian names are difficult to understand, or because names changed.*

*The 1785 map shows that Oudh (north of the Maratha States and west of Bengal) was a native state, but there also seem to be British post offices in it. This is because the EIC had varying levels of involvement in Oudh since the 1760s according to the Imperial Gazetteer 19:281-3 (dsal.uchicago.edu). The level of EIC involvement increased in spurts, and Oudh officially and fully went under EIC hands in February 1856, after several surrounding states had already given in. The Sepoy Mutiny started in Oudh in May 1857.*

Map 7.3a: District post office density in India in 1881



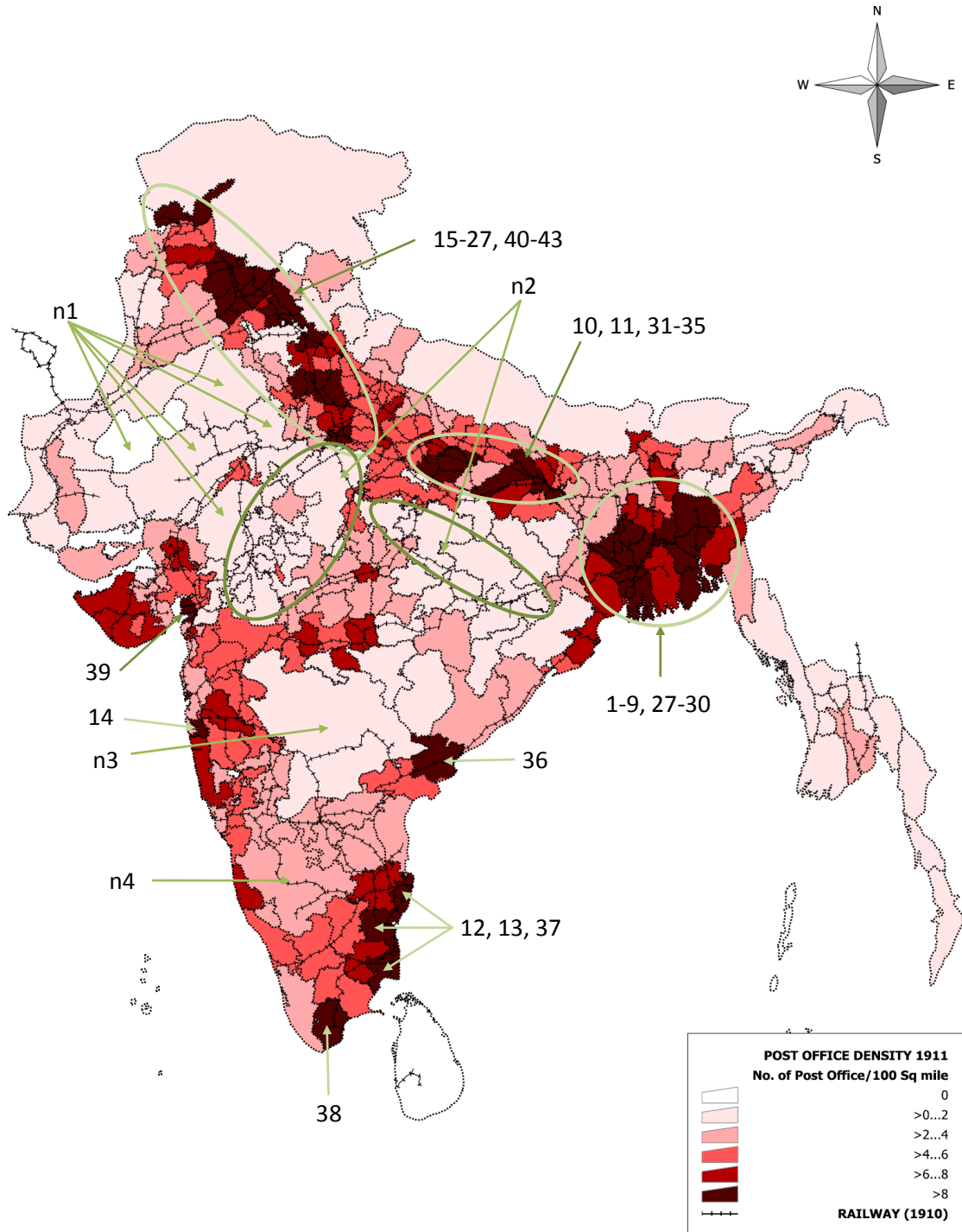
Source and notes after Map 7.3d







Map 7.3d: District post office density in India in 1911



Sources: Post office data from the Postal Guides 1881, 1890, 1899 and 1911. District boundaries are based on Constable's 1893 map (Ancestry.com). District areas are estimated on the basis of boundaries.

Notes: Several district boundaries changed between 1881 and 1911. The above maps assume that boundaries did not change. The four volumes of the Postal Guide list various villages as being in the district that they were in, in the respective years, given boundary changes. Villages that switched districts are reassigned to their original district to maintain comparability over time. In situations when a substantial share of one district merged with another, it was difficult to determine which district the new villages fell in – villages that got a post office in the preceding decade and so did not appear in the previous list. In such cases, the two districts are merged to minimise errors in village assignments.

The latter years' maps are incomplete due to unavailability of district boundaries for parts of Baluchistan, Afghanistan and Burma, which were new additions to the British empire.

GIS maps are prepared by PAN Networks, Kolkata

**Legend:**

**British districts**

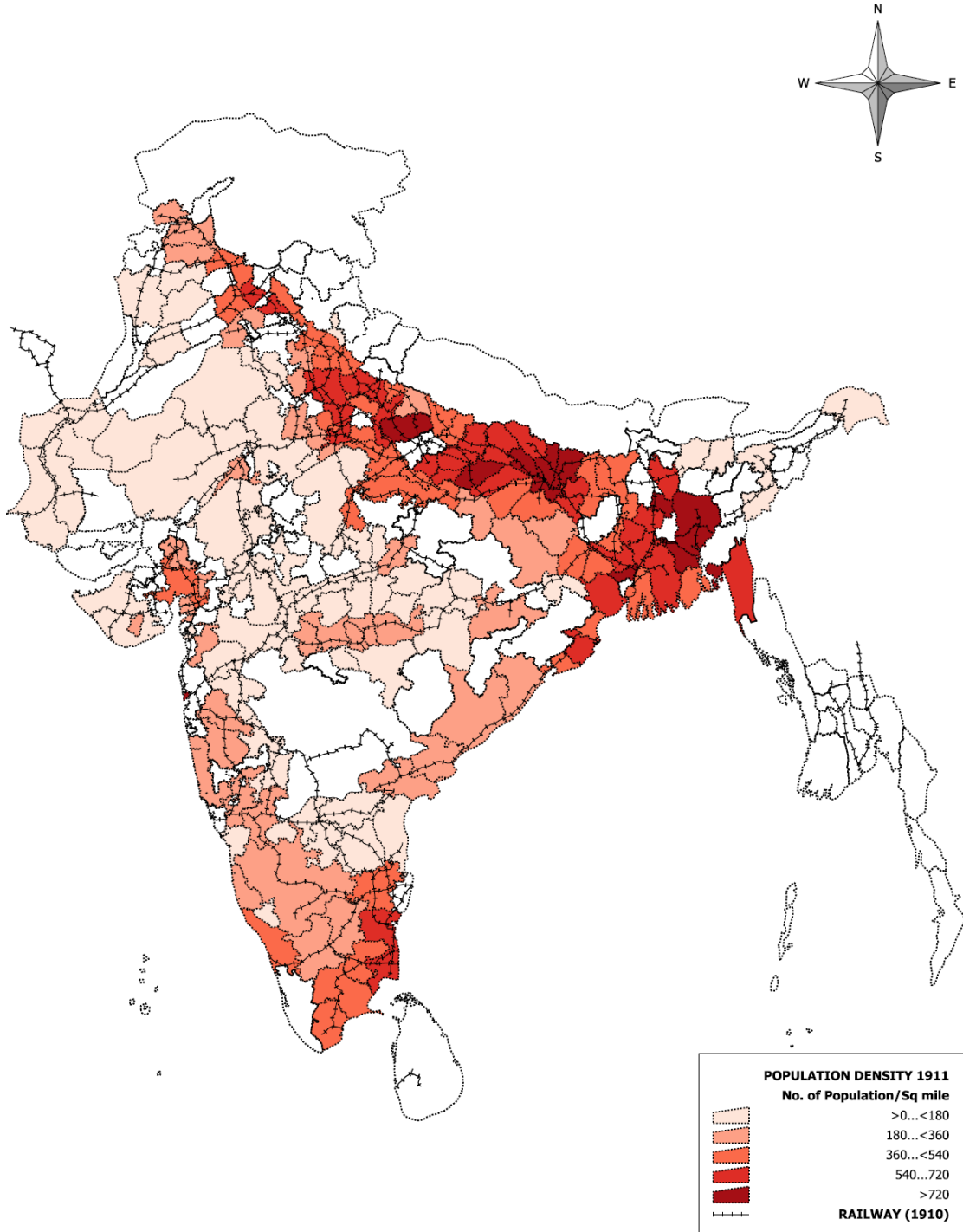
1	Howrah	16	Gujrat	31	Saran
2	Hugli	17	Gujranwala	32	Fyzabad
3	Bardwan	18	Gurdaspur	33	Sultanpur
4	Naddia	19	Sialkot	34	Rae Bareili
5	Pabna	20	Amritsar	35	Partabgarh
6	Dacca	21	Hoshiarpur	36	Godavari
7	Tippera	22	Jalandar	37	South Arcot
8	Noakhali	23	Ludhiana	38	Tinneveli
9	Backergunj	24	Ambala	39	Broach
10	Patna	25	Delhi	40	Hazara
11	Ghazipur	26	Karnal	41	Lahore
12	Tanjore	27	24-Parganas	42	Meerat
13	Chingleput	28	Birbhum	43	Agra
14	Kolaba	29	Murshidabad		
15	Peshawar	30	Maimensingh		

