

The Agency Problem of Empire:
British Bureaucracy and Institutional Path Dependence

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at George Mason University

By

Joshua Peter Hill
Master of Arts
George Mason University, 2007

Director: Peter Boettke, Professor
Department of Economics

Fall Semester 2009
George Mason University
Fairfax, VA

Copyright: 2009 Joshua Peter Hill
All Rights Reserved

DEDICATION

This is dedicated to my parents, without whom this might well not have come to fruition.

ACKNOWLEDGEMENTS

I would like to thank the many friends and colleagues who have made this possible. Peter Boettke, Frederic Sautet and Peter Leeson were invaluable. Pierre-Guillaume Méon carefully read and commented on an early draft. Colleagues too numerous to name gave excellent feedback during writing workshops at George Mason University and Mercatus Center. The Mercatus also graciously provided financial support. Judith Robinson, Reference Specialist for the UK and Ireland, Library of Congress, patiently helped me to locate my data. Mary Jackson and Peter Lipsey were indispensable in fulfilling university requirements. Finally, but certainly not least, my parents lent me their unflagging support, encouragement, and insight throughout my life and throughout the writing of this volume.

TABLE OF CONTENTS

	Page
List of Tables.....	vi
List of Figures.....	vii
Abstract.....	viii
Chapter 1: Introduction.....	1
Chapter 2: Institutions and Empire.....	5
Chapter 3: Bureaucracy and Empire	35
Chapter 4: The British Empire.....	65
Chapter 5: Conclusion	105
Appendix	109
List of References.....	110

LIST OF TABLES

Table	Page
1. The Impact of Additional Workers on Total Man-days	46
2. Comparison of Salaries by Continent (All Ranks).....	90
3. Comparison of Salaries by Continent (Top Rank).....	91
4. Mortality and Governor Salary	92
5. Annual Salaries of British Officials c. 1910 (£).....	93
6. Salary and Telegraph.....	102

LIST OF FIGURES

Figure	Page
1. Pages in the Colonial Office List, 1864-1915.....	100

ABSTRACT

THE AGENCY PROBLEM OF EMPIRE: BRITISH BUREAUCRACY AND INSTITUTIONAL PATH DEPENDENCE

Joshua Peter Hill, PhD

George Mason University, 2009

Dissertation Director: Peter Boettke

The bureaucratic structure of European empires is central to an understanding of institutional origin and durability. This paper provides a theory of why the institutional structures established by Europeans in their empires were what they were, and of how they were instantiated and rendered durable. These predictions are then compared to the historical record in the case of the British Empire. The result is a discovery of systematic variation, according to European mortality rates in a region, in pay structure for and information gathering capacity about governors. Moreover, this variation is found to be resilient to changing local conditions, explaining why institutions proved durable despite converging mortality rates.

CHAPTER 1: INTRODUCTION

“...development depends on good governance. That is the ingredient which has been missing in far too many places for far too long. That is the change that can unlock Africa’s potential.”

Barack Obama

In a landmark speech in Ghana’s capital, Accra, on July 11, 2009, Barack Obama laid out his views on poverty and economic development. He drew parallels between the beginnings of independence for African countries and the current opportunities and obstacles facing them. He claimed that the emergence of civil society will dwarf the independence struggle in importance. He acknowledged that the West has had a hand in the current state of politics and economics in former colonies but also pointed out that it cannot be held accountable for the destruction of the Zimbabwean economy or the multitude of civil wars that flare up throughout the region. Most importantly, Obama highlighted the importance of institutions and of governance for prosperity and stability.

Obama was speaking from the current success story of Africa, a country that has managed to maintain democracy through close and contentious elections while maintaining a positive rate of economic growth. It is an anomaly on a continent that has seen despots rule, famines rage, and wars engulf and devour whole generations. The

speech, third in a series given at select locations abroad, lays out a vision for the poor countries of the world—a vision that notably includes the importance of political and cultural institutions for economic development, for prosperity, for freedom and for global stability.

Obama and his speechwriters have borrowed the page from the economics literature. The consensus is that institutions (the rules governing access to and control over resources) are the fundamental cause of long-run growth. While institutions have been known since the time of Adam Smith to have an impact on economic growth, research of these last twenty years has allowed us to place a magnitude on their impact. Their impact is large—very large. It is so large in fact that it trumps all else as the dominant or fundamental cause of long run growth.

This assessment of the magnitude of institutions' impact on growth came from an empirical discovery: while there is systematic variation of economic outcomes attributable to colonial origin, there is even greater variation within empires that is attributable to the mortality rate of European settlers or inhabitants. (Acemoglu, 2001) The accepted explanation is that, in areas where the environment was hospitable to the European constitution, the colonial powers established rules and structures conducive to productive behavior. On the other hand, in areas where the life expectancy of Europeans was short, the rules put into place were such as to facilitate the rapid extraction of resources and materiel.

Thus, while colonial origin has some power in explaining current economic outcomes, settler mortality explains the lion's share. What has not yet been answered

fully is precisely how this transmission from mortality to colonial institutions and thence to modern institutions occurred. If we accept that there was some individual or collective consciousness choosing the set of institutions to put into place in a given territory, how were these institutions instantiated and enforced? Why were they so durable even after mortality rates for settlers largely normalized?

To use the schema of Boettke, Leeson & Coyne (2008), what is the interaction between foreign-introduced exogenous (FEX) institutions, indigenously introduced exogenous (IEX) institutions, and indigenously introduced endogenous (IEN) institutions that in some instances results in Botswana's or Ghana's relative stability and prosperity and in others the turmoil, unrest and genocide of Sudan or Rwanda? When does the fundamental human proclivity to rape, pillage and plunder win out? When does the other fundamental tendency to truck, barter, and exchange dominate?

The research that has permitted the assessment of magnitude has also highlighted the fact that there is, in fact, a durable and meaningful colonial legacy: whether an area was colonized or not and by whom continues to have an impact on economic outcomes even to the present day. Moreover, there is compelling evidence that both the mortality rate that Europeans faced in a given area and the relative availability of factors of production in a territory affected the type of early political and economic institutions and these institutions' successors upon independence. (Acemoglu, 2001; Sokoloff, 2000)

The current explanation most commonly given for why European mortality has an influence on current institutions and thereby upon economic performance is, in essence the following: Individuals didn't wish to remain in an area with high mortality and would

thereby grab what they could and run. This provides an initial but unsatisfying answer because it lacks an explanation of how individual preferences result in social outcomes. As an example merchants wish to charge their customers the full amount at which they value an item. Yet this is seldom how things aggregate up normally--because of competition, all but a very few customers end up paying far less than the amount they would be willing to pay. In the case of the merchant, there are countervailing incentives and actors in play that foil their desires. What is necessary in the study of institutions is a mechanism whereby the fact that individuals were less happy staying put in areas with high mortality results in less economically productive colonial institutions.

This paper fills this gap and provides a more complete explanation of the means by which mortality (often used interchangeably as a proxy for other unobservable variables and a variable in its own right) and factor endowments were transformed into institutional variation for the British Empire. The incentive structures that those in the colonial bureaucracy in London faced, coupled with the difficulties of controlling their agents in the field, resulted in governance mechanisms that were themselves transformed into political institutions within a colony.

The dissertation is structured as follows: first, an examination and summary of the literature on the economic growth and institutions, providing an explanation for colonialism and institutional variation within empire; second, a review of the literature on bureaucracy, specifying theoretical predictions for the structure of empire; third, an examination of the historical reality of the British Empire and the bureaucratic structure of its administration; fourth and finally, the conclusion.

CHAPTER 2: INSTITUTIONS AND EMPIRE

What causes economic growth has been the central question of economics since the inception of the discipline. The title of the foundational text was a recognition of this. *An Inquiry Into the Nature and Causes of the Wealth of Nations* is therefore more than a title. It is, in fact, the central endeavor of the field.

In his seminal tome, Smith asserted “Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism, but peace, easy taxes, and a tolerable administration of justice; all the rest being brought about by the natural course of things.” His implicit claim was that economic growth is not due to initial conditions, that it cannot be attributed to natural resource endowments, geography or technology except to the extent that any of these themselves contribute to the three conditions. In effect, Smith was arguing that the rules of the game (and their enforcement) hold the keys to prosperity. This essential point was lost to the discipline for a number of years until recently.

Starting with the work of Douglass North, economics has rediscovered the role and importance of the rules governing access to and control over resources. In fact, they have been determined to be the fundamental cause of long-run growth. Much of the literature focuses on the impact of colonialism on institutions—both for reasons of data solidity and because of the magnitude of the impact that the age and structures of empire have had. To

date, the literature has provided an extensive and solid explanation of the *what* of colonialism (settler mortality resulted in colonial era institutions which resulted in modern institutions which resulted in modern economic outcomes) but, until recently no *why* (given that structures of colonialism involved significant centralized control, why was settler mortality reflected in formal institutions?) or *how* (once these institutions were selected, how were they enforced and entrenched sufficiently so that they proved durable through the years?).

This chapter focuses on providing the *why* of colonialism (chapter three provides the *how*) and is structured as follows: first, a survey of the literature on economic growth; second, a survey and discussion of the literature on institutions, particularly in reference to colonialism; third, the provision of a motivation for colonial expansion and maintenance; fourth, summation and conclusion.

Growth

Starting with Solow in the 1950s, growth theory was established around two parameters: capital (K) and labor (L). The optimal allocation of resources, the golden mean level of saving in an economy necessary to raise incomes to the maximum growth level, could be calculated. In the models, natural disasters or other shocks had level effects but not growth effects. The difficulties with growth models were twofold: first, that they couldn't explain variations between countries effectively, and second, that they resulted in obviously false empirical implications. To tackle the first objection, additional variables were added to the models: technology, human capital, and so on. These

additions were somewhat successful but continued to run into the second difficulty—in fact, they exacerbated it.

From all of the growth models, it followed that in a global economy with free flows of resources, the returns in areas with low capital stocks (poor countries) would be very high, thus attracting a massive flow of capital and an equilibration of both capital stocks and returns globally. The same was true of technology and human capital.

While it is true that there are barriers to the flow of resources around the world, there are nonetheless sizable capital flows and they are not directed in the way that theory predicts. In fact, most of the flows run from poor to rich countries, not from rich to poor—the exact opposite of what growth theory predicts. Instead of returns being lower in rich than in poor countries, returns of all sorts—to capital, technology, and human capital—all three flow, wherever possible, to wealthy nations.

This empirical contradiction of growth models was reinforced by an additional contradiction. If theory was true, there should have been a convergence in growth rates. In most models there was implied convergence to a uniform level of prosperity and, when this failed to materialize in the real world, some were amended to imply convergence towards a uniform level of economic growth. This prediction also failed to materialize. Something was clearly missing from these theories.

It was not, however, until over fifty years later that a satisfactory answer was posited. In the interim, a host of other explanations were tried, with varying success. These included explanations based on natural resource endowments, geography, navigable water ways, competing power structures (also known as federalism), and

religion. None provided a satisfactory explanation of differences in growth rates or levels.

Institutions

There exists fundamental variation in the world of two types of parameter: natural parameters and those of human creation. The first three of the preceding theories had focused on natural parameters and the second two upon those of human creation. Recent history has shown, however, the primacy of the human variety—the division of Korea and the resultant shift in policy and legal rules resulted in dramatically different performance, all despite shared cultural norms and values and their near identical geography and natural resource endowments; Pakistan, India, and Bangladesh diverged dramatically following their partition; Hong Kong flourished while mainland China languished.

In all of these cases, the countries had great similarity—both geographically and culturally—but differed immensely in economic growth and progress. Residents of Hong Kong, for example had per capita GDP of \$25,319.41 in 2000, higher than the Netherlands. In mainland China, on the other hand, per capita GDP was \$949.18, just above the Republic of Congo.

Some countries with a wealth of natural resources have flourished while others have stagnated or contracted. Clearly, both the natural and simple cultural parameters have failed to provide a satisfactory explanation for economic growth.

These decades of research and thought on the topic did, however, make it possible to rule out some parameters as fundamental causes of growth. Given differential performance despite similar natural endowments, neither geography nor natural resources

stand up to scrutiny as the fundamental cause of growth.

Moreover, given shared cultural dynamics in some areas, it is clearly not purely the embedded norms of behavior that explain growth either.

Definitions

“Culture establishes the limits to the *acceptance* of policy implications of economic logic in and above ground and transparent setting. When culture and economic logic coincide commercial experimentation flourishes and material progress lifts the masses of people from subsistence. Absent this coincidence, and the struggle for survival continues as economic behavior is diverted either into a *sub rosa* existence or manifests itself in counter-productive “rent-seeking” games.

Boettke (1996, p. 16)

The scope of what are considered institutions is large and the definitions many. North has defined them as “...the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction.” (North, 1990, p. 3) Greif on the other hand does not like this definition, asserting that this neglects the mechanisms needed to enforce these rules—the truly important piece—and places the spotlight on top down rules instead of the larger incentive structures that render these rules binding. Greif would therefore append “...and their enforcement to the first half of North’s definition. Still, even this more complete definition can encompass a wide variety of parameters and phenomenon. Many authors still disagree on precisely what constitutes an institution and

many more focus in on one particular variety with the result that many talk past each other. Most everyone agrees that the formal rules governing property are institutions but does culture count, as the quote opening this section would indicate? Do the pay structures for company CEOs? What about those religious mores discussed earlier, for instance, the protestant work ethic?

A Framework of Analysis

Williamson (2000, p. 597) presents a hierarchy of institutions that is quite useful in unraveling these issues. He suggests four tiers:

1. Embeddedness: informal institutions, customs, traditions, norms, religion (akin to Boettke's culture).
2. Institutional environment: formal rules of the game, especially property (polity, judiciary, bureaucracy)
3. Governance: play of the game, especially contract (aligning governance structures with transactions).
4. Resource allocation and employment (prices and quantities; incentive alignment).

Using this structure it is possible to establish the level an author is addressing. North's writing normally addresses second level institutions while occasionally engaging with the third level. Greif's focuses more on the first and third levels. Williamson himself is occupied primarily with the third and fourth. Many apparent disagreements are in point of fact either definitional or relate to the relative importance of each level in determining

economic outcomes.

In Williamson's schema, the higher-level institutions determine the feasible set for the next level down. Cultural norms and values therefore determine the feasible set of constitutional structures that in turn determine which governance institutions will be practicable. These in their own turn will determine the durable forms of resource allocation.

Higher-level institutions change much more slowly than their lower level counterparts, with a roughly ascending rate of change as we descend through the levels. Moreover, there is a feedback loop, albeit an imperfect one, from the lower level institutions up. Constitutional rules, for example, can have a significant impact on cultural norms over a sufficiently long period of time—the advent of the doctrine of Supreme Court sovereignty in the United States was not initially founded in any cultural institution but over two centuries this has become such a culturally accepted principle that few members of the general public questioned the right of the Court to decide the 2000 presidential election—this despite the fact that many legal scholars believe that case to be of an overextension of the Court's power.

This hierarchy of institutions solves a significant in the debate over institutions: are policy outcomes or institutions the key?

Policy or Institutions?

In a recent paper (Henry, 2009) the authors make use of history to argue that policy is at least as important as institutions. They compare Jamaica and Barbados, two islands

governed by the British and sharing an almost identical history and culture up through independence. According to the authors, “From 1960 to 2002, Barbados' GDP per capita grew roughly three times as fast as Jamaica's. Consequently, the income gap between Barbados and Jamaica is now almost five times larger than at the time of independence.” (Henry, 2009, p. 1) Clearly the formal (level 2) institutions cannot account for this difference.

This paper puts the difference down to what they term policy—the governments of the two countries pursued very different economic policies with dramatic results. Barbados grew steadily while Jamaica languished. Thus sprang up a debate of whether it's institutions or policy that matter. Putting this in Williamson's framework the question is: do second or third level institutions matter? Obviously, the answer is both.