**Native States**

n1	Rajputana
n2	Central India
n3	Hyderabad
n4	Mysore



Map 7.4: District population density in 163 districts in 1911



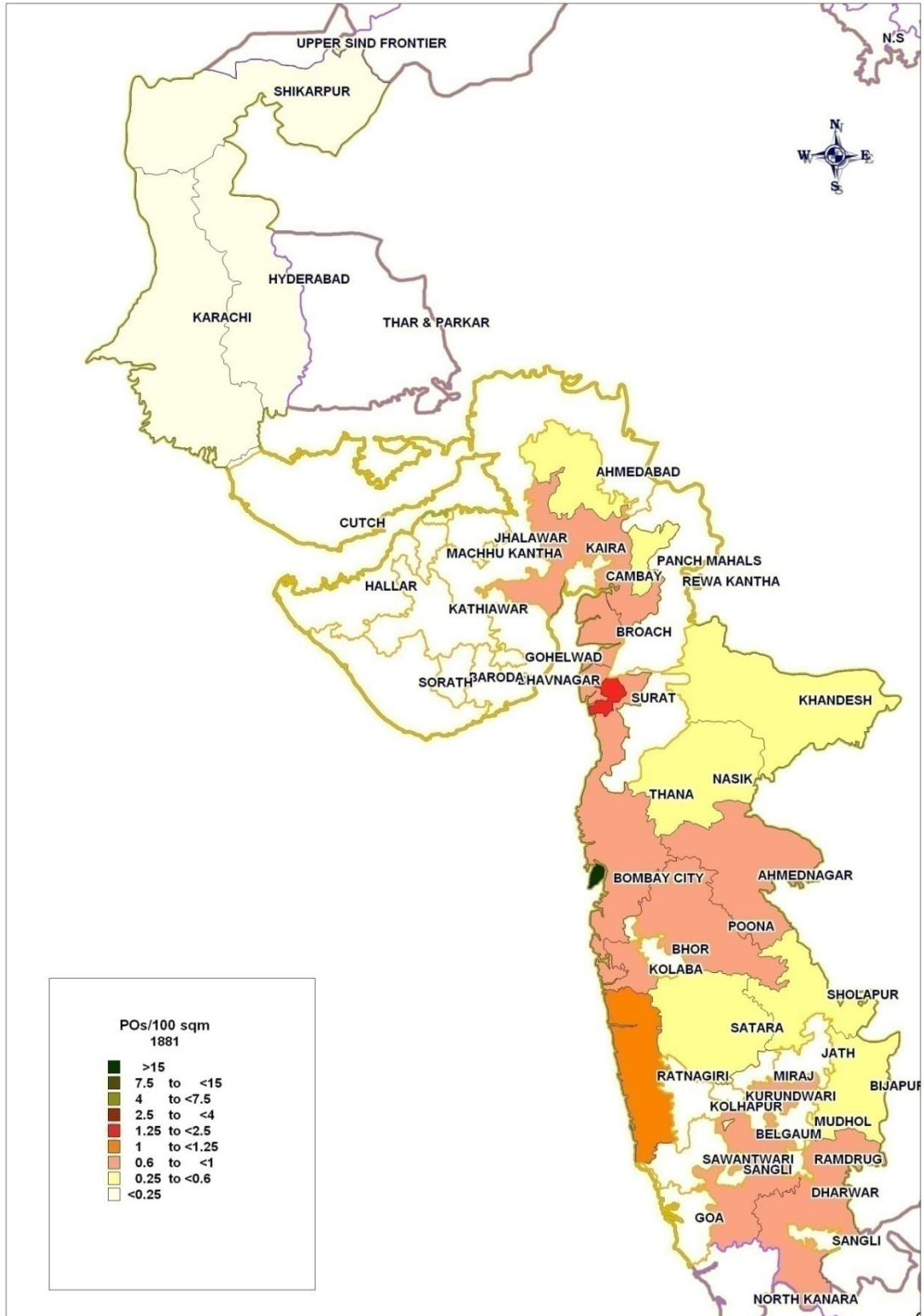
*Source: District population and area data are from the 1911 Census of India tables.*

*Note: This is a map showing only 163 districts. The white districts are the ones we do not have data for. This data was collected as part of the working paper (Professor Michael Kuehlwein and Professor Tahir Andrabi) on price convergence in the rice and wheat markets in British India, and the list of districts was determined by the availability of price data.*

*Population and area data for 1881, 1891 and 1901 are also available but maps for those years are not included here.*

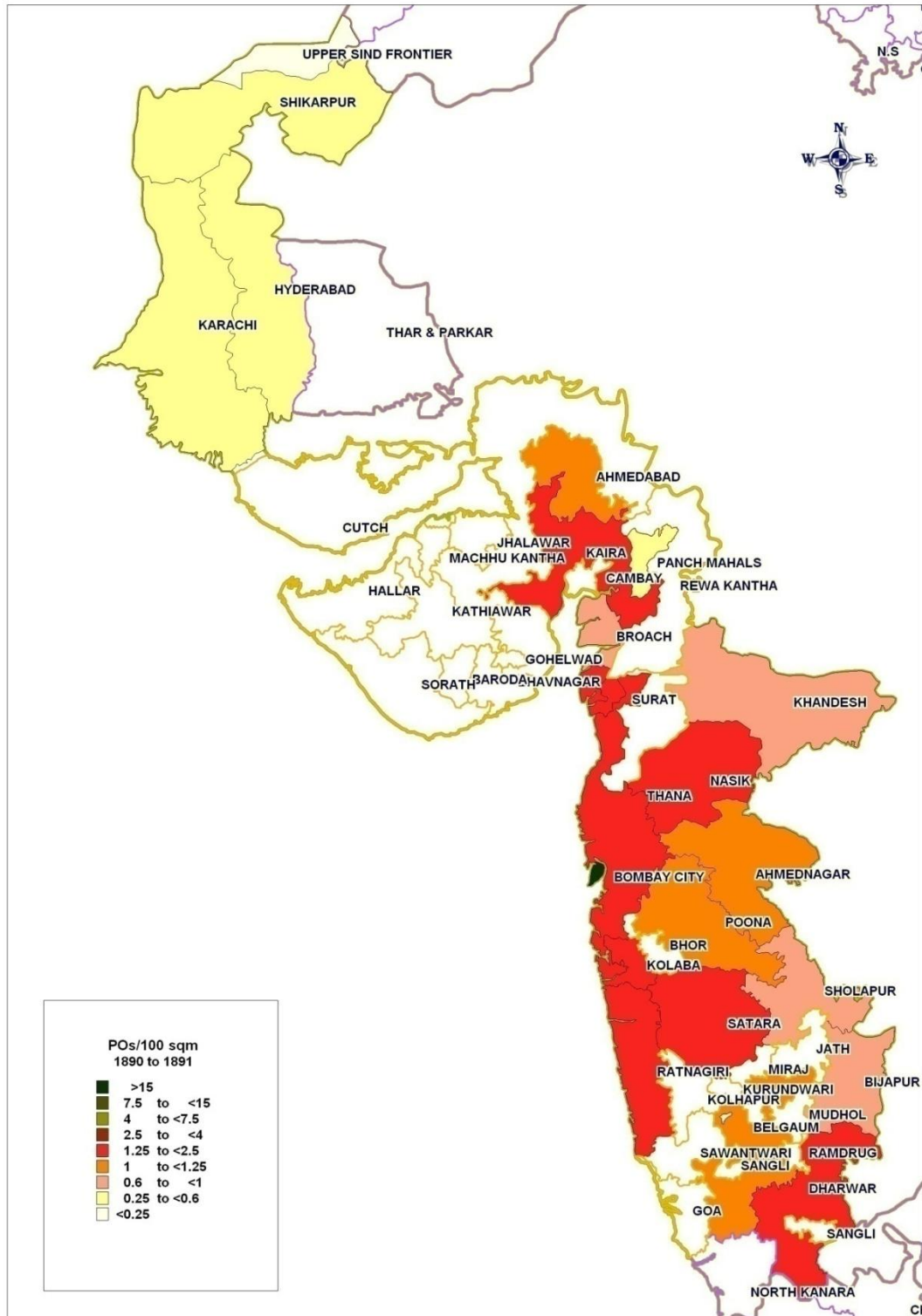
*GIS maps are prepared by PAN Networks, Kolkata*