Interactions

The interaction between these institutional levels is thus quite rich. Culture determines the feasible constitutional structures that in turn determine the policy menus available. Policy decisions will obviously have an impact on the feasible set of governance and resource allocation institutions. Over time, the decisions made at lower levels either reinforce or alter the higher-level institutions. Add to this the foreign-introduced exogenous (FEX) institutions, indigenously introduced exogenous (IEX) institutions, and indigenously introduced endogenous (IEN) of Boettke (2008), and things become even more complex.

Measures

If the struggle to establish commonly accepted definitions of institutions has been difficult, attempts to systematically measure them have been even more troublesome. In an effort to get to address this difficulty, the Fraser Index of Economic Freedom was established in 1995. The idea was to systematically measure a selection of variables about countries that would likely matter for growth. Though necessarily imperfect, the categories settled upon were:

1. Size of Government: Expenditures, Taxes, and Enterprises
2. Legal Structure and Security of Property Rights
3. Access to Sound Money
4. Freedom to Trade Internationally
5. Regulation of Credit, Labor, and Business.

These are based upon the conception that it is the rules governing human interaction that account for differential economic outcomes. There are some obvious difficulties with this index. The most important is that the index does not, in fact, measure institutions but rather the outcomes of institutions. For the majority of academic research this does not pose a problem. Outcomes of institutions are a clear indication of the existence of those institutions. For the development community, however, this has posed significant difficulties.

Magnitude

A monumental corpus of work has subsequently been conducted using the index.

Regressions have been run comparing the previous postulated parameters and those contained in the index with the results that Adam Smith has been shown to be resoundingly correct. What matters for growth, then, is what Smith claimed: peace, easy taxes (Size of Government), and a tolerable administration of justice (Legal Structure and Security of Property Rights).

There is a preponderance of evidence that it is the institutions, the rules governing access to and control over resources that matter for economic growth. Without the institutional outcomes contained in the Fraser index, countries simply do not grow. This, at least, is the apparent conclusion from the research. The issue cannot be left with the claim that institutions cause growth, as issues of causality must be addressed first.

Causality

While research has indeed demonstrated that measures of institutions are highly correlated with economic growth, more so in fact than any other factors, this does not establish causation. While natural parameters are largely exogenous to human endeavor (that is to say that human action seldom causes geography or natural resources) institutions are clearly not. Thus, while a simple regression of geography on economic performance would obviously contain immense omitted variable bias, there would be little worry about reverse causality. In the case of institutions, on the other hand, this is clearly not the case.

The difficulty in claiming that rules determine economic growth is that it is quite possible that certain rules are a normal good. In the same way that environmental quality

improves with increasing income after a certain minimum, it is quite possible that there is an institutional Kuznets' curve. Perhaps sanctity of property or access to sound money are things that human beings desire but cannot afford until they reach a certain level of affluence. This is eminently plausible and is the core of Glaeser's (2004) argument. Of course, it may seem less plausible than that these rules are central to economic growth but it cannot on its own be ruled out.

There is little question that Smith was right that institutions matter. The goal is not to establish that rules matter but rather to place a magnitude upon their impact—is it marginal or fundamental? Does growth cause institutions or do institutions cause growth? This question was successfully answered in 2001.

The What of Colonialism

In 2001 the American Economic Review published an article that has altered the debate completely. In it the authors presented an innovation that purported to sever this Gordian knot. Through the use of an instrument: systematic variation in the mortality rate of Europeans living outside of the European subcontinent, the authors were able to establish that causation runs from institutions to economic growth and not the other way around.

The central argument was as follows: current institutions determine current economic growth; current institutions were themselves determined by previous institutions; those previous institutions were, where applicable, established by European colonial powers; the institutional structures that the Europeans chose to put in place were

a direct result of the colonists risk of early death from disease; settler mortality rates from two to three hundred years ago do not affect current economic outcomes except through their impact on colonial institutions.

Using settler mortality as the instrument in a series of regressions the authors established that institutions are the fundamental cause of long-run growth. The claim, substantiated by a very rich data set is that once the impact of institutions is taken into account the role of geography, natural resources, religion, colonial origin, etc. dwindle into insignificance.

This research has effectively demonstrated the correctness of Smith. It is the institutions governing exchange and interpersonal relations that are to blame or to bless for economic performance. The other variables thought to explain growth do matter but not directly. That is to say, geography, natural resources, etc. can and do influence the institutions in place in a region—that what a nation has isn't important—but rather that what it does with it is so much more important that endowments fade into insignificance. The impact of institutions is large—very large. It is so large in fact that it trumps all else as the dominant or fundamental cause of long run growth.

Thus, the argument runs as follows: in areas where Europeans were likely to die quickly there was no incentive for long term planning and therefore the incentives were such as to encourage extractive activities rather than those geared toward production. There remain two puzzles to answer, however, before this story is complete, before we have a sufficiently robust narrative to explain what is an empirical reality. First, how exactly did this transmission from mortality to colonial institutions occur? Second, how

were these institutions rendered durable? The first question shall occupy the remainder of this chapter and the second is the subject of the next.

The Legacy of Colonialism

The research that has permitted the assessment of magnitude has also highlighted the fact that there is, in fact, a durable and meaningful colonial legacy: whether an area was colonized or not and by whom continues to have an impact on economic outcomes even to the present day. Moreover, there is compelling evidence that both the mortality rate that Europeans faced in a given area and the relative availability of factors of production in a territory affected the type of early political and economic institutions and these institutions' successors upon independence.

The explanation most commonly given for why European mortality has an influence on current institutions and thereby upon economic performance based on the incentives that individuals faced. Individuals didn't wish to remain in an area with high mortality and would thereby grab what they could and run. This makes sense on a visceral level. However, the discipline of economics is a study of systems within which individuals interact, of how individual preferences aggregate up to societal outcomes. The research to date does not provide such a structure of societal aggregation.

The tale of grab-and-run is similar to an assertion that merchants wish to charge their customers the full amount at which they value an item, to appropriate the whole of the surplus generated in the process of exchange for themselves. As is obvious, this is only one part of the story. With anything but a monopoly established by force, merchants

are constrained in their demands by competition or the possibility of competition. In an even remotely open market, all but the marginal consumer pay well below their valuation and appropriate a large portion of total surplus.

The task, then, is to explain the system of colonialism in such a way that the outcome is consistent with the historical record. What is necessary is a mechanism whereby the reluctance of individuals to stay in high mortality areas produced less economically productive colonial institutions.

What level of institutions?

Before the mechanism is fully discussed it must be established which level of institutions are under discussion. Cultural norms and values clearly played a role but can be ruled out as the primary level at issue.

What is under review in the work of Acemoglu, et al. is clearly second level, formal institutions. The causal chain in their work involves formal political institutions and economic institutions—government structures and property rights. The implicit story is that settlers selected their formal institutions to conform to their needs in the territory. They thereby selected secure and extensive property and political rights for areas in which they were planning to produce goods whereas they selected limited property and political rights for those areas they were going to seize what they could and get out quickly.

The wrench in the cogs in this narrative is that colonialism was not a result of voluntary exchange, of those settlers facing high mortality rates choosing among a menu

of institutions and deciding upon those labeled “extractive” or “productive” depending upon their likelihood of surviving past a certain point. Instead, the colonial period, the latter portion in particular, was marked by European governments incurring significant costs to project political control beyond their borders. Even the first colonies established by Britain—the Virginia colony for one—were not free to choose their own political or economic institutions but had them specified for them in their royal charter. The same held true for all dominions, territories, and royal trading companies.

This is not to say that there was not some form of negotiation over these terms—there almost certainly was—but it means that the sovereign must of necessity be included in any understanding of the system of colonialism and its resultant institutions. This means that there must be greater explanation, first of why these European nations (rather than individuals from these nations) engaged in colonialism rather than simple trade, and second, of why it was incentive compatible for these nations to establish the incentive structures that they did.

The Why of Colonialism

Before continuing, a clarification of terms. In strictest definitions, colonialism is defined as “the policy or practice of acquiring full or partial political control over another country, occupying it with settlers, and exploiting it economically.” (“Colonialism.” *New Oxford American Dictionary*. ed. 2005) Colonialism is not complete without some form of empire and can, in fact, most plausibly be distinguished from the general phenomenon of empire building by reference to the means of acquisition of territories. The

establishment of colonies or settlement by citizens of the empire-building nation should be the distinguishing characteristic. This, at any rate, is how colonialism is conceived. The reality, as is so often the case, is rather different. A more full discussion of the actual structure of British colonial expansion will be undertaken in chapter three but a cursory exposition will be usefully undertaken here.

The first period of European imperial expansion began in the fifteenth century and continued up through the beginning of the nineteenth. The imperial century, however, the scramble for Africa and European domination of nearly every corner of the globe was contained in the nineteenth and early twentieth centuries. In the first period, the primary players were the United Kingdom, Spain, Portugal, France, and the Netherlands (more properly, the United Provinces of Holland at the time). The second period was dominated by the United Kingdom, France, and at the end of the era Germany. Of the areas controlled during both periods of colonialism, in only a very small portion was the European population in the majority. In fact, in the cases where Europeans came eventually to constitute the majority this occurred most often through the attrition of the indigenous population.

In point of fact, the colonial period is less notable for a concerted unified approach to the projection of power than it is for its extent and transformative power. All colonial empires were acquired variously through conquest of other European powers, through cession by other European powers, and by settlement—all methods used in previous empires. What was unusual in both eras of colonialism, what is perhaps the distinguishing feature of the period, was the extension of empire through private

companies.

The use of private ventures as a means of empire building was extensive. During both colonial periods there was a total of 57 companies chartered (28 by Britain, 7 by France, 4 by Germany, 4 by Portugal, 5 by the Netherlands, 5 by Sweden, 2 by Denmark, 1 by Russia, and 1 by Scotland). In fact, that most notable of the British colonies, India, was governed for nearly the entirety of the colonial era (up through 1858) by private parties. Some companies were superseded by others and most were eventually subsumed into the formal structure of empire.

Charters were important for more than just commercial ventures, however. For those areas that required settlement charters were also sought and, many cases, won from the sovereign. If the hallmark of colonialism is sought it is the charter. Why then should the rulers of Britain or France offer these charters and extend official cover to individuals wishing to emigrate or to seek a fortune? What plausible explanation is there for a sizable commitment of a sovereign's resources?

Profit

The simplest explanation would be that colonialism made money. The difficulty lies in specifying for whom. In the case of a unified sovereign—a monarch—one plausible reason for the extension of territory and the chartering of companies to operate abroad with the protection of the state would be the profit motive. This profit was twofold—or was to have been: first, the purchase price for the charter and second (depending on the terms of the charter), a substantial amount, termed a subsidy (variously a fixed

percentage of company profit or a fixed annual amount) paid into the public coffers by the company.

This was a main reason for many of the early charters granted. The sovereign saw a chance to improve their financial position and, in the case of France under Louis XV, actually directly inserted the chartered company into a central role in crown finances, to the extent of backing its shares with treasury bills—and resulting in the devastating implosion of the countries entire financial system and the eventual demise of the monarch.

The very visible boom and bust cycle associated with the *Compagnie de Mississipi* (also termed the *Compagnie d'Occident*) was just a symptom of this structure of chartered companies, albeit in this case with a much greater incorporation with other government functions. Moreover, the Mississippi Company's lack of profitability was far from unusual. While there were a few exceptions, primarily those engaged in the spice trade, in the early years of empire, and some durable examples, primarily the British East India Company, most every other chartered company failed to even stay afloat, much less make money for its stockholders or the Crown.

This does not mean that the early charters didn't make money for all parties involved in their early years. Significant rents accrued to the first movers in many cases. Moreover, in cases where charters were purchased outright rather than managed under a profit sharing arrangement, the sovereign made their money whether the company subsequently did or not.

In short order, however, there was, as would be expected, extensive rent

dissipation. The Indian subcontinent is an illustrative example. Dutch, French, and British companies all vied for control of trade in the area. The Dutch were eventually eliminated on the Indian subcontinent because of the difficulty of overcoming agency problems exacerbated by British competition (Adams, 1996) and despite common perception, the British East India Company was not actually unified until 1708. Prior to that date, there were at least two British companies vying for control amongst themselves and their Dutch and Portuguese counterparts. These companies were not infrequently openly at war with one another. Thus, both rent extraction and rent dissipation were the rule of the day.

Likewise, competition in West Africa among chartered companies engaged in the slave trade resulted in significant rent dissipation except where the charters were structured to effectively create a durable, government-enforced oligopoly/cartel. Of course, even here there were the standard difficulties of monitoring and enforcement among cartel members.

The upshot of this reality was that some charters yielded profits for a brief window but most were loss making in the medium to long term, with the result that it is plausible that profit was a viable motivation for sovereigns engaging in the first stage of empire, particularly in the very early years.

By the 1900s, the Imperial Century, however, the sovereign was able to extract very little in up front fees for charters and received little in profit sharing arrangements. Profit is therefore an unlikely motivation for this second stage of empire. Davis & Huttenback (1988) provide the best figures on the profitability of empire in the Imperial Century period, and these figures cover Britain only. They find that the Empire was clearly not on

net profitable for Britain. In the end, they conclude that “The British as a whole certainly did not benefit economically from the Empire,” (Davis, 1988, p. 267) and that “It appears that imperialism can best be viewed as a mechanism for transferring income from the middle to the upper classes. Because of the technology of the imperial machine, the process involved some transfer of those resources to the colonies; however, it is not obvious that either India or the dependent colonies would have chosen to accept that imperial subsidy had they been given the opportunity to object. The Elites and the colonies with responsible government were clear winners; the middle class, certainly, and the dependent Empire, were most likely losers. A strange kind of philanthropy – socialism for the rich, capitalism for the poor.” (Davis, 1988, p. 279) Despite the lack of pecuniary gain, this Imperial Century saw even more rapid expansion of territorial acquisition by the main European powers.

Special Interests

What then of special interests and lobbying behavior? Evidence of direct parliamentary lobbies by businesses has proven elusive. That said, Davis & Huttenback provide some fairly convincing evidence that there was not an effective business lobby in the case of the British. If the parliamentary lobby story held true, transfers would be expected to be largest to India (the most concentrated group of beneficiaries). Public expenditures in dominions (those areas without representative government) would be expected to be next largest since London had the greatest control in these areas, with those territories with responsible government bringing up the rear. In fact, Davis &

Huttenback examine the expenditures of the British exchequer in the territories and find the opposite of this. Expenditures (both in absolute and per capita terms) were highest in the areas under responsible government and lowest in India with the Dominions firmly in between. This clearly belies the explanation of British colonialism as a result of rent seeking in London.

As noted above, they also established that the British Empire, at least, was not profitable—neither from a public finance perspective (i.e. the colonies cost more to maintain than they brought in tax revenue, even discounting naval expenditure) nor in terms of private yields (investments in foreign European countries were across the board higher than in any ventures in the British Empire). The European residents of the colonies, however, were subsidized heavily but there seems to have been little effectively organized colonial lobby.

Thus, a direct special interest explanation for the second period of empire is also suspect. The only net beneficiaries were the colonists whose lobby was neither organized nor properly in existence prior to a territory's acquisition by the European power. Thus, something rather more complicated was occurring.

Maintenance of Limited Access Order

A fuller explanation for colonialism is found in North, Wallis, and Weingast (2009).

In this work the authors contend that there are three states of society: the foraging order, the natural state or limited access order, and the open access order. The foraging

order is the realm of familial bands where the exercise of violence is frequent and brutal. A superior state, from the standpoint of most involved, is that of the natural state or limited access order where rulers (and coalitions of their supporters) take control of a given area and subdue it. In so doing they reduce the expression of violence (while increasing the threat) and a large portion of the resources freed up can now be distributed as rents to coalition members. In this world, there are no universal rights and the privilege of engaging in commercial activity and civil association is limited to either elite members, those who are able and willing to pay for the privilege, or both. Limited access orders are a superior outcome to the foraging order for society at an aggregate and often an individual level. This helps explain why some totalitarian rulers are selected under democratic institutions. Limited access orders have been the most common form for the last 2000 years.