Map 7.5a: Postal density in the British districts of Bombay province in 1881



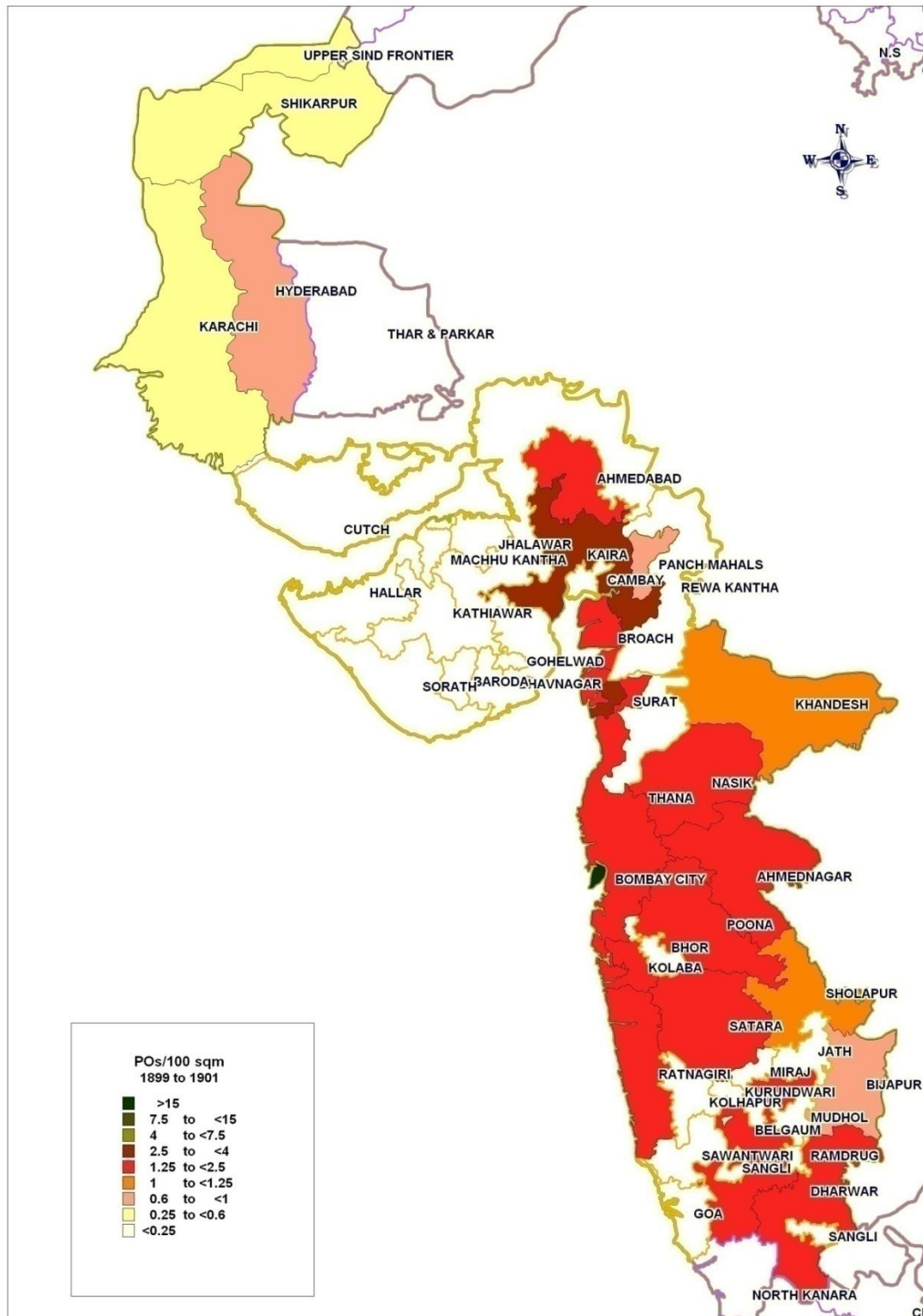
Source and notes after Map 7.5d

Map 7.5b: Postal density in the British districts of Bombay province in 1890



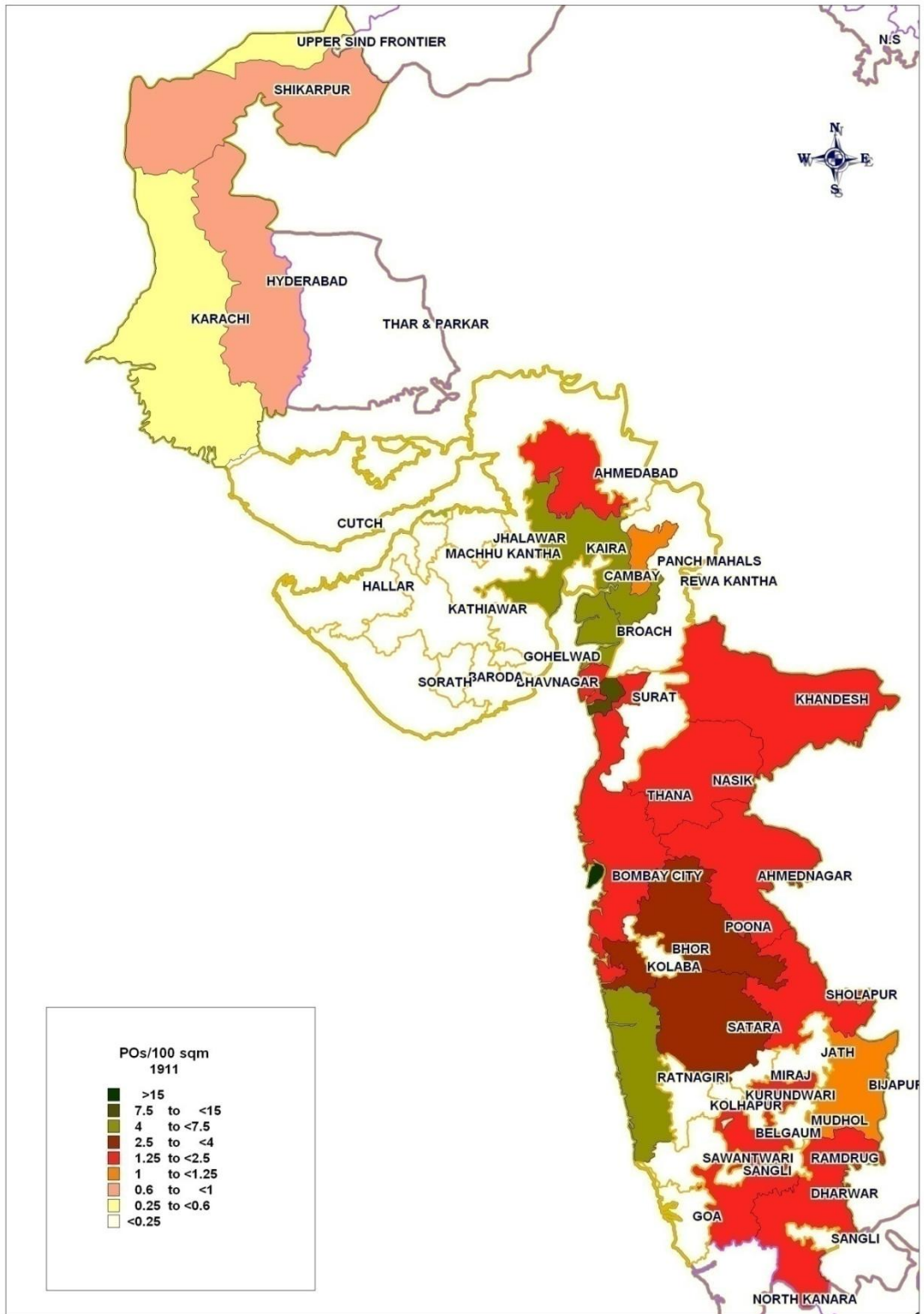
Source and notes after Map 7.5d

Map 7.5c: Postal density in the British districts of Bombay province in 1899



Source and notes after Map 7.5d

Map 7.5d: Postal density in the British districts of Bombay province in 1911





*Source: Postal data are from the Postal Guide for 1881, 1890, 1899 and 1911.  
District area data are from the Census of Bombay province for 1881, 1891, 1901 and 1911.*

*Notes: Native states have yellow borders, and the internal borders of Bombay province are in dark brown.*

*Since native states' postal networks were not under direct British control, they have been left out of these maps.*

*GIS maps are prepared by PAN Networks, Kolkata*

~

## 8. CONCLUSION

Research in Indian economic history has addressed several important topics – trade in cotton, opium and other raw materials, agricultural and industrial productivity, railways and their determinants and effects, prices and wages in various sectors of the economy, to name only a few. Any discussion of communications is conspicuous by its absence. While there are a few historical accounts of the postal system in India, there is no attempt to include communications as one of the tools to understand the historical events of the nineteenth century. This research, for the first time, uses new data and archival information to understand how and why the British rule used the institution of the post.

The big debate in the Indian economic history literature is whether British rule had a net beneficial influence on India's economy. The imperialists believe this to be true, and the nationalists vehemently contest it. Looking at the reasons for the establishment and expansion of the postal system by the British authorities in India yields some arguments for both sides, though it is reasonably clear, as discussed below, that the nationalist argument stands stronger. The political and commercial motives for establishing postal communication in India predate the welfare motive.

I use some tools from economic theory to construct the framework of this study. There is very little information regarding the earliest establishment of postal communication in pre-*Mughal* India. The timing and nature of the first long distance postal lines must have followed the path of least average cost. The investment of



organising relays of messengers or more formal and elaborate postal lines would have made financial sense when the demand for long distance communication became high enough to reduce the average cost of communication. In India, the reason for this increased demand was primarily administrative.

Since the establishment of long distance communication channels require high fixed investments, it is not surprising that through history, this role has devolved to the state. This is why the post represents a public good and is most often supplied through a natural monopoly, at least in the early years, as long as demand for postal communication is adequately low. The EIC declared in 1837 that the post was a state monopoly. Private posts were banned, but some still functioned illegally. Exclusion from free riding on this public good was achieved initially by permitting only government officers to use the service. Once private individuals were permitted to use the post, exclusion was achieved by prepayment of a small fee either in cash or through postage stamps. Neither of these methods was entirely successful, but franking privileges were made more restrictive and prepayment was enforced more strictly over the decades in the nineteenth century.

These measures helped improve postal finances. Revenues from private letters were expected to cover the expense incurred in conveying private letters as well as letters “on public service”, because the post was aiding administration and government of the people. It was only around 1890 that for the first time postal profits excluding revenues from official mail became positive. An important reason for this was increasing revenues stemming from an expansion of the postal network to smaller villages and consequent increase in the use of postal services by poorer

sections of the population. Once the district post was merged with the Imperial postal network on the recommendation of the 1851 Postal Commission, an increase in the use of postal services was observed. This led the postal department to be confident about establishing more small scale post offices in remote villages, with the confidence that the incurred expenses would be covered by the new revenue earned. So supply of and demand for postal service fed into each other to result in a quick increase of the network during the latter half of the nineteenth century.

This expansion of the market was achieved partly due to the fact that the railways permitted the post to keep postage rates constant or to shift weight brackets such that real postage even increased. Every new technology and organisational transformation added more capacity to the postal system than it immediately had use for, and so a decrease of real postage is indeed what one would expect to find.

Greater access to postal services has the potential to alter the way the economy functions. Access to information facilitates migration and expands the market, in the Smithian way. Agriculture need not be limited to subsistence production any more, and can target a larger market. This reduces price dispersion across districts through arbitrage. These are all changes that have been observed in nineteenth century India, and the post has played its part by permitting migrants to remit small savings back to their villages, financiers to remit profits to their headquarters, merchants to communicate prices and coordinate quantities of goods to be transported, among other things.

The allocation of post offices and postal policy in general must be such as to allow for this whole chain of events to materialise. A search of the secondary literature and archives reveals precious little about the decision making process for opening new post offices. One 1867 rule was for temporary post offices to be retained as permanent after six months only if they covered all their expenses from half the postage received. But it was easy to sidestep this rule by simply keeping a post office under local authorities, as part of the district *dāk*, and transfer it to the Imperial post after it started attracting enough traffic to become financially self sustaining. This was practiced in all British provinces of India. While a handful of post offices were shut down because they were not paying for themselves, this rule was mostly not binding. In any case, there does not seem to have been a rule deciding which villages were to receive temporary post offices in the first place. So the question of post office allocation is still largely unanswered by official rule books. The search for answers in the political, commercial and welfare motives of the British yields results.

I use the theoretical discussion of the postal system to arrive at a list of postal characteristics that could be accepted as evidence for the political, commercial and welfare motives for establishing and extending postal services across the subcontinent. Getting back to that list, I summarise here the evidence presented for the political, commercial and welfare motives.

The kind of evidence presented for the Poona district differs from the kind for the entire subcontinent. For a single district, I am able to present analyses at the level of villages and their characteristics that mattered for post office allocation. The

nature of the data affords some empirical analysis. Within this small geographical area, a simple empirical model is able to draw out the relevant factors that determined post office allocation. For the entire subcontinent, the level of analysis must be higher up for tractability – I look at district level postal density. Information on their relevant characteristics available to me is not amenable to empirical analysis. This discussion is more of a historical narrative of the political and economic events and their relation with the postal arrangements of the time. At this level, the range of factors that led to a higher or lower postal density is wide and such variance cannot be captured other than through a detailed historical discussion of each factor.

To summarise the discussion somewhat chronologically, the elaborate institution of the district *dāk* was key to administration and the maintenance of law and order in the crown jewel of the British empire. The system of getting local landowners to maintain runner lines had been employed since *Mughal* times at least. The EIC borrowed it and made it official through the Permanent Settlement Regulation of 1793, further strengthened by Regulation XX of 1817. Through these early decades of the nineteenth century, all district headquarters in the empire had postal communication with each other and the higher up Imperial offices, as seen in the 1830 postal map of India (*Map 7.2b*). As would be expected, the beginning of postal communication in India lay in administrative needs, first of the *Mughal* emperors, and then of the EIC. The expense of the postal communication was borne by local landowners, or in some cases, by Imperial grants.

Table 8.1: Summary of evidence

		EIC	Crown
political motive:	revenue and police HQ	✓	
	official mail goes free	✓	✓
	field post offices	✓	✓
	independence movement	✓	✓
	newspaper policy		✓
commercial motive:	exportables	✓	✓
	services for merchants	✓	✓
	price convergence		✓
welfare motive:	declining real postage	✓	✓
	universal service		✓
	services for the poor		✓
	welfare projects		✓

As long as the district *dāk* existed as a parallel system of communication (together with the Imperial Post, which served private individuals), it meant a small expense to the EIC, but it provided the key service of postal communication for the government. Official mail was carried free through the post. Discussions of postal finances assumed that revenues from private mail were meant to cover the expenses of mail that was on public service too – “nothing more is desired” (Postal Commissioners’ Report 1851, 2). Franking privileges granted to government officers were blatantly abused till the system of service stamps were introduced in 1869 to account for the number and weight of official mail. After this year, the postal

department earned revenues from official mail through the sale of these service stamps, but this revenue was not always included in calculations of postal profits.

Normal post offices as well as field post offices served British interests during the many wars fought within the empire and outside during the nineteenth century. Clarke (1921) speaks highly of the ingenuity of the field postal officers who were given little resources but were expected to perform the strategic task of conveying military information in a timely fashion. In a famous quote, Mr. Montgomery said that “The Electric Telegraph has saved India” during the 1857 rebellion (Pall Mall Magazine xii 1897, 430).

While the EIC used the post to quell the incipient freedom struggle, the Crown fanned it by reducing newspaper postage and providing cheap means of disseminating nationalistic literature by the Indian National Congress and other revolutionary groups. This was of course an unexpected consequence of allowing the freer sharing of knowledge for the betterment of the people. When the Crown realised that the effect of the free sharing of information was seditious activity against it, amends were made in the shape of the Post Office Act of 1898. It permitted postal employees to intercept letters that they suspected to undermine British rule in India. In this way, the Crown too, used the post to quell the freedom struggle, though belatedly.

I have here addressed the three parts of the political motive – administrative, military and other reasons related with giving the population easier access to news and information, making a stronger polity.

Evidence related with the commercial motive is rather direct – districts or subdivisions growing exportable goods had a higher postal density than others. This held true for the most important exports from India which were Britain’s primary interest, cotton and opium, as well as other exports such as peppers, onions and chillies. The most important point of distinction between the social planner’s postal network and Poona’s actual postal network in 1881 is that the social planner does not assign post offices as densely in the pepper, paper and plantain- exporting regions. The eastern half of Poona district that had poor soil and unpredictable rainfall started off with fewer post offices and the increase over the following three decades was slower too. The social planner’s network is designed to arrive at an allocation that allows the most people the easiest possible access to postal services, and the result of this model is drastically different from the actual network of 1881.

The necessary companion of exportable goods was efficient means of transport by railway or rivers. High postal density districts that did not have high value exportable goods invariably had access to perennially navigable rivers, or railway lines were constructed to appropriately connect them.

Opium merchants were included in the earliest lists of persons permitted to use the post free of postage, “on public service”. The convenience of opium and several other merchants was cited as one of the reasons for simplification of postage by making it dependant on weight alone, and not distance. This measure greatly benefitted not just British trade, but Indian merchants also. There were several other services that specifically Indian merchants were able to use to advantage – like the value payable system, which permitted city merchants to sell products in distant

villages and collect payment through the post. Merchants were using the post to communicate with their agents in other cities, and steep reductions in postage helped them manage their trade better.

An obvious next step in the chain of events discussed here is market integration. The current literature on price convergence in India largely attributes it to the railways. While the railways do perform the critical task of physically transporting the goods, the post aids the essential first step of supplying information about arbitrage opportunities.

Together with market integration goes migration. Refraining from making a value judgement on whether long distance migration was good for India's long term economic health, I can certainly say that the post gave people the opportunity to break filial bonds in search of gainful employment, if that is what they desired. In some parts of India, migration brought in skills and capital apparently lacking in the local economy and was key to opening up natural resources for national and international trade.

The welfare effects of the post were all largely planned and expected. As the real postage on letters and newspapers declined through the latter half of the nineteenth century, use of postal services dramatically increased in response. "To such an extent have postage rates been reduced in India that it would be hard to find a man who could not afford to communicate by post with his friends" (Clarke 1921, 42). That may be an exaggeration. As of 1873, for an agricultural labourer who earns three rupees a month (in the district with the lowest average pay) to pay half



an anna (or the thirty-second part of a rupee) for postage could have been too much, depending on the number of dependents in the family.

Nonetheless, postal services were extended to the remotest parts of the colony through the medium of extra-departmental post office. Any literate person in a village without a post office could run a post office out of their home or place of work and receive a small fee in return. This way, the cost of running this post office was so low that it was sure to meet the financial self sufficiency condition laid down in 1867. This may be seen as a kind of self imposed universal service obligation that the Imperial post was trying to fulfil. A cynic might wonder if the British administration was trying to gather strategic information through its postal employees, and that was the reason for the establishment of so many post offices in such remote villages. The post office was, after all, the most ubiquitous agency and its use as part of an intelligence system would not be surprising. But this was most likely not the case. The reason is that the postal department was huge. There could be no hope for secrecy with the long chain of command between the British officers and the village postmen. The strong growth in the postal network was indeed meant to afford the inhabitants of unconnected villages access to postal communication.

Access to a post office meant a lot more than just being able to send and receive letters. After the 1880s, post offices offered some financial services that were particularly attractive to the poorest sections of the population. The average value of money orders sent decreased from about twenty-eight to sixteen rupees between 1881 and 1915, showing that poorer and poorer people were using these services.

Another more subtle measure of the welfare motive may be that post offices were established in towns and villages where welfare projects were being carried on. The construction of canals in remote regions prone to draughts presumably required the presence of British engineers, who in turn needed to communicate with other government officers or suppliers of parts for construction. This is apparent in the Poona example and also in some of the districts of Punjab province in the 1890s. More directly, the local post office was also used to spread information to ensure better health and sanitation in remote parts of the colony that no other government agency could reach.

The pattern that can be discerned from this check list is that the EIC had largely political and commercial motives for establishing and expanding the post, but the Crown, in addition, had a welfare motive. As long as the EIC was in power, the post was more of a tool for governance. This role of the post was retained quite completely after the Crown took over in 1858, but a new role that the Crown added to this institution was that of a service for the people. While the rhetoric of welfare was present during Company rule as well, it materialised in a meaningful way during Crown rule.

One way to look at this would be to say that the changes that the post saw through the nineteenth century were not so much determined by the identity or legality of the ruler, but by the drift of time. The fact of the expansion of postal services, supply of financial services through the post, use of the post as an agent of welfare would have happened at the time that they did even if the EIC had retained power. They were a function of time. Admittedly, these ideas arrived in India about

a century after they had a chance to facilitate the development of the American economy and democracy; but that was because India was still a British colony well after America had already gained independence. The political and commercial motives of the EIC for expanding the Indian postal network had deferred welfare considerations. Welfare reasons for expanding the post and its services did not therefore come into being immediately after the Crown took over in 1858. These services for the people arrived slowly over a few decades as public opinion on the role of government changed. Several changes in the nature of government occurred around the turn of the century – British attitude towards famine and epidemic prevention and relief in India, and international opinion on the sale of Indian opium in China are cases in point.