Open access orders exist where there are individual and universal rights, where access to economic order is available to all and where civil association is not barred. This type of social arrangement came on the world stage at a very late date--North, Wallis and Weingast place Britain's full transition to an open access order at around 1910. They posit that Britain was the first to make this transition and that places the remaining European powers somewhere after this date in making their own transition.

The open access order is a very different structure where economic life is driven by skills, abilities and the dictates of supply and demand rather than coalitional politics. Property rights are granted generally rather than restricted to elite members' interactions with one another. In this ordering of society, stability is achieved by the universal benefit

from economic growth rather than by government creation of rents.

Combining North, Wallis, & Weingast (2006) with Acemoglu, Johnson, and Robinson (2001) and relating them to the specific case of European colonialism, we have the following: the European empires of the 19th century, the age of imperialism, were held together through the economic rents that the state controlled and could distribute to coalition members (or, alternately, the state control of the privilege of rent generation on the part of elite members). North et al. allude to the fact that many of these rents took the form of the government granted monopolies that Adam Smith so reviled. These were sometimes monopolies over simple commodities and wool and in other cases over processes, and this government control of rents was what permitted the (relative) stability of European states through the period.

As time went on, there was a need for an every greater volume of rents to maintain stability and these could be found in new territories. Beginning with the Company of Merchant Adventurers in 1407 and concluding with the British South Africa Company in 1889, that most prolific of monopoly granters, the British government, distributed the right of control over a wide variety of regions. As mentioned earlier, from start to finish, there were a total of 57 European chartered companies and they existed under a variety of arrangements and met with varied success. While often comprised as trading companies, most chartered companies had at some point in their history a monopoly on force as well, although only when exercised within the company's territorial boundaries. In some instances they were permitted to exclude any rivals, whatever their nationality while in others they were only permitted to exclude other home country competition. Eventually,

most chartered companies relinquished their monopoly over coercion to the government and saw an erosion of their economic monopoly as well. By the end of the nineteenth century, only two chartered companies remained in possession of any form of monopoly in the British realm. All the others areas had been converted to colonies or dependencies.

The common historical interpretation of this predominance of British companies has been that Britain conducted her foreign policy largely through these companies (Parsons, 1999) while France and others preferred greater direct control. India, Rhodesia, and Lagos—all were clearly part of the British Empire but administered entirely by private groups. The British East India Company even supplied troops and materiel to regular British forces for combat outside of the Indian subcontinent in addition to their annual subsidy to Parliament. The historical record can be better interpreted as solidifying the position at home by distributing the rights to collect rents abroad.

As discussed earlier, Davis and Huttenback (1986) definitively explode the myth that it was their colonial empire that drove Britain's industrial revolution and rapid economic growth during the century. Maintenance of empire was, instead, a very real drain upon the public exchequer. The colonial period saw a significant transfer of resources from those British residing within the British Isles to the merchants, traders, stockholders, and colonists engaged in trade with or residing in the empire. In some cases, companies that were able to enter first profited handsomely. They hold up the Leibig's Extract of Meat Company (or LEMCO) as a prime example. In the early days the company made high returns but over a relatively short period of time these rates of return fell as other entrepreneurs discovered ways of competing effectively--either by locating

another source for the raw materials or, where possible, by bidding up the inputs of production.

This is, of course, precisely what economic theory predicts and belies the mercantilist explanations for Britain's success. It also strengthens the case the story of empire is one of government distribution of rents. This was done sometimes for profit, usually accruing to the monarch rather than to the exchequer, but more often this can be seen as reinforcing the limited access order that was in place in Britain up through the early twentieth century. That these rents would be dissipated and that returns would return to normal in relatively short order rendered them all the more valuable. Given that trade generally was limited, even the "normal" rates of return recorded by Davis and Huttenback would not have been available to everyone. Therefore, even the prevailing profitability would have been desirable and been of value to members of the elite.

The transition from chartered company was not always simply one in which the previous rents were no longer of value. In fact, in the case of the Lagos company, transition to colonial status involved the British government purchasing back, for a considerable sum, the company's right to operate its own police force and judicial system--all despite the company's rather vociferous lobbying to be included as a colony in a push to gain access to subsidized infrastructure and capital. The companies often got to have their cake and eat it too.

This process, instead of being a either a contribution to private or public wealth, the extension of empire was a means of increasing the number of people who had a vested interest in the continued survival of the home country's political structure.

This combination of theories of colonial history is powerful because it provides something missing in the literature. It explains why the expansion of Empire occurred and provides insight into why the findings of Acemoglu (2004) make sense on more than a visceral level and provides significant explanatory power. Since rents were high for new sectors and new areas it made the most sense from the sovereign's point of view to distribute monopolies. Thus the advent of the chartered company. As the rents were dissipated by competition, the value of the monopoly disappeared. It therefore made sense (again, from the point of view of the sovereign), to distribute a second tranche of rents—thus the transition from charter to empire.

In some cases the most valuable set of secondary rents flowed from the use of land, often agriculture or animal husbandry. In order for the effective use of land to be possible, some individual had to have some form of possession or residual claimancy. This meant local property rights and these rights were more important in areas of uncertainty, volatility, or novelty. This follows for the following reason: in areas with greater uncertainty, direction from afar or via a central authority is far more difficult or less feasible. In order to respond to changes or new information (of which there was obviously a considerably greater amount in areas that were unfamiliar) local individuals needed significant autonomy, taking advantage of opportunities or mitigating crises. Thus, *ceteris paribus* the transition in these areas from monopoly to wider access involved an expansion of property rights to the local (European) populace and thus an expansion in the elite. This expansion was normally accompanied by an area's formal inclusion in the empire and usually with the gradual extension of autonomy (historically

termed responsible government).

In other cases, the most valuable secondary tranche involved activities focused on resource extraction. In these cases, the elite could remain limited and subsequent institutions took the form of the extractive variety alluded to by Acemoglu et al (2001).

It must be noted that the above analysis holds mortality rates constant. The importance of factor endowments and the level uncertainty and novelty in determining the extent of property rights and the size of the elite would have been swamped by settler mortality. An area could quite plausibly have factor endowments conducive to settlement, to production, and therefore to a broad/large elite—imagine lush arable land and few minerals or natural resources. If, however, any settlers stood to die within a year of arrival the territory would have ended up with a property rights structure conducive to extraction instead of production.

The conclusion here is the following:

1. *High mortality*: In areas with high settler mortality, extractive activities were the only viable set of rents to distribute. Therefore, it was incentive compatible for the sovereign to select political and property rights institutions that were less extensive. There was no reason to check rent seeking or rent extraction as these were the only viable activities for Europeans with short life spans.
2. *Low mortality*: In areas with low settler mortality, productive activities became feasible and therefore viable rents for the sovereign to give out. This meant greater security of property and political rights. Rent seeking and

extraction were problems in need of mitigation in these cases.

Extension

Thus far, the observable aspects that flow from the above mirror the stories of Acemoglu (2004). High mortality led to lower levels of settlement and therefore to less representative institutions and a greater subsequent ability for minorities to assume control of the reins of government and perpetuate a limited access order. Where this story diverges, however, is that what is at issue, the causal force, is not settlers deciding where to settle based upon their risk of dying nor upon their explicit selection of institutions. Instead, it depended upon what the most valuable set of rents was for the sovereign to distribute. Today's institutional environment was driven by the colonial institutions that were themselves determined by which rents it was most productive for the sovereign to distribute in maintenance of the limited access order. This set of rents was dependent upon the return of a specific set of economic activities in a territory. These returns were themselves driven primarily by settlers' ability to survive to reap any returns. In some regions the mortality rate for Europeans and the factors of production formed high enough barriers to profitable, long term activity that it never made sense to distribute a new tranche of rights to rents in the area with the result being a smaller elite and a different set of institutions—one that was easier for domestic elites to take over upon independence.

In this era, as in many developing countries today, the economic and political were inexorably intertwined. In another formulation of Acemoglu (2005), economic outcomes

led to political institutions that determine economic institutions, which yielded economic outcomes. This explanatory chain is very applicable for their case—England—that had many of the doorstep conditions cited as necessary by North (2008) as well as a deliberative structure of government. In this case, the rise of Atlantic trade yielded high returns for a collection of individuals previously not politically enfranchised. This group parlayed their economic power into political power, which changed the political institutions to accommodate the group's demand—largely by giving them access to the property rights already extended universally among the previous elite. This extension of property rights and (relative) equality before the law permitted the traders to engage in yet more beneficial exchange and to devote a smaller portion of their profits to protecting their returns. This productive economic activity yielded yet more economic winners who could exchange economic power for political power and resulted in a virtuous cycle and thereby the industrial revolution. The question, of course, is why all countries have not benefited similarly from such a virtuous process.

If we alter the starting point for Acemoglu's story and go a step further back, an answer appears: the political institutions and coalition's dynamics determined who would be granted access to trade across the Atlantic. The tradeoffs and relative prices were such at that specific point in space and time that this was a sensible thing to do—and the tradeoffs and prices were simply different in other places in the world. This meant that it made sense to limit the access to trade to existing elite members and there was no subsequent expansion of political or economic institutions.

The question, then, is how specifically these relative prices and tradeoffs played out

in the various territories in the age of empire. Clearly, the political and economic institutions were very different in different areas. However, they all fell under a bureaucratic structure that was very different from the parliamentary structure of Westminster (although it did report to Westminster).

For the train of causality (mortality to colonial institutions to modern institutions to modern economic outcomes) to hold together there must be a much thicker story as to precisely how the transmission was incentive compatible for all actors. As Boettke (1996) notes, the interplay between the different levels and types of institutions is very complicated. Simply decreeing a set of institutions was not feasible.

Even more importantly, for mortality to be central to colonial legacy there must be an explanation for durability after the initial period of establishment. If, contrary to the narrative presented here, this was simply an issue of individual responses to local incentives then mortality simply would not have any long-term impact. The discovery and widespread use of quinine effectively normalized settler mortality (or came very close to doing so) across empires by the early twentieth centuries. What is needed then, is a structure whereby the initial institutions (the *what*), chosen by the sovereign to maximize the durability of the limited access order (the *why*) were enforced and rendered durable. What is needed is the *how*. The next section discusses just such a mechanism.

CHAPTER 3: BUREAUCRACY AND EMPIRE

“Half of a President’s suggestions, which theoretically carry the weight of orders, can be safely forgotten by a Cabinet member. And if the President asks about a suggestion a second time, he can be told that it is being investigated. If he asks a third time, a wise Cabinet officer will give him at least part of what he suggests. But only occasionally, except about the most important matters, do Presidents ever get around to asking three times.”

Jonathan Daniels (1946, pp. 31–32)

For fans of the BBC series “Yes, Minister,” this chapter should strike a chord. The series follows a new member of parliament as he takes up his post and seeks to make a difference, all the while opposed by a member of the permanent staff (who would say “molded and shaped” rather than “opposed”) who successfully achieves his own ends through his superior knowledge of the bureaucratic structure. The phenomenon of bureaucratic obstruction is certainly not unique to Britain or the British Empire. The opening quote was made in reference to Franklin Roosevelt’s cabinet.

In the world of men, it is never enough to merely decree what rules are to be followed. So it was with empire. It is not sufficient to merely state that there was a set of institutions put in place in a territory or colony. It is necessary to also stipulate a

functioning structure that brought those institutions into being on a daily basis and that perpetuated them beyond the founding moment.

In the age of empire the mechanism that provided the enforcement of institutions and rendered them durable was the governance structure of the territory, the individuals charged by London to carry out the sovereign's wishes abroad. Thus it is necessary to look to the administrative structure of colonies—the bureaucracy of empire—for systematic variation in the institutions actually in place in the colonies. It is within the bureaucracy of empire that the *how* of empire can be found.

The focus of this chapter, then, is to undertake just such an inquiry: to establish what theories of bureaucracy exist, what they predict, what they are lacking, and explore the extent to which they can shed light on the *how* of empire. The structure is as follows: first, presentation of the main definitions of bureaucracy; second, an elaboration of the economic theories of bureaucracy; third, an examination of those theories comments particularly relating to empire; fourth, extensions and predictions; and fifth, summation and conclusion.

Definitions

Webster's defines bureaucracy as "a body of nonelective government officials; an administrative policy-making group." This definition is broad enough to be in line with all of the economic definitions of bureaucracy. However, as the literature developed, the last half of the definition, divorced from the intent of implying government involvement, became the accepted version. In his 1944 treatise *Bureaucracy*, Mises never fully defines

the term. The closest he comes is in defining bureaucratic management—the true focus of his tome: “Bureaucratic management is management bound to comply with detailed rules and regulations fixed by the authority of a superior body.” (Mises, 1944, p. 45) Mises also highlights another distinguishing characteristic of bureaucratic management when he says “Bureaucratic management is the method applied in the conduct of administrative affairs the result of which has no cash value on the market.” (Mises, 1944, p. 47) Thus, both compliance with rules and a lack of a market test are core aspects of bureaucracy for Mises but he does restrict the application of the term to government.

Tullock adopts a definition that he attributes to Downs: “...we use the word *bureaucracy* for an organization whose output is not evaluated in the market. The word *bureaucrat* would be applied to any individual whose output is not evaluated in the market.” (Tullock, 2005, p. 280)

Downs provides a further expansion in his writing, making the foundation of his analysis bureaus. He lists four characteristics of all bureaus:

1. Size: it has a large number of employees. Downs sets the threshold for this as occurring when the top ranking members know less than half of all the employees.
2. Devotion of employees: the majority of the organization’s workers are employed full-time.
3. Hiring and promotion: these are determined at least in part by performance and aptitude, not simply nepotism or favoritism.
4. Evaluation of output: “The major portion of its [the bureau’s] output is not

directly evaluated in any markets external to the organization by means of voluntary *quid pro quo* transactions.” (Downs, 1967, p. 25) This is the characteristic that both Mises and Tullock focus on.

Downs also clarifies the characteristics of a bureaucrat. In his schema, a bureaucrat is not simply someone who works for a bureau, although this is most often the case. Instead, in addition to working full time for a large organization, deriving most of their income from their employ there and being promoted or retained at least in part for their performance, their “own output cannot be evaluated directly or indirectly on any markets by means of voluntary *quid pro quo* transactions, regardless of whether or not most of the output of the organization he works for is so evaluated.” (Downs, 1967, p. 26)

Downs considers the term bureaucracy to be used in three versions: first, synonymous with bureau as he defines it; second, a process of resource allocation or decision making; third, a quality or characteristic. This latter is closest to Mises characterization of rule following.

The upshot of these definitions, as both Downs and Tullock point out, is a far greater level of precision. Bureaucrats need not work for bureaus and bureaus need not employ only bureaucrats. Moreover, bureaucracy in the third form can be exhibited by organizations that are not bureaus, and by individuals who are not bureaucrats.

A crucial difference here lies between the definition of Mises and those adopted by Downs and Tullock, namely the relationship between government and bureaucracy. For Mises, something is only bureaucratic if it is an extension of government whereas for Downs and Tullock many of private sector organizations can also be bureaucratic. This

paper adopts Down's schema of bureaucracy.

Theories

Mises

In his volume *Bureaucracy* (1944) Mises is focused primarily on examining the shift toward central planning under both the National Socialists in Germany before and during World War II and in the Soviet Union. Although the focus of this writing is a period well in advance of these focal bureaucratic structures, there is much of relevance in Mises text.