Nonetheless, to say that these changes were all just ‘ideas whose time had come’ would be a passive explanation for important historical events. An attempt therefore to study the origins of these motives is warranted. Who were the British officers who embodied each of the three motives and why? This discussion requires some conjecture in the absence of adequate insight into the historical process of postal decision making.

The early growth of the postal network under the EIC was, in some sense, automatic: the process of assigning post offices to all revenue and police headquarters. I call this automatic not in the sense that it happened without forethought, but that it was something that was very obviously required to ensure early British survival in the competitive Asian market. They simply borrowed the existing lines of communication set up by the earlier rulers and formalised them.

Improvements happened infrequently and slowly, only when gross inefficiency and negligence were found to hamper administration. The gravity of administrative and larger political communication is suggested by the fact that the early major improvements were recommended by no lesser officers than the Governors General themselves.

Expansion of the post for commercial and welfare reasons was the result of more conscious policy. Improvements in postal policy after 1850 were entrusted to special committees constituted for the purpose. The 1851 Postal Commissioners' Report recommended the merger of the district and Imperial postal systems – this is one way that major expansion in the network happened during the 1860s and 1870s. Since the trade was being carried on under the government banner, the process that determined postal allocation for administrative reasons (placement of the district *dāk*) also determined postal allocation for commercial reasons. Trade in cotton or opium were as much government matters as was revenue collection or running civil and criminal courts. Opium was grown under a strict government monopoly. Farmers growing poppy were monitored regularly by British officers or their local commercial agents (*gomastās*) to ensure the fullest supply of unadulterated raw opium. While *gomastās* were not government employees, they had legal powers to take farmers to court for depositing less opium than the *gomastās* expected. The high demand for communication up and down the long chain of officers between the *gomastās* and the Opium Board at Patna and Ghazipur, and with the local courts ensured that the local land owners were kept on their toes with regard to maintenance of the district *dāk* lines.

The reason for the dense postal network in districts growing crops that were not under a government monopoly, like cotton and pepper must have been different. Since these crops were purchased for export to Europe through Indian merchants, the direct presence of British officers or their agents in the villages was not required. It is conceivable that some merchants had the liberty to place their requests for additional means of communication to their local district authorities on consideration of their mutual interests in the export trade of the region.

The Postal Commissioners of 1851 may not have been the first to see that the post could be a service for the people of India as well, not just a tool to govern them and siphon bullion out through an unequal trade. But their recommendations, for the first time, laid out the possibilities with explanations, thoroughly and clearly, and were supported by interviews with Indians. Their rationale would have appealed not just to those in the government eager to enhance the welfare of the people, but also to those interested in enhancing postal revenues. These ideas were mostly borrowed from England, though implemented a few decades later. The discussion of the welfare motive in this research is more related with postal policy than with the allocation of post offices, though an important part of it was policy regarding the growth of the postal network in rural areas yet unserved through extra-departmental agents. This expansion of the network was not in response to a demand from the people. It stemmed from an understanding of the potential from the British example. Recipients of letters in the rural districts of England had to either collect their letters from the nearest post office, or pay extra for home delivery. From the 1840s onwards, free delivery was extended to any village

receiving more than 100 letters. Since this was an expensive arrangement, efforts in this direction were stopped till the 1890s, when the British government pushed it further “to infuse some life into the decaying rural districts” (Daunton 1985, 44). Several of the other welfare enhancing services of the post were also ideas borrowed from England – postal savings bank, money orders, uniform postage irrespective of distance, registered or insured mail, *etc.*

I have till now discussed what motives the British had to establish post offices in India and how these motives were embodied in the institution of post. An interesting question to discuss would be whether an own government would act in the same way, or differently compared with an Imperial government. The easiest points of comparison for this exercise are contemporary Britain and independent America, about whose postal history there is adequate research.

Through most of the nineteenth century the British post had been unable to resolve the conflict between the tasks of raising revenue through the post and providing a service to the people (Daunton 1985, 66). Even efforts to expand postal services to the rural districts were stopped because they cost too much.

Until 1792, the American postal system mirrored the British – it was expected to earn a profit (John 1995, 35). The Post Office Act of 1792 was a landmark act in the American postal system. According to John (31-49), it did three things:

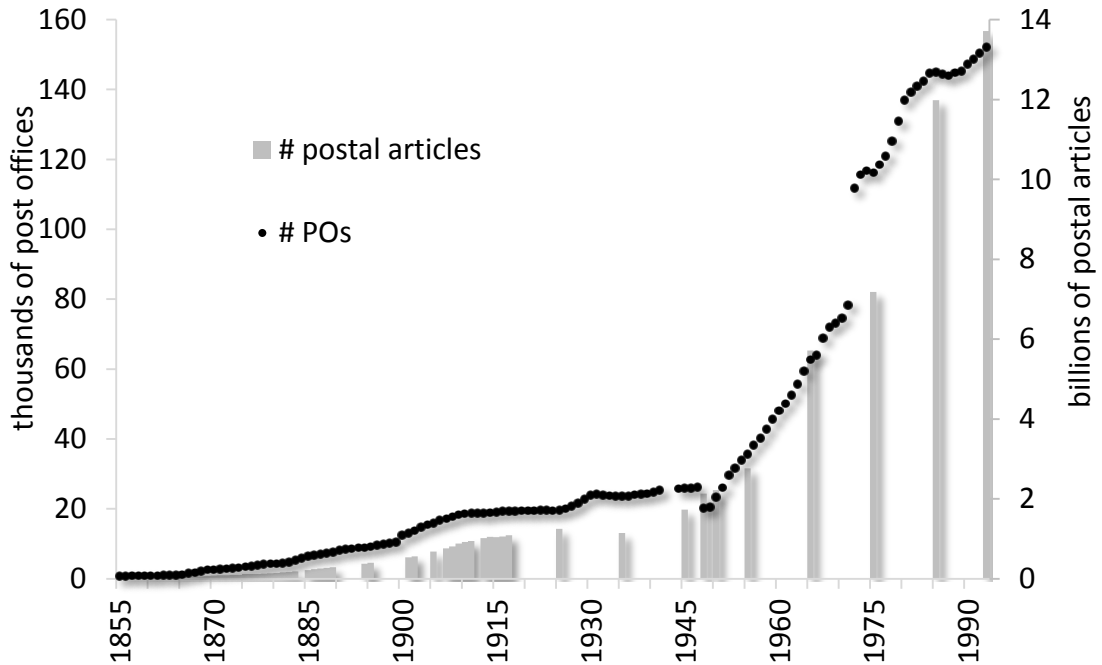
- › It admitted newspapers at favourable terms thus encouraging the press. Since there was no constraint to where the press had to be located, the ‘country press’ rose in an unprecedented way. A “highly decentralised informational environment” (37) was created.

- › It prohibited public officers from using the post as a surveillance technique so that individuals had more confidence that their privacy would be respected. This was a critically important innovation in a world context where privacy of communications was far from a right in law or in practice.
- › Before 1792 the establishment of any new route had to be justified on the grounds that it had to be self supporting. This greatly restricted the number of new routes that could be established. The Act prompted an extraordinarily rapid expansion to the West. New routes were fixed directly by the Congress. A national market for news had been created before one for non-perishable or perishable goods.

Britain and America were both self governed countries, yet their attitudes towards postal services were rather different. After independence, India followed more closely the American example. Just like America used the post as a nation building tool after independence, so did independent India. This is obvious from the sharp increase in the number of post offices set up after 1947. The increase which took place during the 1860s and through the rest of the nineteenth century (*Figures 7.1 and 7.11*) pales in comparison.