For Mises, the hallmark of bureaucratic management in a democracy is “management in strict accordance with the law and the budget.” (Mises, 1944, p. 43) It is “management bound to comply with detailed rules and regulations fixed by the authority of a superior body,” (Mises, 1944, p. 45) “...the method applied in the conduct of administrative affairs the result of which has no cash value on the market,” (Mises, 1944, p. 47) and “...management of affairs which cannot be checked by economic calculation.” (Mises, 1944, p. 48) Mises therefore limits the term bureaucracy to the realm of government and asserts that in this sphere bureaucratic management is, in fact, “required by necessity.” (Mises, 1944, p. 44)

For Mises, bureaucratic management is neither good nor bad. It is instead the only way to conduct those affairs that a polity chooses should reside in the public sphere. Since the services of government, whether true public goods or not, are no longer traded in the market or subject to any type of immediate market test, the only option is to

administer these services via bureaucracy. This insight is echoed in Williamson with the statement that “The public bureau...can be thought of as the organization form of last resort: try spot markets, try incomplete long-term contracts, try firms, try regulation, and reserve recourse to public bureaus for when all else fails (comparatively). Note that the common practice of condemning public bureaus because they have lower-powered incentives, more rules and regulations, and greater job security than a counterpart firm completely misses the point. These features have been *deliberately crafted* into the public bureau...” (Williamson, 2000, p. 603)

Mises draws a clear distinction between bureaucratic management from what he terms variously business, commercial, and profit management. The central difference between bureaucratic and profit management is that under profit management it is possible to ascertain how successful a manager is in achieving the task set for them—was profit made or was it not? He asserts that activities can therefore be decentralized with performance established at each stage in the process. It is therefore possible to hand over control of an extended organizational entity to one individual without that individual’s wishes and whims becoming the order of the day. Discretion is permissible because there is a yardstick against which to measure the decisions the manager makes.

The performance of public administrators, on the other hand, “cannot be measured in money terms and cannot be checked by accountancy methods.” (Mises, 1944, p. 46) This conclusion is not derived from a public good argument but rather the structure of financing inherent in government action. For activities conducted by governments funded through taxation, individuals’ willingness to pay for and thereby valuations of

their optimal bundle of quantity and quality cannot be ascertained. For an administrator of a public organization, therefore, there is no constraint on the amount that they can argue for expansion or improvement of their department. Since there are no prices and thereby no metering of consumption on the part of consumers there is no feedback mechanism by which the providers can equilibrate quality and quantity. That there is no incentive for the providers to do so without prices is also true.

Under bureaucratic administration, therefore, a local chief or bureau head would seek to expand his or her expenditure effectively without bound. The result is that the central authority must place strict limits on agents' discretion (the law) and upon the amounts expended (the budget).

While Mises treatise is largely a reaction to the attempts at central planning and full bureaucratization during World War II, and while his emphasis is upon the broad trend towards an expansion both of government and bureaucracies, his emphasis on the importance of rules and budget as the core of any appropriately functioning bureaucracy (in other words, one that is operating within designated constraints) is quite useful for application to European empires. We shall return to this point further on. First, however, a look at a piece penned specifically about the British Empire.

Parkinson

In 1955 C. Northcote Parkinson, penned a short, satirical article for The Economist. The core message was that "...work expands so as to fill the time available for its completion." (Parkinson, 1955, p. 1) The central point stated more fully is that a

bureaucracy tends to expand monotonically, independent of the work assigned to it. This is driven by the desire of bureaucrats to expand the number of individuals serving under them. Though humorous and terse, Parkinson provides compelling evidence of this phenomenon.

First, he highlights the steady increase in those employed by the British Admiralty (in charge of the navy) even as the number of ships in service declined. Even more convincingly, the increase is largest among the officialdom, something that cannot be easily explained by pointing to an increase in the size of ships in service.

Second, and with particular relevance for this work, Parkinson highlights the number of colonial office officials. He points out the dramatic increase in officials from 1943-1954 despite the fact that this was precisely the period during which the British Empire was being disassembled. Parkinson does not, however, provide the growth figures for the nineteenth century, the period of rapid expansion in responsibilities for both the Royal Navy and Colonial Office. Therefore, his theory, humorous as it is, tells us more about what happens at the end of a bureaucratic life cycle. The period of interest for this work as well as more generally for the study of institutions and colonial legacy is the beginning and middle portions of the life cycle.

In typical tongue-in-cheek wit, Parkinson concludes with the following: “In any public administrative department not actually at war a staff increase may be expected to follow this formula: where k is the number of staff seeking promotion through the appointment of subordinates; p represents the difference between the ages of appointment and retirement; m is the number of man hours devoted to answering minutes within the

department; and n is the number of effective units being administered. Then x will be the number of new staff required each year.” (Parkinson, 1955, p. 5)

Though clearly an impractical formula to apply in the real world, and intended at least partly in jest, the central principle of ever expanding bureaucracies, of bureaucrats busily occupied in making work for each other, has been adopted with amazing vigor by many scholars. Of course, Parkinson’s bantering tone does not preclude him from being right and ever expanding, apparently useless bureaucracies are something that many observe on a regular basis.

As will be discussed in the next chapter, the nineteenth century was marked, at least for the British, by bureaucrats working in the opposite direction of Parkinson’s Law—seeking to fight the expansion of territory under their control. Moreover, Parkinson’s theory is one that focuses on bureaucrat discretion. While his theory is applicable in many instances, the *what* and *why* of colonialism require instead a mechanism of sovereign control rather than bureaucrat discretion.

Tullock

The majority of Tullock’s treatise on bureaucracy focuses on the difficulties of communication. There are two main aspects to such problems. First, there are the general knowledge problems originally expounded by Hayek. Second, there are more straightforward but equally intractable mechanical problems of transmission, processing, and aggregation of information. Finally, there are incentive problems associated with information transmission among acting agents: dissembling, misunderstanding, and

addition.

Knowledge Problems

The knowledge problem, the fact that much information is tacit and diffuse, is endemic to human action. Given the focus on bureaucracy, upon output not evaluated in the market, the knowledge problem is central for a bureaucracy. The difficulty of marshaling all necessary and relevant information in a timely fashion to make decisions may seem to be a primary function of bureaucracy. Of course, the difficulty is that the necessary information for many decisions is not revealed by exchange but is instead generated in that process. Thus, absent evaluation of products in the market the information simply never comes into existence. Tullock highlights the fact that there is a fundamental difference between the knowledge problem faced by government bureaucracies and that which private bureaucracies must take up.

In private bureaucracies, the output does eventually face a market test and the information necessary overall production decisions thereby become available. This information may or may not be too late to be of great use but it is at least summoned into existence. In the case of government bureaucracies, the information necessary for fully effective decision-making cannot even said to exist in the world. Add to this the monopoly power of government that eliminates even the external check of competition and the problem becomes even more severe. Tullock points out that this means (and has meant historically) that bad or inefficient governance can persist far longer in public than private bureaucracies.

Tullock also provides the insight that, in public bureaucracies, performance of subordinates can most often only be evaluated by their reasoning rather than by results. Part of this results from the disparities in knowledge of a specific situation between superior and subordinate. Part results from the incentives for risk taking within the bureaucracy. Whereas a bureaucrat taking a risk and winning results in profit (and usually reward) in a private bureaucracy, no such equivalent incentive structure can be put in place in an environment where output is never evaluated by consumers in a market. A failed venture or course of action, however, will result in embarrassment for actors within both public and private bureaucracies. The fact that a specific magnitude cannot be placed upon the action in the public bureaucracy does not preclude consequences for the actor. The result is that, while actors within both public and private bureaucracies will wish to avoid the downside of failure, there is no upside to risk taking (the prospect of reward) in the public variety and therefore a systematically greater aversion to risk. This is only exacerbated by the fact that the targeted outcomes of many policies could well not be achieved for a plethora of reasons that have nothing to do with the policy pursued.

Given the extent of the knowledge problem in government bureaucracies, Tullock contends that the correctness of a decision will most often be based not on the unmeasured or unmeasurable results but rather upon the extent to which the reasoning behind a decision seems reasonable and defensible to a superior. Subordinates therefore make decisions based upon what they know about the knowledge held by their superior (since this is the information that will be used to assess the correctness of their logic) rather than the full information set at their disposal.

This phenomenon results in a characteristic of bureaucracy contrary to the common perception—information flows from the top down rather than the bottom up.

Mechanical Problems (communicating orders)

In his exercise *whispering down the lane*, Tullock illustrates the simple mechanical difficulties of transmitting even simple messages through multiple layers of hierarchical structure. As in the familiar children’s game of telephone, repeat transmission of a message often results in a thoroughly muddled or unintelligible end result. Add to this an extended decision or approval structure with constantly shifting personnel and the mechanical problems of communication. Such mechanical difficulties help explain the bureaucratic obsession with multiple submissions, record keeping as well as the slow pace of change and action within bureaucracies.

Table 1: The Impact of Additional Workers on Total Man-days

Number of Levels	Number of Persons	Total Man-Days	Total Direct Output	Total Direct Action as Per Cent of Total Man-Days	Direct Action Output Useful to A*		
					Total	Average Per Person ^a	Marginal Gain Per Person Added at Lowest Level
1	1	1.000	1.000	100.0	1.000	1.000	1.000
2	4	4.000	2.500	57.5	2.275	0.569	0.425
3	13	13.000	7.000	53.9	5.718	0.439	0.382
4	40	40.000	20.500	51.3	15.012	0.375	0.344
5	121	121.000	61.000	50.5	39.852	0.329	0.307

* In man-days. This also represents the percentage of total man-days consisting of direct action useful to A. With three levels, it is 43.9 per cent

Reproduced from Downs, 1967, p. 142

To these simple mechanical difficulties must be added numerical or human limits.

Through a mathematical example Tullock nicely illustrates that as the number of subordinates and layers of subordinates increases those at the upper echelons must devote an increasing portion of their time simply to evaluating the performance of and responding to the communications from those under their supervision. This occurs even when subordinates are assumed to act in good faith.

The result is that, though the addition of personnel does continue to increase the amount of work that can be accomplished, it does so at a rapidly diminishing rate. Based on some simple assumptions, in a hierarchy five levels deep incorporating 121 total individuals the addition one additional person at the lowest level adds less than one-third of a man-day of output to the organization.

This analysis is in many ways similar to that of Parkinson, though stated with less asperity. In effect, the addition of new layers to a bureaucratic hierarchy does not necessarily add appreciably to the productiveness of the bureaucracy. Tullock contends that although Parkinson's Law is rampant in modern American and European bureaucracies, historically it has not posed such a problem.

The cause of the ascendancy of Parkinson's Law in the modern age is, according to Tullock, due to the practice of compensating bureaucrats according to the number of individuals they supervise and this practice is, in turn due to the ignorance or indolence of the top echelons. He maintains that historically, bureaus were arranged around specific functions to be achieved and funds were granted for the achievement of these functions. The head of this department was then permitted to use the resources as they saw fit and

evaluated according to results.

That this explanation is directly at odds with the discourse on the knowledge problem of public bureaucracies goes unremarked. Nonetheless, this train of logic does provide a prediction: as it becomes more difficult to acquire measures of performance (or as they become less reliable) greater reliance will be placed upon measuring according to the number of subordinates (or other measurable aspects of bureaucrat output) and Parkinson's law will become more relevant—in other words, bureaus will expand more and more rapidly leading to a steady increase in the size of government to little effect.

Incentive Problems (seeing that orders are carried out)

To these mechanical difficulties must be added the self-interest of subordinates. If these individuals have preferences (as they must) they will at times disobey (or neglect to carry out) orders from above if there are no consequences.

Therefore, there must be consequences if the addition of additional levels to the hierarchy is not to result in a diminution in output rather than the modest but still positive increase discussed earlier. Tullock largely leaves aside the question of consequences to focus instead upon the requirement that for there to be consequences, superiors must have access to a flow of information about subordinate performance.

The preferences of subordinates will obviously not always be those of the sovereign or superiors. When a hierarchy is only two levels deep this introduces problems of intentional distortion and misinterpretation. Once subordinates have wishes of their own the precise transmission of orders down and situation reports up is not a sufficient

guarantee of effective administration. Self interested actors will instead either intentionally misconstrue, selectively interpret, or even completely ignore orders. This problem is also present in a multi-level hierarchy but there is then the additional problem of amendment. When there are middle layers to the hierarchy, each level can add to or subtract from the message as it moves up or down the chain of command to further their own personal agenda. In all cases there remain the knowledge problem and the mechanical difficulties of communication. The result of these difficulties is that the superiors must have mechanisms to combat these difficulties. Tullock presents five primary such strategies: statistical monitoring, measuring performance, cost accounting, the use of alternative information networks, and reservation of specific decision areas for the sovereign.

Statistical monitoring is primarily a means of dealing with the volume of information. If superiors had to examine each decision of their subordinates they would be left with no time to formulate policy orders to be carried out. Therefore, they must of necessity sample only a portion of actions taken and punish or reward according to performance in these actions. Tullock points out that this will be ineffective if the actions used for evaluation are predictable or known in advance as the subordinates will be free to pursue their own ends in all other areas. Moreover, because of the knowledge problem, a poor outcome in an area should not result in immediate dismissal because it is impossible to attribute a failure to achieve the desired end to the means employed. Thus, according to Tullock, there must be some means of evaluating performance over time, of an accretion of judgments on the merit of a subordinate. This raises the difficulty of

maintaining an institutional memory, equally as problematic as the flow of information. Tullock does not, however, address this issue. This can, however, be seen as an additional reason for the avid and extensive record keeping and form collection of bureaucracies.

Despite the general knowledge problem, Tullock maintains that it is often possible to evaluate a bureaucrat's performance according to results to a much greater degree than he assumes elsewhere in his treatise. He emphasizes that, while it is not possible to evaluate the ends a bureaucracy pursues because of the knowledge problem, once those ends are selected the means applied can be so evaluated. This is more applicable for bureaus than bureaucrats as judging the performance of individuals requires that the results of their action be largely separable from those of others within the organization.

Cost accounting as a means of control is used frequently within private corporations and it can be very effective in this arena. However, this requires a caveat: cost accounting can be very effective at measuring profitability. When the goal of a bureaucracy is not profit, cost accounting has little usefulness. Nonetheless, cost accounting can and should be used to some extent when there are (relatively) comparable divisions but should not be the primary valence of evaluation.

The final mechanism provided by Tullock is that of the use of third parties to circumvent the obstacles to transparent communication listed above. These individuals can either be embedded in the bureaucratic structure or exist outside of it. Thus, they can take the form of inspectors general, an internal affairs division, or interested outsiders. Thus, a customer complaints division in a corporation serves two purposes—mollifying dissatisfied customers and collecting information from outside of the organization.

For Tullock, the central problem of bureaucracy is one of information. Orders must be effectively relayed down the chain of command and sufficient information about individual and division performance must make it back up to superiors. The extent to which this communication is effected will determine both the limits to which a bureaucracy can expand and the effectiveness of said bureaucracy at achieving the ends that have been set for it.

Downs

Anthony Downs's discourse on bureaucracy follows many lines similar to that of Tullock and the two were written contemporaneously though Tullock's treatise appeared two years earlier. Therefore, greater notice will be taken here of areas of disagreement or amendment than of those of accordance. Downs echoes many of the points that Tullock makes. He, too, focuses on the difficulty of information transmission but his work contains an additional layer of both complexity and clarity.

Downs permits heterogeneity among his bureaucrats and spends a considerable amount of time discussing four different types. In this respect he captures, in more methodological fashion, the points made by Parkinson in his chapter on pensions and retirement. (Parkinson, 1957, pp. 101-113) While this discussion is doubtless useful for the analysis of the individuals within a specific bureaucracy, they are of far more limited applicability when examining bureaucratic structures. Moreover, Downs concedes that the various types tend to exhibit similar observable behavior at the end of the day.

Downs refines the discussion on the ability to measure a bureau's output with the

insight that the definition of the objective output is endogenous to the bureaucracy. It is, in fact, one of the larger tasks for a bureaucracy to establish the nature, quality, and quantity of output. Thus, it is simply not possible to know, *a priori*, what a bureaucracy's optimal output is. The upshot of this is that there will inherently be inefficiencies in a bureaucratic structure but that it will be impossible to establish what the inefficiencies are. This point can be seen as an extension of, and addition to, the knowledge problem as discussed earlier.