It would be unfair to suggest that the British did not expand the network adequately, and that is why the Indian government had to complete the task after independence. The postal network in independent India grew on a well structured base established over a century of British rule. The new country did not have to learn from scratch how to collect, sort, convey and distribute mail. It had the

Figure 8.1: Postal services in India from 1855 to 1993



Source: Ahmed 1995, 341-8

Notes: Data for 1948 and after is for India, after the partition.

The reason for the sharp increase in the number of post offices in 1972 is not clear. It is possible that is an error, because the increase in the number of postal articles does not seem to have kept pace with the apparent increase in the number of post offices. The only event of significance that I am aware of is a change in the conditions under which rural post offices could be established. From the description of these rules by Ahmed (1995, 54-5), it is not clear if the changes in 1970 were a relaxation or a tightening of the conditions.

advantage of adapting to Indian conditions ideas that had already been tried in England, and were known to work. Services such as money order, savings banks, uniform postage, registered or insured mail were brought to India a few decades after they had been used in England. It is, after all, not easy to transplant a system



from one county to another; attempts must be made to ensure that they fit with the local customs and the economy. There were also some instances of ideas being employed in India first – such as free home delivery of all mail and money orders right from the beginning and expansion of the postal network to the remotest parts without regard to expense (through the district *dāk* and later, extra departmental agencies).

Going back to the big debate on British influence on the Indian economy, this research suggests that the nationalist line of thinking stands on firm ground – the reason for the British organising an efficient post in India were largely to benefit their own political and commercial interests. It was not just a by-product of administrative logic, but was one of the many tools used to ensure efficient plunder. That said, the imperialists could legitimately conclude that there were significant elements in the British population in India that wanted genuinely for the people to have access to this means of communication which had answered so well back in England. Ultimately, it is clear that the welfare role of the post came later as a fortunate by-product of the network already established for other more important reasons. The service-for-the-people role of the post was secondary to its tool-for-governance role, both temporally, and in terms of importance.

~\*~

## REFERENCES

- Ahmed, Noor H. 1981. *India Post Through the Ages: A Saga of Communications*. Kurnool: Postal History Society of India.
- Allen, Nathan. 1853. *Opium Trade – as carried on by India and China*. Second Edition. Lowell.
- Anand, Mulk Raj (ed.). 1954. *Story of the Indian Post Office*. Nasik: Security Printing Press.
- Andrabi, Tahir and Michael Kuehlwein. 2010. "Railways and Price Convergence in British India". *The Journal of Economic History*, 70: 351-377. Cambridge University Press.
- Anstey, Vira Powell. 1889. *The Economic Development of India*. Arno Press Inc.
- Athreya, Siva and Rohini Somanathan. 2008. "Quantifying Spatial Misallocation in Centrally Provided Public Goods", *Economic Letters*, 98: 201-6.
- Bagchi, Amiya Kumar. 1976. Deindustrialization in India in the Nineteenth Century: Some Theoretical Implications. *Journal of Development Studies*, 22.
- \_\_\_\_\_. 1982. *The Political Economy of Underdevelopment*. Cambridge University Press.
- Baratz, Morton S. 1962. *The Economics of the Postal Service*. Washington DC: Public Affairs Press.
- Bennington, Geoffrey. 1990. "Postal Politics and the Institution of the Nation" in *Nation and Narration* (ed) Homi K. Bhabha. London, New York: Routledge.
- Berglas, Eitan. 1976. On the Theory of Clubs. *The American Economic Review*, 66(2): 116-21.
- Blümel Wolfgang, Rudiger Pethig and Oskar von dem Hagen. 1986. The Theory of Public Goods: A Survey of Recent Issues. *Journal of Institutional and Theoretical Economics*, 142(2): 241-309.
- Borgias, Steven. 2011. *History of Indian Postal Services*. Chennai: INDeco Hotels.
- Brito, Dagobert L. and William H Oakland. 1980. On the Monopolistic Provision of Excludable Public goods. *The American Economic Review*, 70(4): 691-704.

- Broadberry, Stephen and Bishnupriya Gupta. 2012. India and the Great Divergence: An Anglo-Indian Comparison of GDP per Capita, 1600-1871. *University of Warwick Working Paper Series*, No. 81.
- Buchanan, James. 1965. An Economic Theory of Clubs. *Economica*, 32(125): 1-14.
- Campbell, Robert M. 2002. *The Politics of Postal Transformation*. McGill-Queen's University Press.
- Chandra, Bipan. 1966. *The Rise and Growth of Economic Nationalism in India*. Anamika Publishers and Distributors (P) LTD India. Revised and Abridged Edition 2004.
- Chandra, Bipan, Mridula Mukherjee, Aditya Mukherjee, K. N. Panikkar, Sucheta Mahajan. 1988. *India's Struggle for Independence*. India: Penguin Books.
- Chattopadhyay, Basudeb. 2004. *'A Jingle of Bells': A Short History of General Post Office*. Kolkata: K P Bagchi and Co.
- Chua, Cathy. 1986. Development of Capitalism in Indian Agriculture: Gujarat, 1850-1900. *Economic and Political Weekly*, 21(48).
- Chung, Tan. 1974. "The British-China-India Trade Triangle (1771-1840)," *Indian Economic and Social History Review*, 11: 411-431.
- Clarke, Geoffrey. 1921. *The Post Office of India and its Story*, London: John Lane.
- Crew, Michael A. and Paul R. Kleindorfer (ed). 1993. *Regulation and the Nature of Postal and Delivery Services*, Kluwer Academic Publishers.
- \_\_\_\_\_. 2000. *Future Directions in Postal Reform*, Kluwer Academic Publishers.
- \_\_\_\_\_. 2002. *Postal and Delivery Services - Pricing, Productivity, Regulation and Strategy*, Kluwer Academic Publishers.
- \_\_\_\_\_. 2006a. *Liberalization of the Postal and Delivery Sector*, Edward Elgar.
- Crew, Michael A. and Paul R. Kleindorfer (ed). 2006b. *Progress Towards Liberalization of the Postal and Delivery Sector*, Springer.
- Crew, Michael A, Paul R. Kleindorfer and James I Campbell Jr. (ed). 2008. *Handbook of Worldwide Postal Reform*. Edward Elgar.
- Daunton, Martin J. 1985. *Royal Mail: The Post Office Since 1840*. The Athlone Press.
- David, Paul and Trond E Olsen. 1986. Equilibrium Dynamics of Diffusion in when Incremental Technological Innovations are Foreseen. *Ricerche Economiche* 40 (4):738-70.

- Deccan Riots Commission. 1878. *Copy of the report of the commission appointed in India to inquire into the causes of the riots which took place in the year 1875, in the Poona and Ahmednagar districts of the Bombay Presidency*. C.–2071. London.
- Donaldson, Dave. 2010. "Railroads of the Raj: Estimating the Impact of Transportation Infrastructure". *MIT Department of Economics, NBER and CIFAR*, (October).
- Drèze, Jacques H. 1980. Public Goods with Exclusion. *Journal of Public Economics* 13(1980): 5-24.
- Dutt, Romesh. 1901. *The Economic History of India*. London: Routledge & Kegan Paul.
- East India Letters. 1876. *Copy of correspondence between the Secretary of State for India and the Government of India, on the subject of the threatened famine in Western and Southern India*, Part I. 10th October. No731 [C. 1707] [C. 1754]. London.
- Field, Alexander J. 2006. Communications. in Carter, Susan B., Scott Sigmund Gartner, Michael R. Haines, Alan L. Olmstead, Richard Sutch, and Gavin Wright. (eds). *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition*. New York: Cambridge University Press.
- Fraser, Clive. 1996. On the Provision of Excludable Public Goods. *Journal of Public Economics* 60(1996): 111-30.
- Greif, Avner. 1989. Reputations and Coalitions in Medieval Trade: Evidence on the Maghribi Traders. *The Journal of Economic History* 49(4): 857-82.
- Guha, Sumit. 1991. Mortality Decline in Twentieth Century India. *Indian Economic and Social History Review* 28(4).
- Habib, Irfan. 1963. *The Agrarian System of Mughal India 1556 – 1707*. Second Revised Edition, Oxford University Press, 1999. New Delhi.
- \_\_\_\_\_. 1975. "Colonialization of the Indian Economy, 1757-1900." *Social Scientist*, 3(32): 23-53.
- Hamilton, Ivie, G J. 1910. *An Outline of Postal History and Practice, with a History of the Post Office of India*. Calcutta: Thacker, Spink and Co.
- Heilbroner, Robert. 1986. *The Worldly Philosophers: The Lives, Times, and Ideas of the Great Economic Thinkers*. 6th edition. New York: Simon & Schuster, Inc.