Downs also turns the standard argument for bureaucracy on its head. While Tullock focuses exclusively on the difficulty of coordination running from top down, Downs tenders the theory that superiors are, in fact, desired by and employed by their subordinates. Obviously this cannot be a direct parallel to the theory of Alchian and Demsetz (1972) as the individuals that Downs is addressing are not producing a good for the marketplace. However, there are similarities. In this case, rather than monitoring shirking, supervisors are retained for their ability to resolve conflicts between divisions. This, of course, assumes some interdependence of workers actions but this is effectively implicit in analyzing bureaucracies.

As bureaucracies grow ever larger, there is an ever-increasing need for individuals to resolve conflicts. This imposes a new limit on the size to which a bureaucracy can grow. Similar to the diminishing marginal addition of an extra layer to a hierarchy, there is a point at which it is impossible for a superior to marshal the knowledge necessary to resolve those resolving conflicts. At such a point, decisions become effectively arbitrary and the addition of a new layer can be obviated with the purchase of some dice.

For Downs, there is a fundamental asymmetric distribution of information that drives the structure of any bureaucracy. The officials at the top levels of an organization have far greater knowledge of what the organization is doing than those at the bottom. The bottom level officials, however, have far greater knowledge of the specific actions being taken in their bailiwick.

These two points, the role of superiors as conflict resolvers and the distribution of information, mean that for Downs the issue is not nearly so much one of top down control as it is a larger issue of coordination.

In Downs' theory, there is a life cycle for bureaucracies. First comes establishment, when there is a relatively high caliber of employee as well as zeal for the organizational mission. Next is a period of expansion. As the bureau grows, more resources are devoted to internal politics and more embedded and extensive mechanisms of subordinate monitoring, record keeping and communication. Towards the end of this period, the ablest staff begin to look for other positions. Finally comes decline or stagnation. At this point, it becomes impossible for those at the top to marshal the knowledge needed for conflict resolution, the communication and control mechanisms require more resources to maintain than the benefit they produce, and often, other smaller bureaucracies seize portions of the languishing bureaucracy's responsibilities. Despite this, bureaus are seldom fully eliminated since older bureaus typically both command greater resources than their younger fellows and allocate a larger share of their resources to survival rather than to carrying out their mission. Generally, therefore, there is a ratchet effect to bureaucracies—they exhibit a tendency to expand but seldom contract.

While Tullock alludes to the importance of third party communication and external communication networks, Downs fleshes the story out significantly more. First, he indicates that, despite the establishment of extensive formal communication networks, those bureaus that work in extensive cooperation with one another will tend to use informal or what Downs terms subformal networks. Those bureaus in conflict, on the other hand, will rely almost exclusively on formal networks. The higher up an individual is within an organization, the greater will be their reliance on informal and third party communication networks. They will also rely on bypassing the middle layers of the bureaucracy when accuracy is crucial, even though this will discomfit those middle layers. In something that shall be of interest in the following chapter, Downs also contends that officials will add subordinates and extend their control infinitely—as long as they do not bear the costs of such expansion.

Downs and Tullock, therefore, focus almost exclusively upon the flow of information. Both assume that some easy and straightforward means of punishing rogue subordinates exists and that the key problem is managing the flow of information. Information fills a central role in Mises theory as well. The next step is to examine the implications of these theories for the age of European empire. What does this give us in the way of a *how*?

Empire

Of the theories presented above, only Parkinson and Tullock comment directly upon the bureaucratic structure of the Empire and only Tullock provides a real theory of

the management of the empire through bureaucracy. Nonetheless, all bear upon the question of empire. Before turning to the implications of the theories, an examination of Parkinson and Tullock's specific statements is presented.

Parkinson's subject is explicitly the United Kingdom and certainly includes the empire. The picture he paints, both in his original article and his 1957 volume expanding upon it, is one of bureaucrats running unchecked, of bureaucracy stifling effective management and innovation, of a top heavy and sclerotic structure. This is hardly surprising given the bureaucratic structure in place had been going for well over 100 years by the time of his writing. This would place it well into the period of languishing described by Downs. Moreover, as will be discussed in the next chapter, the expansion of empire, at least in the case of the British, did not follow Parkinson's Law. This hardly means that it is not a useful nostrum but does indicate that there were other forces at work. In the end, it appears that Tullock was right on this point: Parkinson's Law has more relevance in the present age than it does for bureaucracies of the nineteenth century and earlier.

Tullock makes two specific comments about empire, both about the British. First, he states there was no reason for the British to expand as they did, no plan to the empire. In his words, it "just grew." (Tullock, 2005, p. 167) He specifically alludes to the fact that some territories in Africa were administered by the Foreign Office, while others fell under the purview of the Colonial Office. More will be said about these offices in the next chapter but it should be noted that there is a seed of truth to Tullock's contention, although the specifics he lays out are not the best case for his position. The Foreign

Office did, in fact, administer territories in Africa and elsewhere around the globe. However, this was not an arbitrary allocation of responsibility. In point of fact, the Foreign Office was charged with those areas that were governed by chartered companies. Once a territory was incorporated formally as a colony or dominion, responsibility devolved to the Colonial Office.

The better case for Tullock's point is the origins of the Colonial Office itself. Until 1854 it was merely a sub-department of the War Office. Nobody even claimed to understand why this should be so and it was at the behest of the War Office itself that the Colonial Office was hived off as its own separate entity. Of course, while this is an example of Tullock's point, the structure was eventually rationalized, which would effectively belie his position.

Second, he claims that there was effectively no effort made to impose the will of London upon the colonial governors. He asserts that, instead, the British relied almost entirely upon common culture, upon a shared view of what was expected of a governor and what was right. This sense came, he says, from everyone having attended the same schools some thirty years earlier and this, combined with a personal knowledge of many if not most of the other bureaucrats, rendered it unnecessary to monitor or formally impose a central will upon the governors.

Again, there is some truth to this contention although the specifics are a bit askew. The extent of truth, however, depends upon the period under consideration. In the early period of the British Empire, the majority of governors were drawn from the aristocracy. In effect, blood was used as a bonding mechanism and much of what Tullock describes

applies.

In the latter period, however, there was far less homogeneity than is often supposed. Governors came from a host of sources including the military (where they were clearly inculcated with a common culture) and some from the public schools (which are, in fact, elite private schools). However, while the top five schools did dominate for members of the British parliament, they did not for individuals in the colonial service. There were nine schools originally viewed as *the* public schools (Charterhouse School, Eton College, Harrow, Merchant Taylor's School, Rugby, Shrewsbury School, St. Paul's School, Westminster School, Winchester College) but there were a number more beyond these where future governors attended which certainly would not have led to extended and reliable personal relationships. Moreover those schools were not explicitly training grounds for colonial service and, while those who attended likely acquired a similar sense of what constituted proper behavior, it is improbable that these schools also granted them all a similar administrative acumen. Finally, the governors of the nineteenth century came from a variety of backgrounds and regions and were therefore unlikely to have shared a common culture at the outset. Thus, it is possible that the public school culture diminished gross malfeasance to some extent. It seems highly improbable, however, that it obviated the need for an effective decision-making and information transmission process.

Extensions

What then can be extracted from these theories that is applicable to the practice of

empire?

1. *The ends of empire:* Bureaucratic structures are a means of achieving an end. While they have a role in determining the bundle of goods produced (quality, quantity, etc.) there is no way of determining from within the structure whether the goods should be produced at all. There must, therefore, exist a *why* prior to a *what* if there is to be any rational organization of bureaucracy. This *why* was the topic of the previous chapter.

2. *The importance of information:* The transmission of information is a primary difficulty for bureaucracies. For hierarchical organizations to function there must be structures by which orders can be relayed downward as well as upward.

In addition to these general points, Downs puts forth sixteen laws that flow from his model. Of these, seven are of particular relevance for this analysis.

3. *The Law of Increasing Conservatism* states that “All organizations tend to become more conservative as they become older, unless they experience periods of very rapid growth or internal turnover.” (Downs, 1967, p. 262) This law helps to explain why the institutional structures put in place initially in colonies, if instantiated effectively by bureaucratic structures, would not disappear with the advent of quinine and other medicine and public health efforts which resulted in a normalization of settler mortality rates. In a corollary to Buchanan and Tullock’s constitutional moment there is what can be construed as a bureaucratic moment when rules, regulations, and procedures can be established or altered to fit the prevailing conditions. Beyond a point, however, the bureaucracy, and the structures put in place to aid monitoring of subordinates and to combat the difficulties of information flow render it very difficult to modify those same

rules, regulations and procedures.

4. *The Law of Imperfect Control* states “No one can fully control the behavior of a large organization.” (Downs, 1967, p. 262) This implies that no matter how effective mechanisms of control of subordinates and transmission of information are, there will still be instances of subordinates engaging in malfeasance.

5. *The Law of Ever Expanding Control* is that “The quantity and detail of reporting required by monitoring bureaus tends to rise steadily over time, regardless of the amount or nature of the activity being monitored.” (Downs, 1967, p. 262) This implies a monotonic increase in the volumes of communication and regulations over the lifetime of an empire.

6. *The Law of Free Goods*, that “Requests for free services always rise to meet the capacity of the producing agency,” (Downs, 1967, p. 262) means that governors in colonies will be requested to provide goods, be they financial, legal, or infrastructure, to the inhabitants of those colonies until all resources allocated for doing so are exhausted. This implies two subsidiary points. First, that any bureaucracy tasked with administering an empire will find the requests for goods exceeds their means and second, that the cost of administering territories will rise over time.

7. *A mechanism for punishment*: In addition to effective information transmission, there must be a means of punishing those bureaucrats who pursue their own ends in contradiction to those mandated by the sovereign, and of rewarding those who perform diligently. Downs and Tullock focus primarily on the difficulties of eliciting and transmitting the necessary information for performance evaluation and largely neglect

fleshing out a mechanism for punishment once there is sufficient information. Tullock does suggest the use of a simple performance pay but does not, however, develop the thought very much beyond saying that it should be possible to raise and lower pay or otherwise use “the carrot and the stick.” (Tullock, 2005, p. 400)

The commonality of colonial bureaucracies, then, depended upon whether governor performance actually mattered or not. In order to effectively instantiate the differing institutional regimes that it was sensible for the sovereign to put in place according to the logic of the previous chapter, the bureaucracy of empire must also have exhibited systematic variation.

Governor performance was far more important in the areas where productive institutions were to be established. “Productive institutions” are a complicated web of interlocking pieces. The difficulty lies in unleashing the protective and productive but not the predatory capacities of government. In effect, rent seeking had to be kept in check in the productive colonies and a diversity of interests balanced. Governors, who had immense power, could effectively bind their hands and the hands of others in the territory. They were the ones who rendered the institutional structure durable by using that power to constrain rent seeking by those in their colony. With that same power, however, they could break any bonds placed upon them. Their hands had, therefore, to be bound by others in the hierarchy. Therefore, since careful judgment and judicious action on the part of governors was essential, the flow of information upwards for the sake of monitoring was clearly important.

In territories where it was sensible (from the sovereign’s point of view) to establish

extractive institutions, the governor played a much lesser role. In these areas it was only the protective (some level of dispute resolution between those engaged in extraction) function of the state that was necessary and this would fall largely to a judge. Extractors could (and often were) left to build their own roads and ports, as the collective action problem was much smaller or non-existent. As long as governors were limited in their ability to draw on the exchequer of the home country for funds (Mises budget constraint), rent seeking could be permitted to run rampant in these territories. This would mean that governor performance, and the concomitant punishment and information mechanisms could be largely, if not entirely, foregone.

The colonial bureaucracies, then, should have implemented extensive communication structures and effective punishment in areas with productive institutions and left the governors in territories with extractive institutions largely to their own devices. This still leaves the specification of a punishment mechanism unresolved, however. Tullock's suggestion of adjusting wages, of using a carrot or a stick, is a good place to start. The question is, how was this done?

Punishment

Most often in bureaucracies, a salary rate is associated with a rank or position rather than adjusted according to performance. This should hardly be surprising given the often insuperable difficulties associated with effectively measuring output. Therefore, most of the reward system has to be handled by promotion, demotion, and dismissal, with promotion yielding higher pay.

This indicates that in colonies where productive institutions were being enforced governors should have been paid systematically more than in territories where extractive institutions were the rule of the day. The next chapter will examine in greater depth the precise nature of this salary differential. It should be noted here that this pay differential is the opposite of what would be expected if the reasoning in this and the previous chapter did not hold: notably, a salary differential in the opposite direction, compensating governors for mortality risk.

If there was no attempt to control governor behavior, or, more precisely, no attempt to control governor behavior in a systematically different way between high and low settler mortality regions, governors serving in high mortality regions should actually have been paid significantly more than those in low mortality areas. This would have been the case since otherwise the governors serving in high mortality areas would have been making significantly less than their contemporaries once their compensation was adjusted for the risk of death and it would have been difficult if not impossible to staff these posts.

Therefore, were the theory explaining empire laid out to this point incorrect, if the empire “just grew,” it would stand to reason that governors serving in high mortality territories were paid systematically more than their counterparts in low mortality zones.

Trend

The analysis contained in chapter one requires the choice of institutions at the beginning of empire to be durable through time. The high settler mortality rates of some areas, however fell dramatically over time with the advent of quinine and other medical

and epidemiological advances. By the early twentieth century, settler mortality had effectively normalized throughout European empires. At this point it would have made sense to change the institutions of all colonies to be productive institutions. This did not, however, occur. The preceding models provide an explanation for this.

Most of the bureaucratic structure of empire was not fixed in place until the early to mid-nineteenth century. This meant that there was a bureaucratic moment at this period when it was possible to adjust the compensation and other administrative structures to match the local conditions. Over the next half-century the bureaucracies of empire developed an accretion of policies and formal structures that were essential to overcome the host of information problems that so occupy Tullock and Downs, structures necessary for the effective administration of the empire and for the maintenance of the institution structures themselves. Therefore, once the differing mortality rates that underlay the choice of institutions converged, it was no longer possible to adjust the administrative structures to conform to the changing conditions. Thus, the very *how* of empire, the bureaucratic structure, explains not only the differing institutions but also their durability.

Conclusion

Bureaucratic organization was the means by which the institutions selected by the sovereign were instantiated. It was also the means by which they were perpetuated and explains their durability. Due to the lack of a market test for bureaucratic output and inherent human limitations and incentive problems, the flow of information was highly important for colonial bureaucracies. This information was used to transmit orders and to

evaluate bureaucrat performance. The analysis in this and the previous chapter provides predictions for the administration of the European empires, namely that:

1. Governors in low mortality colonies were paid systematically more than those in high mortality countries.
2. Significant resources were devoted to the development and maintenance of communication networks.
3. These networks were more developed in low mortality colonies and in these colonies focused more upon eliciting and transmitting third party and extra-bureaucratic communication regarding governor performance.
4. The number of formal regulations and procedures increased over time.

The next step is to examine the extent to whether the historical record complies with these predictions. This is taken up in the next chapter with an in depth examination of the British Empire.

CHAPTER 4: THE BRITISH EMPIRE

The British territorial acquisitions beyond the bounds of the beautiful isle, starting in the 1600s and continuing through 1997, constituted one of the most renowned empires in history, second perhaps only to the Roman empire. The 19th century saw a drastic expansion of the British Empire. Between 1815 and 1914, around 10,000,000 square miles (25,899,881 km²) of territory constituting over one-sixth of the world's land and roughly 400 million people were added. (Parsons, 1999) The claims about the British Empire are also extensive. Historian Niall Ferguson concludes his treatise on empire by saying that "...there is good evidence that the imposition of British-style institutions has tended to enhance a country's economic prospects." (Ferguson, 2002, p. 306) Economist Deepak Lal also penned two volumes, the first *In Defense of Empire*, and the second, *In Praise of Empire* whose titles are indicative of Lal's position. Both are focused on the laudatory impact of British rule rather than upon the impact of empire generally.

It is thus fitting that the focus of this chapter, comparing the historical record with the theoretical predictions from the previous two, should also focus its gaze upon the British Empire. The previous chapter closed with a summation of those predictions and the following pages shall take these up in detail. The structure of this chapter is as follows: first, a more detailed elaboration of the bureaucratic structure of the British Empire; second, an examination of (roughly) contemporaneous private mechanisms

designed to overcome agency problems; third, the extension of the predictions of chapter two in light of these mechanisms; fourth, the presentation of the original data set constructed to examine these questions; fifth, the presentation of the empirical results; and finally, conclusions.

The bureaucratic structure of empire

The British Empire was a far from homogeneous unit, although it is often treated as such. In addition to extreme geographic variation--both in location on the globe and topography--the constituent elements varied in origin, legal structure, and constitutional form.

Through the 19th century, Britain possessed territory on every continent. With a sixth of the world's surface under their control (we shall return shortly to who "they" were) nearly every possible extreme was represented: from the cool mountainous Himalayas of northern India to the extreme heat on the flat savannah in central Africa; from the isolated island of Fiji, to the clustered West Indies; from the sparsely populated Australia territories where a man could go to be alone, to the crush of Singapore and China. Different sections of the empire were governed by very different bureaucratic structures, and had very different populations and histories. Some territories had extensive coastlines, safe harbors, and miles of navigable waterways. Others were landlocked with nary a stream large enough for a canoe, let alone a steam paddler. The advent of the railroad was a boon for many but in some construction of a line meant the prohibitive expense of importing the ties, as there simply was not sufficient timber in the

area.

It was the bureaucratic structure of the empire that created commonality between these disparate regions and created continuity and stability. In terms of official governance structures, however, even here there was variation. Broadly speaking, British colonies were of two types: those that had, in the official language of the empire, "responsible government" and those without.

On the one side were the dependencies, those territories without responsible government. Responsible government was the official term for devolution of power over domestic affairs to the colonial inhabitants. This was where most of the territories started their tenure under British rule and where a number remained for the entirety of their time.

On the other side were those areas with responsible government. This was not a binary parameter but instead came in degrees. Under this structure London (formally "the Crown and its representatives in Parliament") appointed the governor but could no longer veto domestic legislation, although they still retained a large say in national defense. In other words, local representatives were elected by the local inhabitants to manage the affairs of state--to tax, spend, and coerce. They were constrained by a governor who was at times all powerful, at others had only an advisory capacity and in still other cases was himself selected by the local populace and who thereby served as the executive branch more than as a representative of the Crown.

These territories were administered by very different bodies. India, the territory taken over by the British East India Company from the Dutch East India Company, and the princely states added subsequently on the subcontinent, were administered from

London by the Indian Office after 1858 when the territory was formally incorporated into the Empire. Territories under the control of the other Royal Trading Companies fell to the charge of the Foreign Office, and the remainder of the empire reported to the officials of the Colonial Office—the administrative body that is central to this chapter. The Indian, Foreign, and Colonial Offices had very different cultures, rules and regulations, and places within the British political system even though the Secretary of State was officially responsible for all colonies.

The Bureaucracy

Thus, despite the apparent commonality and continuity, there were three different bureaucratic bodies responsible for the effective administration of the British Empire. The Indian Office was solely responsible for the administration of India. The colonial responsibilities of the Foreign Office were almost an afterthought in comparison to the regular business of the office. As a result, most chartered companies were left largely to their own devices with the Foreign Office intervening only when pressured by the companies themselves.

The Colonial Office, the bureau in charge of the lion's share of the empire and the focus of the empirical analysis below, was itself originally an afterthought. It was tacked a division of the War Office and was not hived off until 1854. There was never any rational justification as to why it should be so attached and there was, in point of fact, considerable bemusement on the part of the officials within the War Office.

This portion of Colonial Office history does, in fact, conform to Tullock's

contention that the Empire "just grewed." All three Offices had very different cultures, rules and regulations, and places within the British political system. However, all were responsible to the Secretary of State and thereby to Parliament. Thus there must be some discussion of the larger system of control within Britain.

In the Parliamentary structure of Britain at the height of empire in the nineteenth century there were significant checks in place and stark bureaucratic rivalries between divisions. The Colonial, Indian and Foreign Offices were responsible to Parliament for their respective territories and the heads of these offices had strong incentives to ensure their effective management. Precisely what constituted effective management, however, was far from settled.

As noted by Mises, unlike in the private sector there were no profit and loss statements or clear production targets against which to measure an office's performance. Nor was it even theoretically possible to produce such statements. It was an extreme case of a multi-tasking problem wherein an individual or division is responsible for more than one activity or action and where the pursuit of one of the actions/activities may countervail the other(s). As noted by Tullock and Downs variously, even in the typical market setting, stockholders have difficulty evaluating the performance of a CEO even with a profit and loss statement. This is the case because it is often unclear whether the executive exerted optimal effort along each relevant margin. Stockholders often resort to explicit performance contracts to resolve this problem. By making managers residual claimants in a firm's profit to a greater extent managers will, in theory, be motivated to allocate their effort effectively between actions/activities.

In the case of the British Empire, there were six margins of interest, six targets for the head of a bureau. Some were explicitly fixed while others were simply understood. They were: territorial integrity (or the effective resistance to foreign powers' encroachments); extent of peace in a region; pacification of indigenous populations; contentedness of European settlers and traders; contentedness of the home country elite; and net contribution to the British treasury. Obviously, these were countervailing goals and it was often impossible to achieve two or three, let alone all six simultaneously. Resources devoted to pacification of the native population could not then be used to defend against foreign aggression. Satisfaction of settler interests might only be achieved by seizing the indigenous population's land and property and transferring it to the settlers. Settler and trader satisfaction certainly increased when they were recipients of subsidies while pursuing such policy could result in a disgruntled home country population as well as an impoverished Treasury.

Viewed through the lens of North (2008), the sovereign allocates rents in order to stabilize an elite coalition and thereby maximize the longevity of the current regime. The implication, then, is that the most important goal would have been contentedness of European settlers, traders, and merchants. This was the case since these settlers, traders, and merchants were the recipients of the rents and the entire purpose of the exercise would be undermined if these rents were unnecessarily eroded. Second in importance was the contentedness of the home country elite. Those members of the England resident elite with large commercial interests in the colonies are considered to be included in the "settler/trader/merchant" category. Settlers, traders, and merchants would be very

displeased when the territory failed to resist invasion and contentedness increased directly with internal peace (although disagreement could certainly arise over the means to achieve this--both subjugation and cooperation were options and settlers' preference over means may well have diverged depending on the factor endowments).

Given the conflicting demands placed upon resources by these goals and the lack of a market test it is difficult to see how an effective pursuit of any of them could be affected by one administrative body. It is hardly surprising then, that in point of fact, it was not. Responsibility for most of these goals was split between other groups. The War and Naval Offices were held responsible for territorial integrity while the Treasury Department was responsible for the state of the exchequer. Moreover, the home country elite was embodied in the Secretary of State to which the Offices administering the empire reported and the Secretary of State was himself responsible to Parliament. These Offices reported directly to Parliament at least annually and often more frequently.

Both Tullock (2005) and Downs (1967) predict something akin to this structure. Tullock contends that Parkinson's Law did not run rampant because British bureaus were organized around specific tasks and scrutinized according to how well they carried them out. Certainly overall financing and budgetary decisions must be separated in order that there be any restraint aside from eventual collapse. Tullock is largely correct, therefore. Nonetheless, it is hard to see how, for example, the War Office was functionally evaluated in their success of achieving territorial integrity as there remained the question of to what their performance was to be compared. In point of fact, the ends that these bodies were charged with were hardly clearly delineated or defined.

Downs theory, however, does provide rather more satisfaction here. He proposes that when it is difficult to monitor the output or effectiveness of a bureau and when there are overlapping tasks, the ideal strategy is to establish different sub-bureaus, each responsible for an aspect of the outcome and each competing with the others. These subdivisions can be made to monitor one another and to compete with each other to a fairly large extent. The downside is that for output or tasks that require high levels of cooperation or communication between bureaus, such a competing structure effectively destroys goodwill and the ability to produce at all.

In the British case, the task of maintenance of empire could effectively be split and some overlap permitted. Under this structure, defense of borders and budgetary planning was taken out of the control of the Colonial, Foreign, and Indian Offices. This left these bureaus effectively trading off two things: contentedness of the local elite and embarrassment of the exchequer or of the Secretary of State.¹ Embarrassment occurred as a result of failure along two margins: failure to keep the home country elite happy and failure to control expenses. There were, therefore, three margins in play for the Offices but given the diminished saliency of colonial policy among the domestic population, the main two issues facing the Offices were keeping expenditures down (i.e. keeping the total moneys expended by the Office within the bounds set by the exchequer) and keeping the local (European) population happy.

This system of checks and competing interests in no way guaranteed an effective resolution of the multitask or principal agent problems. However, in the absence of a

¹ Obviously, the Foreign Office had additional tasks and outcomes of concern in addition to these two.

market test and a means of imbuing the Office head with residual claimancy,² this was one of the only means of mitigating the problem.

Parkinson Falls Flat

This understanding of the structure of the competing bureaucracies has an added benefit in that it can explain an apparent anomaly of the expansion of the Empire. During the nineteenth century, the Colonial Office consistently resisted efforts to expand the number of colonies—both the total number and the number under its control. Under standard assumptions (Niskanen, 1975), bureaus work to maximize their budget, their influence, or both. Thus, the reticence of the Colonial Office to expand its sphere of control requires explanation.

Under the British system of colonial administration, agents (usually governors) in the field were advanced some money for official expenses. For large expenditures and for any additional outlays, they were required to seek the advice of the Office in London. However, due to lengthy communication, they were permitted to make payment prior to receipt of London's approval. If, however, such approval was not subsequently granted the agent was liable for the full amount of the outlay. There was thus an obvious tradeoff between expediency and monitoring.

Periodically, and at the end of their tenure governors were required to present their accounts for approval. These accounts were vetted and any charges deemed unacceptable

² Some early governors were paid in land grants but this procedure was not followed in the latter period of empire, partially because such endowments could generate subsequent conflicts of interest when the governors were assigned to other colonies. Thus, although residual claimancy was tried for governors, it is difficult to even conceive of how a similar incentive structure could even have been tried for the head of one of the offices.

were either deducted from remaining pay or, if there were insufficient funds, returned to the governor for payment. An immense amount of communication between London and the colonies involved discussion and debate over whether expenditure was allowable.

Relatively few charges were disallowed. This was not because of constant upright behavior on the part of the governors but rather a conscious decision taken by those in charge at the Colonial Office. They recognized that rampant disallowal of charges would have a marked negative impact upon the behavior of their other agents. The logic ran that if the agents were constantly worried or uncertain as to whether something would be covered or not they would be, in effect, paralyzed. Better then, to chastise but pay, although in extreme cases or when dealing with particularly recalcitrant governors they did disallow charges, sometimes of very large amounts.

The Treasury Office had no such compunctions. Just as the Colonial Office could disallow charges made by their agents, so the Treasury could disallow charges made by the Colonial Office. Thus, there were instances where the Colonial Office found its estimates³ effectively gutted or found it necessary to cover a charge they had approved from other areas of the budget once the Treasury disallowed it. There was constant wrangling between the Colonial Office and Treasury over these issues. However, the disputes fell into a pattern. Colonies were sufficiently different that different expenses were felt to be acceptable for each. Thus, what might seem an unnecessarily lavish expense in Gold Coast might not be so in British Honduras. Moreover, over time, what was and what was not acceptable fell into a pattern within a colony and expectations

³ This term refers to an Office's or Bureau's requests for funding.

converged.

Here then lies the solution to the puzzle of why the Colonial Office regularly lobbied against colonial expansion that nonetheless conforms to a budget and influence maximizing organization. Given that the Office needed to cover expenses disallowed by Treasury from other sources, and given that there was a greater likelihood of disallowal in the years immediately following a colonies' acquisition, the Colonial Office could best maximize its budget in the short-term by retaining mature and established colonies and rejecting new additions. While it is true that in the long-term the Office could do better, they would have to go through what was, in effect, a budgetary contraction to get there. For the head of the Colonial Office, this would only make sense if they had a significantly long enough tenure ahead of them which most did not.

This combination of theories, then, largely explains the historical record in terms of the overall bureaucratic organization of the British Empire. What, then, of the specific mechanisms used to stimulate governors to good behavior? Chapter two provided four characteristics to look for in the historical record: higher wages in areas with low settler mortality than in high mortality; greater investment in communication networks and in third party input in areas with low mortality; a lack of response to changing conditions and ossification of the bureaucratic structure with the subsidiary expectation of increasing formalization and regulation. Here it is informative to cast the net a bit further afield.

Private Mechanisms

While the bureaucratic structure of the empire is clearly not fully comparable to

private administration, it is nonetheless instructive to examine what solutions private groups developed when facing this same problem. Two that provide insight are the Hudson Bay Company and the Royal African Company.

The Hudson's Bay Company

The Hudson's Bay Company (HBC) was established by royal charter in 1670 and was granted a monopoly on trade in and around the Hudson's Bay in North America. The main goal was the acquisition of furs that were in high demand in the European market and put to a host of uses.

The stockholders in London were well aware that there existed a serious agency problem and that those running the trading posts might well not look out for their interests. Mainly at issue was the very real possibility of agents trading on their own behalf while their costs of living, transport, etc. were subsidized by the principals. Thus, agents might neither exert as much effort for the principals as the principals would like nor as much as was their contracted agreement.

Even more problematic, the agents might well trade for the best furs themselves leaving the company with the lower quality pelts. In the worst case scenario for the stockholders, the agents might acquire at high cost the best furs with company resources (usually trade goods--beads, metal goods like knives and such, and provisions) and then take these high quality furs for themselves, substituting low quality pelts that the agents acquired with their own resources.

The principals of the Hudson's Bay Company sought to mitigate this agency

problem in a variety of ways. At times they banned private trade but enforcing this ban proved problematic. They sought to use the formal contract structure by paying high salaries for their agents thus rendering dismissal more painful. They required their employees to take an oath, thus tapping into a common cultural idea of honesty and integrity. At times they required agents to post bonds that would be forfeited upon demonstration of, or in some cases suspicion of malfeasance. They also instituted rigorous accounting procedures and inspected all cargo entering and exiting the bay, in an effort to reduce the flow of private trading goods in and illicit furs out--in short, by instituting monitoring structures. Finally, the principals sought to establish a social structure, primarily by hiring individuals with a common culture. By the end, almost the entire body of employees was Orkney men. (Cartradeos, 1990)

The Royal Africa Company

Established in 1660, primarily to engage in the West African slave trade, the Royal Africa Company (RAC) faced similar problems to the Hudson's Bay Company. They sought to overcome them in much the same way. The RAC, however, had the additional difficulty of ensuring the "appropriate" (according to profit maximization) treatment of cargo (slaves) by their captains. It also had the problems of ensuring that the cargo was not sold behind the company's back at the destination in the Indies.

Formal contracts were used and an efficiency wage was paid (Carlos, 1996). The RAC, however, relied much more heavily upon bonds posted by their agents. Seldom was this an actual cash bond up front. Rather, individuals, usually not related to the agent,

would legally state in a public forum that they would pay a specified amount in the event of malfeasance on the part of the agent. These bonds were usually quite high, often amounting to as much as ten times the annual salary of the agent (Carlos, 1996).

The Company also sought to control shipping in and out of the area. Supported as they were by the Royal Navy, they had fair success in this and regularly searched vessels for illicit slaves and trade goods. Ship captains were issued specific, written regulations regarding their shipboard conduct vis-à-vis slaves and were in some cases paid a piece-rate at the point of disembarkation.

The RAC was less successful than the Hudson's Bay Company and that this was largely because of the incidence of disease in West Africa. Almost none of their agents renewed their two to three year contracts. Mortality was high and this continuous turnover effectively precluded either the establishment of a bonding common culture or long-term economic incentives from coming into play.

Predictions

Given what has been discussed thus far and the theoretical predictions, it is now appropriate to explore in greater depth the conclusions from chapter two. This section delves deeper into what is expected in the British Empire.

The Pecuniary: An Efficiency Wage?