- Hill, Rowland. 1837. *Post Office Reform; its Importance and Practicability*. W Clowes and Sons, Stamford Street. (Books.google.co.uk, accessed February 2012)
- House of Commons Parliamentary Papers* (245). 1856. London.
- Hurd, John II. "Railways and the Expansion of Markets in India, 1861-1921". *Explorations in Economic History* 12, no. 3 (1975): 263-88.
- Jensen, R. 2007. The Digital Provide: Information (Technology), Market Performance, and Welfare in the South Indian Fisheries Sector. *Quarterly Journal of Economics* 122(3): 879-924.
- John, Richard R. 1995. *Spreading the News: The American Postal System from Franklin to Morse*. Cambridge: Harvard University Press.
- Kaukiainen, Yrjo. 2001. "Shrinking the World: Improvements in the Speed of Information Transmission, c. 1820-1870". *European Review of Economic History*: 1-26.
- Kenny, Charles. 2006. Questioning the Monopoly-Supported Postal USO in Developing Countries. in Michael A Crew and Paul R Kleindorfer (eds) *Progress towards Liberalization of the Postal and Delivery Sector*. Kluwer Academic Publishers.
- Lal, Deepak. 1998. Culture, Democracy and Development. *SSRN. UCLA Working Paper No. 783*.
- Macpherson, W. J. 1955. "Investment in Indian Railways, 1845-1875". *The Economic History Review*, 8(2): 177-186.
- Mahadevan, Raman. 1978. Immigrant Entrepreneurs in Colonial Burma—An Exploratory Study of the Role of Nattukottai Chettiars of Tamil Nadu, 1880-1930. *Indian Economic Social History Review* 15: 329.
- Majumdar, Mohinilal. 1984. *The Postal History of Zemindari Dawk, 1707-1906*. Calcutta: Rddhi-India.
- \_\_\_\_\_. 1990. *The Imperial Post Offices of British India, 1837 – 1914*. Phila Publications, Calcutta.
- \_\_\_\_\_. 1995. *Early History and Growth of Postal System in India*. Calcutta: Rddhi-India.
- McNutt, Patrick. 2000. Public Goods and Club Goods. *Encyclopedia of Law and Economics* <http://valuefronteira.com> (accessed February 2012).

- Morris, Morris D. 1963. "Towards a Reinterpretation of Nineteenth Century Indian Economic History". *The Journal of Economic History*: 23(4): 606-618.
- Mukherjee, Mukul. "Railways and Their Impact on Bengal's Economy, 1870-1920". *Indian Economic Social History Review* 17, no. 2 (1980): 191-209.
- Naoroji, Dadabhai. 1901. *Poverty and Un-British Rule in India*. Swan Sonnenschein and Co., Lim. London.
- Newman, R K. 1989. India and the Anglo-Chinese Opium Agreements, 1907-14. *Modern Asian Studies*. 23:3, 525-560. Cambridge University Press
- Odlyzko, A M. 2001. Internet Pricing and the History of Communications. *Computer Networks* 36: 493-517. (<http://www.research.att.com/~amo>).
- Pauly, Mark V. 1967. Clubs, Commonality, and the Core: An Integration of Game Theory and the Theory of Public Goods. *Economica* 34(135): 314-24.
- [Poona] *Gazetteer of the Bombay Presidency* Volume XVIII (Facsimile reproduction). 1992. Originally printed in 1885. Pune: The Government Photozincographic Press.
- Ranade, Mahadev Govind. 1898. *Essays on Indian Economics: A Collection of Essays and Speeches by Mahadev Govind Ranade*, C.I.E. Second Edition, G. A. Nateshan & Co. Madras in 1906.
- Report from the Commissioners for Post Office Enquiry*. 1851. London.
- [*Report by the Select Committee appointed to inquire into the practical working of the present System of Telegraphic and Postal Communications between this Country and the East Indies*]
- Richards, John F. 2011. The Finances of the East India Company in India, c.1766-1859. WP153, *London School of Economics, Economic History Department Working Papers* [eprints.lse.ac.uk]
- Robins, Nick. 2006. *The Corporation that Changed the World: How the East India Company Shaped the Modern Multinational*. Pluto Press.
- Robinson, Alan. 2007. A Review of Price Elasticity Models for Postal Products. Background paper No. 2007-01. ([postinsight.com](http://postinsight.com), accessed February 2012)
- Rogerson, Cathy M and William M Takis. 1993. Economics of Scale and Scope and Competition in Postal Services. in Michael A Crew and Paul R Kleindorfer (eds) *Regulation and the Nature of Postal and Delivery Services*. Kluwer Academic Publishers.

- Rothengatter, Werner. 2003. How Good is First Best? Marginal Cost and Other Pricing Principles for User Charging in Transport. *Transport Policy* 10(2): 121-130 its.leeds.ac.uk, accessed February 2012
- Roy, Tirthankar. 2002. "Economic History and Modern India: Redefining the Link". *The Journal of Economic Perspectives*: 16(3): 109-130.
- \_\_\_\_\_. 2006. *The Economic History of India 1857-1947*. New York: Oxford University Press
- Sams, H A Liert.-Col., (Ed.). 1922. *The Post Office of India in the Great War*. Bombay: The Times Press.
- Samuelson, Paul A. 1958. Aspects of Public Expenditure Theories. *The Review of Economics and Statistics* 40(4): 332-38.
- Schmitz, Patrick W. 1997. Monopolistic Provision of Excludable Public Goods under Private Information. *Public Finance/Finances Publiques*, 52(1): 89-101.
- Schwarzberg, Joseph (ed.). 1978. *A Historical Atlas of South Asia*. Chicago, London: The University of Chicago Press.
- Sen, Ananda Gopal. 1875. *The Post Office of India*. Babooram Sarkar at the Roy Press, Calcutta. Reprinted by Manik Jain, Calcutta, 1996.
- Shivanath. 2002. *An Approach to History of Post Offices in India and Other Essays*. Army Postal Service Association, New Delhi.
- Smith, Adam. 1937. *An Inquiry into the Nature and Causes of the Wealth of Nations*. 1776. New York: Random House (Modern Library) .
- Sorkin, Alan L. 1980. *The Economics of the Postal System*. Toronto: Lexington Books.
- Subramanian, L. 1987. "Banias and the British: The Role of Indigenous Credit in the Process of Imperial Expansion in Western India in the Second Half of the Nineteenth Century", *Modern Asian Studies* 21(3):473-510.
- Thorner, D. 1950. "Capital Movement and Transportation: Great Britain and the Development of India's Railways". *The Journal of Economic History* 11(4): 389-402.
- Torri, Michelguglielmo. 1991. Trapped inside the Colonial Order: The Hindu Bankers of Surat and their Business World during the Second Half of the Eighteenth Century. *Modern Asian Studies* 25:2, 367-401. Cambridge University Press

Virk, D. S. 1991. *Indian Postal History, 1873-1923: Gleanings from Post Office Records*. New Delhi: Army Postal Service Association.

Walsh, Cliff. 1981. A Reconsideration of Some Aspects of the Private Production of Public Goods. *Review of Social Economy* 39(1): 19-35.

Walsh, Tim. 2002. Postal Infrastructure and Economic Development. in Michael A Crew and Paul R Kleindorfer (eds) *Postal and Delivery Services: Pricing, Productivity, Regulation and Strategy*. Kluwer Academic Publishers.

~\*~