Both the HBC and the RAC needed some way to overcome a similar time inconsistency problem faced by the Offices and both used some form of efficiency wage,

paying their agents more than their next best alternative. Under such an efficiency wage, agents are paid more than the market wage in order to create a situation where they lose a significant stream of future revenues if fired, increasing their pecuniary incentive to behave appropriately. (Shapiro, 1984) Agents are paid a certain amount up front and receive an additional amount spread out over time. This structure protects the agents' interests (any *ex post* judgment that their action was not appropriate does not affect the pay already earned) as well as the Offices' (the future payment stream ceases immediately as an agent is fired).

The logic from the previous two chapters does not require an efficiency wage. A simple wage differential between colonies, coupled with promotion or demotion would, in point of fact, allow the establishment and reinforcement of a system that followed the logic laid out earlier. An efficiency wage would, however, have augmented the incentives that such a system of colonial pay differential put in place. The question then is what determines whether or not it is sensible for a bureau to enact such a wage.

An efficiency wage does not provide much benefit for the employer when alternatives to employment are few or hard to come by. In other words, if there is high unemployment rate for individuals with similar skills, if specialized skills are of little use in other forms of employment, or if employment is not difficult to come by but there are long lags between periods of employment, incentives are already well aligned to motivate employees to value their current positions and to avoid dismissal. *Ceteris paribus*, then in cases such as these an efficiency wage is less likely. If, on the other hand the opposite of these conditions prevail then dismissal has effectively no bite and an efficiency wage can

provide the lacking incentives.

The question, then, is which of those conditions best applies to the colonial service in the latter nineteenth and early twentieth centuries. Taking the third criteria first, there certainly would be long lags between periods of appointment, both within the colonial service and for those ejected from it. Transportation times alone could exceed months. Those transferring between stations and in continually employment within the colonial service were paid for that time. Those assuming their first office and those subject to dismissal were not. This is true, however, of both of the companies discussed above and they nonetheless did use an efficiency wage.

On the second criterion, it could initially appear that the ability to successfully navigate the perilous shoals of official bureaucracy would be of use in the private sector (or in other portions of the public sector). Moreover, the connections gleaned from the experience would likely enable greater rent accumulation or acquisition. That said, those contacts may not have been well developed or effective given the outcome (dismissal). Bureaucratic savvy does not, at times, translate well to other environs.

Would an efficiency wage, then, have been the optimal strategy for the Offices in light of their objectives in of keeping the in-country elite happy and expenses down?

In many ways it would indeed have been. Agents in the field were essential in keeping the local European populace content and, secondarily, the indigenous population quiet. There was, moreover, a significant time inconsistency problem between action and observation and dismissal. An efficiency wage would have served to augment the otherwise weak incentives of dismissal or promotion.

In another very important way, however, a strategy of efficiency wages would have been far from ideal: it was expensive. Given the hard budget constraint imposed by the Treasury and the bureaucratic desire to maximize the budget, an efficiency wage strategy would have been problematic.

How then to resolve this tension? If an efficiency wage was, in fact, deemed necessary, the options were to pay a higher salary and have a satisfied colonial constituency but an irate and vocal Treasury, or to permit off-balance funding of compensation packages, thereby improving the Office's position with the Treasury but creating tension with the local populace.

The sensible option then would be to offer efficiency wage level compensation packages in those areas where effective governance was essential (those with productive institutions and low initial settler mortality, with a large local constituency of Europeans who would complain vociferously to London if a governor was not behaving as they desired) and to offer low salaries but greater leeway on behavior in areas with low levels of settlement resulting from high settler mortality rates.

In those areas where there was little to no value in the distribution of subsequent tranches of rents, the behavior of the agent was largely irrelevant--once the high returns from early entry evaporated or the inputs to production had been bid up, the value of a territory for stability of the British social order became very small. If this level reached zero, then a divestiture would have been observed. In most cases this would not occur, as there would be some positive value, even if very small.

In effect, then, we should not see a generalized use of an efficiency wage for all

governors during the nineteenth century. Instead, we should find that *ceteris paribus* representatives of the British Crown were paid more in areas with lower mortality and with factor endowments conducive to productive economic activity than they were in high mortality/low factor of production colonies. Moreover, following this logic, we should find that advances in communication technology resulted in smaller salaries for colonies with low settler mortality rates but had limited to no impact on those with a high risk of settler death.

These countervailing incentive structures provide a more complete explanation for the current institutional variation: in areas where large settler populations developed, the Offices in London had incentives to effectively monitor and discipline, their agents in charge of the political institutions. These agents were disciplined for one of two reasons: either for spending too much or for incensing the local European population. In areas without these populations, there was little need to monitor or control agents and the costly efficiency wage was foregone and the wage was generally lower as well. Moreover, without a large body of settlers, the primary obligation of the governor became minimizing outlays.

As communication technology improved, the time inconsistency problem shrank. With the advent of regular and dependable steam power and eventually to the telegraph, word reached London in much more rapid form, disciplinary action could be taken much more swiftly, and measures taken to remedy malfeasance enacted far sooner than they could have before. Thus, as communication technology improved, the need for an efficiency wage in settler colonies slackened. In simplest form, as the time necessary for

detection of malfeasance falls, the premium necessary to deter malfeasance also falls.

The difficulty with this conclusion is that this conflicts with proposition number three that bureaucracies ossify over time. Thus, an efficiency wage could have been offered in accordance with initial conditions just as pay rates could more generally have been tailored to those same conditions. If the British bureaucracy did indeed ossify, subsequent changes in conditions would have resulted in no subsequent change in wage, efficiency or otherwise.

The hypothesis: The early data for the governor wages should reflect the differences in mortality rates prevailing at the time. If ossification does not occur, then changes in underlying conditions should yield a convergence (to the extent that these conditions converge) of the wage differences. While it seems likely that some form of efficiency wage was used, the extensiveness of its application is not theoretically indicated.

The alternative: The wage data should, in fact, show a reverse trend. A compensating differential was essential to normalize wage rates for the mortality risk meaning that governor pay should have been highest in those areas with high mortality. Additionally, if ossification did occur (more on this in later) the disparities in wages between initially high and low mortality areas should be resilient to advances in communication technology (which shrinks the time inconsistency problem) as well as changes in mortality rates.

Information Networks

Given that governor performance was essential for the maintenance of productive

institutions, effective monitoring (the flow of information back up the bureaucratic hierarchy) was equally more important in areas with low mortality. This information was central to ensuring that the pay structure discussed above was brought to bear when malfeasance or incompetence occurred.

This was not simply ensuring the more rapid communication of the information. While rapidity of communication would shorten the time inconsistency problem it would not solve issues of incompetence (the information conveyed by the agent to London would be equally mistaken) nor malfeasance (the agent would alter their report to hide their errant behavior). Instead, communication networks external to the official variety were essential in settler territories but superfluous in extractive ones.

There were a number of options open to the Colonial Office on this front. First, the office could employ monitors to go to the colony and survey the governors. Of course, this would be subject to the same shortcomings as littered the governor's position. Monitoring the monitors, in other words, would also be problematic although some triangulation would be possible but at considerable expense for an organization seeking to minimize outlays.

It would also be feasible to perform random checks by sending members of the London office to the colony to evaluate governor behavior. This also would have been expensive but likely less so than maintaining a constant presence there. This would minimize the likelihood of collusion but would also yield less information for the Colonial Office.

Alternately, the Office could permit anyone in the colony to submit a report to

London complaining of malingering or malicious governance. This would likely catch the most flagrant and egregious abuses of office but would provide little insight into the general abilities and performance of a governor in their role as enforcer of productive institutions and crusaders against rent seeking. Add to this the not insignificant risk of collusion between governor and governed and this would be unlikely to be the only recourse necessary.

The Office could also establish a competing individual or individuals having some ability to circumscribe the actions of the governor. This individual would also be subject to the same difficulties as a pure monitor. However, such a permanent structure of competing and overlapping bureaucratic interests would increase the likelihood of the right information reaching London.

Finally, and perhaps ideally from the point of view of information, would be a requirement and structure for producing and extracting information within the colony itself, of public discourse and debate over the appropriateness of governor behavior, one that aligned incentives to provide both a rich critique and defense of a governor's policies. Such a structure would also not be without expense but would provide a wealth of insight for decision making in London.

The hypotheses: In low mortality territories there was a much more extensive use of extra bureaucratic information networks. These include hiring monitors for the governors, conducting random site visits, establishing competing bureaucratic networks with their own incentives to check governor behavior, permitting and encouraging citizens reports directly to London and developing a structure for debate and dissemination of debate.

The alternative: There was no differential use of communications networks between low and high mortality territories.

Ossification

Much, if not most, of Parkinson's wit is arranged around the observed tendencies of bureaucracies to become increasingly rigid and formalized over time. Though many view this as a bug of a bureaucratic system it is, in fact, a feature when a bureaucracy is charged with tasks that are best handled in such a fashion. Formalization and rule following are essential particularly as the tasks in hand become increasingly complicated.

This then implies that over time the Colonial Office became less and less able to adjust governor salaries according to prevailing conditions. As discussed in chapter two, there was a bureaucratic moment when incentive structures were established, beyond which changes became exceedingly unlikely.

Ossification also meant that there would be increasing resources devoted to record keeping as well as to formalizing procedures.

The hypotheses: Falling communication times and mortality rates had no impact on governor wages as bureaucratic procedure was effectively locked in place. The extent of formalization will also be reflected in the number of pages of the official publications of the Office that were devoted to regulations and rules.

The alternative: The British bureaucracy was, in fact, far more responsive and far less hidebound than this theory predicts. As a result, salaries were allowed to fluctuate and pages of regulation did not increase.

Summary of Predictions

1. Wages were higher in territories with low settler mortality.
2. There was significant investment in mechanisms for monitoring and communication across the empire but to a much greater extent in those areas with productive institutions.
3. Changes in the underlying conditions did not result in changes in the wage structure as the bureaucracy of empire had ossified. Thus, more rapid communication mechanisms like the telegraph or regular mails, or changes in mortality rates as a result of the discovery of quinine, improved epidemiology, sanitation or antibiotics should have had little impact upon governor salaries.
4. The extent of formalized regulations increased over time.

Data Set

The data used here to examine the extent of use of differential salaries, an efficiency wage, and the expansion and ossification of the bureaucracy are contained in the Colonial Office list while the examination of communication networks is drawn more generally from the historical record. Lists generally were activity reports presented to parliament, usually on an annual basis and subsequently published by the Royal Stationers. They include the Home List (the budget and activities of the monarch), the Naval List, the Foreign Office List and, until recently, the Colonial Office List.

This latter list is the source of much the data examined here. It included such

information as all funds dispersed within a colony (and thus specifies the salaries paid to governors and other bureaucrats), general disposition of the territory, information on treaties or other notable agreements and changes to an area's legal status. There is significant variation in the extent of reporting between colonies, with some listing the bare minimum of information and others providing extensive reporting and analysis. This variation is particularly acute in the first two years in which the List was published (1862-1863) with all territories reporting in the most essential figures reliably by 1864. As a result, the data relied upon for this analysis was collected from the volumes 1864-1910. In the same way that the start date was selected for the reliability of the data, the end date was selected because of the unique characteristics of the war period.

There are two estimates of settler mortality used here. The first are the original figures provided by Acemoglu et al (2001) and the second those revised by Albouy (2008). Estimates are not available for the full data set of all colonies of the British Empire over the period, which significantly decreases the number of observations (2,581 to 1,678). Given the difficulties involved with these figures, mortality estimates are obviously not available on a yearly or even decadal basis. This is unfortunate given that the most direct test of bureaucratic ossification would be a comparison of responses in governor salary to changes in mortality.

Empirical Results

Wages

Was there then, systematic variation between high and low mortality countries in regards to governor pay? At first blush there clearly was. There is a sizable negative correlation between mortality and governor salary (-0.2235 by the Acemoglu data and -0.2010 by that of Albouy) that clearly refutes the alternative hypothesis of any form of compensating differential and strongly supports the prospect of systematic variation based upon the mortality rate among settlers. Controlling for a variety of variables there remains a sizable and significant negative impact of mortality rates upon governor salary.

Before concluding, it is useful to examine some information on the reality of compensation within the British Empire. The pay differential between colonies was significant, the differential between governors and lower officials was also high, and governors' salaries were, on average significantly higher than similar government employees in Britain in the period.

Given the difference in salary between colonies, the medium term incentive that pay provided was simply that of moving to a more lucrative posting, similar to being promoted to a better-paid position in a multi-divisional firm.

A counter to this line of reasoning is that the pay differential was hardship pay, with salary decreasing as the non-pecuniary attractiveness of a posting increases. This hardship explanation is not, however, born out in an examination of the historical record.

Table 2: Comparison of Salaries by Continent (All Ranks)

	In £ Sterling (1910)			
	Mean Salary	Minimum	Max	Standard Deviation
Asia	6,014	4,314	9,600	1,408
Australasia	4,434	300	10,000	2,438
Europe	3,795	500	5,485	1,618
Latin America	3,248	1,798	5,000	1,262
Africa	2,840	450	8,000	1,786
North America	2,744	1,400	10,270	2,488
Caribbean	1,917	200	7,000	1,598

In terms of lodgings, the higher the salary the more sumptuous and comfortable the accommodations usually were. The Nigeria posting had among the most lavish accommodations and the highest pay in Africa, despite having similar incidence of disease as other African territories. The same can be seen in other regions as well. This does not, of course, speak to whether the salaries higher than the domestic equivalent but only to the distribution within the colonial service.

According to Table 2, higher pay did, broadly speaking, accompany harsher living conditions. The colonies in Europe exhibit high salaries, something that hardship pay is clearly not in line with. Moreover, at first glance North America and the Caribbean seem far down the ranking, in part supporting the hardship pay proposition.

However, these areas have a much higher number of lieutenant governors and other administrators of lower rank represented in the data set. Comparing the top group alone, like with like, provides table 3. Here, with the possible exception of Asia, we see a rank ordering and a magnitude of salary that points very clearly in the opposite direction from a story of hardship pay or a compensating differential.

Table 3: Comparison of Salaries by Continent (Top Rank)

	£ Sterling (1910)			
	Mean Salary	Minimum	Max	Standard Deviation
Asia	6,022	4,314	9,600	1,410
North America	5,769	1,438	10,270	3,742
Australasia	4,836	300	10,000	2,340
Europe	3,912	500	5,485	1,750
Latin America	3,771	1,798	5,000	1,369
Africa	3,358	450	8,000	1,888
Caribbean	3,117	400	7,000	1,522

To the extent that attractiveness of locale for a governor matches attractiveness for settlers (and in most cases this was the case) this supports the theory advanced above: the more attractive posts paid more.

Table 4: Mortality and Governor Salary**Dependent variable: governor salary (in 1910 £)**

Mortality (AJR)	-0.48** (0.10)	
Mortality (Albouy)		-0.35** (0.10)
Total Tenure	34.45** (7.69)	35.26** (7.70)
Rank Group	2620.66** (74.55)	2617.10** (74.82)
R ²	0.35	0.35
Observations	2581	2581

***Significant at the 95% confidence interval
Standard errors in parentheses*

A fixed effects model by governor is estimated to control for governor quality, with the results presented in table 4. Here, total tenure is the total length of time an individual has served with the Colonial Office. Rank Group is a dummy to control for the title of the position. This variable has a value of 1 for full-fledged governors and 0 for everything else. From these results it can be seen that settler mortality did indeed have the negative impact upon governor salary and that the data is consistent with the theory established in chapters one and two.

There remains the question of whether an efficiency wage was also used to

augment the existing pecuniary incentives. On this point, there is evidence that, while not definitive, is suggestive of such a strategy.

Table 5: Annual Salaries of British Officials c. 1910 (£)

Title	Salary
Archbishop of Canterbury	15,000
Archbishop of York	10,000
Governor-general of Nigeria	7,500
Bishop of Durham	7,000
Secretary of State for the Colonies	5,000
First lord of the treasury	5,000
Governor, Gold Coast*	4,000
Governor of British East Africa	4,000
Chief of the Imperial General Staff	3,000
Governor of Gambia	2,500
Commissioner of Metropolitan Police	2,500
Governor, Nyasaland*	2,000
County Court Judge	1,500
Director of military operations, War Office	1,500

Source: Gann, 1978, p160

*1913

Obviously, it is impossible to compare like with like in this case and the London corollary to governor is difficult to come by. However, comparing a few of the salary rates of governors with the pay of officials in London, one would have to have been commissioner of police to make an amount on par with the median governor (2464 £). Many governors actually made more than their superior, the secretary of state for the colonies. Having ruled out the prospect of a compensating differential, it is highly probable that there was, in fact, an efficiency wage paid.

What is clear, nonetheless, is that instead of a compensating differential paid to governors at a higher risk of death, governors of low mortality colonies were paid considerably more than their counterparts. This reality strongly supports the use of bureaucracy to instantiate the institutional regime selected by the sovereign. Thus, the pecuniary incentives were in place to provide the incentives in line with the desired behavior. Were there then similar information mechanisms to permit the effective use of dismissal and demotion?

Communication Networks

Did the Colonial Office in fact follow the strategies discussed earlier? In fact, the Office employed all of the mechanisms—and in a way that varied systematically between settler and non-settler areas. The extent to which this was true is taken up below, in order of introduction: full-time monitor, spot checks, citizen appeal, competing bureaucracy, and incentive compatible in-country debate and information promulgation.

Before proceeding, however, a note about the overall administration structure and how it varied between settler and non-settler territories. Those areas acquired by settlement were granted, to varying extents, with some form of participatory government as well as the application of the common law. In those acquired by conquest or cession, on the other hand, there was seldom any allowance for an elected assembly with any authority⁴ and the law was fixed in place as it stood at the time of acquisition. Most of the territories acquired by conquest involved conquest not of other European powers but of

⁴ There were some exceptions in cases of cession.

native peoples and conquest accounted for the majority of this category of territory. Since those areas with large settler populations were deemed to have been acquired by settlement even if this involved the subjugation of a local population, the conquest territories were, by default, those that were unattractive to settlers. Those areas acquired by cession were taken over from other European powers and were invariably of marginal value to that other power, the cession portion of the category also aligned according to attractiveness to settlers. The result was a formal, explicit and systematic variation within the meta-rules of governance. How, then, did these meta-rules align with the specified communication and information strategies?

In terms of the hiring of full time monitors for territories, the Colonial Office did in fact employ such a strategy by employing Inspectors General. These individuals were employed as part of a governor's advisory council (called by a wide variety of names depending on the territory but referred to here by the term cabinet) but unlike the other members of the council, were permitted (in cases of responsible government) to veto financial rulings of a governor. More importantly, they, unlike the other members of the governor's cabinet, were appointed by London and not dismissible except by London. Thus, they served at the Queen or King's pleasure, not the governors like most of his cabinet. Costs were kept down by making them low level officials with little power except in the one area of finances and by limiting their use to those territories of the settler variety.

When it came to spot-checks of governors, the Colonial Office does not appear to have sent out their own agents to conduct these. They did, however, actively seek out

reports from and debrief government and private individuals of renown who happened to travel to the territory. This included royal delegations, missionary groups, ambassadors at large and the like. This strategy did not, therefore, figure systematically into the Office's strategy but the Office did seek out these reports when available. While the dependability and availability of this information varied widely, there was the advantage that these reports cost the Office nothing except the time of the Office official in London and the foolscap and ink necessary to record the information.

When it came to the establishment of a competing and overlapping bureaucracy, the different bases of law depending upon the category of territory can be seen as a mechanism to establish such a system. In areas in which the common law was not applied, a chief justice could, in point of fact, overrule a governor's decision. In the other territories, the governor himself often acted as chief justice. Thus, to the extent that justices had an interest in expanding their importance and control, the application of the common law served as an incentive compatible check or overlapping bureaucratic structure in those areas of settlement but economy was the rule of the day in those of conquest.

Throughout the Empire, all British citizens had the right of appeal to the Secretary of State. This meant that every colonial resident, whether in a settler or conquest territory, could write a letter concerning any issue of concern (appeal did not require that there be a legal case under dispute). This was, therefore, an explicit mechanism used by the Office but not one that with formal systematic variation. Even based simply upon the number of letters received from a colony during a governor's tenure some assessment could be made

of the satisfaction level of the residents.⁵ In reality, however, the very nature of the settlement/conquest or low/high mortality divide was such that this would function differently. The more European settlers there were, the more likely that someone would take it upon themselves to express dissatisfaction with a governor. However, the systematic variation was weakest with this mechanism and the right of appeal most likely served as a final bulwark against the most egregious governor malfeasance. Moreover, these letters would have been particularly subject to bias, with no countervailing force to mitigate citizens reporting events in a light most favorable to them.

The ideal strategy discussed earlier was one with countervailing biases, in which locals voluntarily supplied and debated the issues of the day and the performance of the governor, all within an incentive compatible structure. Precisely such a structure can be found in representative government. In the conquest areas, the governor was not only often times chief justice⁶ but also had effectively no official local check upon their action. In most cases there was a cabinet but its members had no veto, served only in an advisory role, and served at the pleasure of the governor. They could clearly express displeasure at an action and, in the small communities of Europeans in conquest territories, this expression was doubtless not without some bite. However, the governor was effectively without *de jure* local checks or limitations.

In settler territories, on the other hand, elective assemblies were common. In many cases, a certain, formally specified percentage of the governor's cabinet was selected from

⁵ This could obviously not be used in simple raw terms (since the population varied considerably between territories) but the level of change from year to year would serve as such an indication.

⁶ It should be noted that in all territories the governor did have the final decision in capital cases.

the elected chamber or chambers. The specific form of these elections and the extent of the elected assemblies' powers varied among the colonies and through time. Eventually, some form of local representation was extended to most every territory in empire. However, this extension occurred much later and the powers granted the assemblies were much more limited in those areas of conquest. In some cases as in that of Hong Kong (which was governed by Britain until the handover to China in 1997) this did not occur until well into the twentieth century.

That there was systematic variation is not in doubt. What may be, at first glance, less clear, is how such representation served as information promulgation and transmission device. For this there is another piece necessary: the Hansard. All parliamentary proceedings and debates within the empire were required to be recorded and published in volumes termed Hansards. Included therein would therefore be local information produced voluntarily and intended to affect public opinion both within the colony and within the elected assembly. The incentives were such that strategic play vis-à-vis London would have been of such remote importance as to render it highly unlikely. Moreover, debates regularly included the performance and behavior of governors, whether or not to take a subscription for some gesture of satisfaction, or to issue some expression of displeasure. The Colonial Office received a copy of all the Hansards and the opinion of those with a much greater estimation of the local knowledge relevant to evaluating governor action was available for consultation by the Office staff. Such information was neither available in conquest territories nor regularly sought thus resulting again in systematic variation depending upon the level of settlement.

While none of these strategies were doubtless perfect (the difficulties of bureaucracy are, indeed insuperable as Downs' *Law of Imperfect Control* explicitly states), the historical record is clearly consistent with theory in this regard. There was a systematically different treatment of the information necessary for the effective monitoring and punishment of governors depending on the level of settler mortality within a territory.

The incentive structure and the means to acquire information that would grant that structure bite were in place. The bureaucracy of the British Empire did, in fact, conform to the expectation presented earlier. High and low mortality territories were, indeed structured quite differently—at the outset, at least. What can be said about the degree of ossification predicted by Downs?

Ossification (telegraph)

The ideal way to examine this question would be accurate annual mortality figures for each colony. These unfortunately do not exist. Therefore, another way to examine the extent to which the British bureaucracy was hidebound must be found.

One way of examining the extent of ossification is with an examination of the Colonial Office List itself. This document, presented to Parliament annually, printed by the Royal Stationers, and sent round the globe, served not simply as a repository for a wealth of information collected from the colonies but also served to disseminate a host of information to the colonies. The Colonial Office List served as a reference manual for governors, and contained rules and regulations, as well as templates for a variety of

official documents.

A direct way to examine whether Downs *Law of Increasing Conservatism* was born out in the case of the British Empire is to look at the number of pages of the Colonial Office List devoted to these rules and regulations, to the formalization of bureaucratic procedure. Now, examining the total page count would not be truly demonstrative of this point as the number of territories (and area and population) covered by the list expanded significantly throughout its lifetime. The relevant portion is that which is not concerned with the territories themselves but with administrative housekeeping.

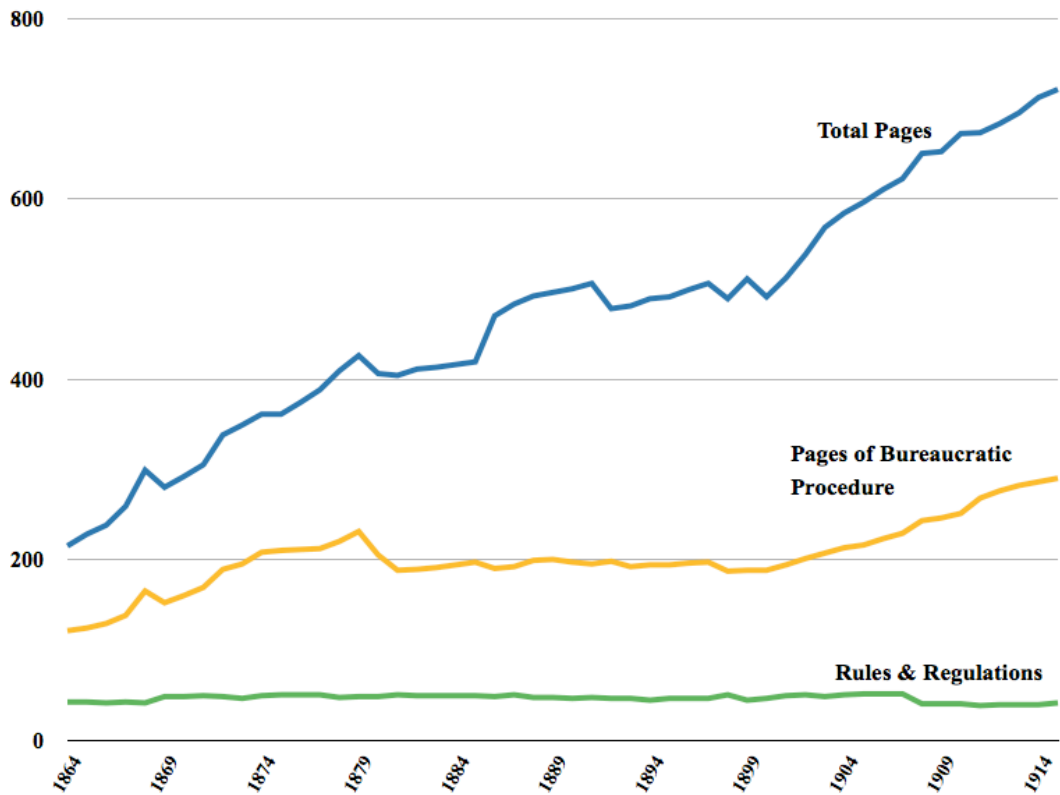


Figure 1: Pages in the Colonial Office List, 1864-1915

As can be seen from the chart, the number of pages, both the total and those of interest in this section, namely those covering material related to the bureaucratic operation of the empire, expanded dramatically over the period. This confirms Downs's law and does, indeed, point to greater bureaucratic rigidity. The advent of the telegraph permits an additional way to examine the extent of British bureaucratic rigidity.

The Telegraph

A major shift in communication technology came with the advent of the electric telegraph. While the optical telegraph, or semaphore, began life in Europe with 1792 in France, it shaped life little for those living in territories outside of Europe. During cloudy weather and at night it was unusable and despite proposals to extend the range of the optical telegraph using repeating ships at intervals across bodies of water but the expense involved was deemed too great. Moreover, even on land the operation of a multitude of repeating stations made this a very costly means of communication. The original French line, for example, required 556 stations, staffed with full time operators, to cover 4,800 kilometers. This expense priced the semaphore beyond the reach of all but a very few. Thus, while it did speed communication dramatically in Europe it never spread very far and was not, in the end, a very disruptive technology. The electric telegraph was another case entirely.

The first commercial telegraph line was opened in 1839 in England. Samuel Morse, inventor of the eponymous code, laid the first line in the United States. Telegraph networks were extended gradually, starting with the first stable transatlantic cable

connection to Canada in 1866. India was connected to London in 1870 and Australia 1872. Marine cables were laid gradually and in geographic succession, meaning that the date of telegraphic connection was unlikely to be endogenous. Specific colonies were not connected for reasons other than that their location was next on the line from London. The extensive telegraph network led the mitigation mechanisms to diminish in importance, with turnaround time for communication falling from months to days.

If the bureaucracy was responsive to changes in the underlying conditions like mortality rates, then this dramatic fall in communication lags, which significantly improved the time inconsistency problem, should have had a negative impact on governor salary. This impact is estimated using a fixed effects model by colony, with the governors' salary as the dependent variable.

Table 6: Salary and Telegraph

	Full Sample (1)	Full Governors Only (2)	Full Sample (3)	Full Governors Only (4)
	Dependent variable: governor salary (in 1910 £)			
Telegraph	-34.40 (30.07)	-20.08 (44.25)		
Tenure (Total)	21.79** (2.92)	25.83** (3.91)	20.94** (2.88)	25.50** (3.89)
New Governor			7.17 (29.15)	4.04 (43.28)
R ²	0.02	0.01	0.03	0.01
Number of Observations	2581	1539	2581	1539

**Significant at the 95% confidence interval

Notes: Standard errors in parentheses

The variable for connection via telegraph to London (0 before connection and 1 upon connection), on the other hand, is not significant. This is precisely what the theory presented to this point predicts: the British bureaucracy, far from being responsive to changing parameters, the salary variable should not be impacted by the advent of the telegraph. The fact that it is not, therefore, is consistent with theory. As a robustness check, the coefficient on total tenure is positive and significant which is precisely what one would expect: the longer an individual works for the bureaucracy the more that they make.

Conclusion

The specific predictions for the British Empire that flow from the theory presented in the first two chapters are, indeed born out in the data. There was, indeed, differential wage and the information structures in high and low mortality territories. Governors were paid and monitored systematically less and less carefully in high mortality areas than in those with low mortality rates and there is some evidence of ossification.

Thus, the explanation of the *why* (North et. al), the *what* (Acemoglu et. al), and the *how* (Downs & Tullock) proves satisfactory. The theory of bureaucracy, explains path dependency within the British Empire—without bureaucracy, changing conditions (falling mortality rates, shifting relative prices of extractable commodities & produceable goods, changing demographics/other constituent components of British elite) should have resulted in a shift to alternate institutional structures and a satisfactory explanation for the

empirical findings of Acemoglu et al. would have to be sought elsewhere.

Under the wage structure of the British Empire there was significant variation in the extent to which an effective constraint was placed upon the governor, both across territories and through time. The incentives for governors to be responsive to local needs were far stronger in areas with large groups of settlers and lacking elsewhere. Over a period of years and decades, the resulting impact of this reality upon the political and economic institutions of these areas was profound. In settler areas, there was a repeated evolution, in ways conducive to the prosperity of that region. In non-settler areas, there was little evolution at all. It is often postulated that it was these colonial institutions that were taken over by indigenous governments upon independence and that these drive many national structures today. By this logic it is no surprise that they have had a continued impact.

CHAPTER 5: CONCLUSION

European powers went and conquered the world and, with few exceptions, divided it among amongst themselves. Governments were put in place, laws promulgated, roads built, and wars fought. In the end, however, it was the institutions that these powers put in place that proved of lasting impact. It is these institutions, not the infrastructure projects, architecture, or linguistic norms that are the true legacy of colonialism. These institutions vary both within and between colonial powers, driving much of economic life today.

Limited access orders survive based upon the control of and distribution of economic rents. It was thus sensible for the sovereign to encourage the establishment of institutions conducive to a durable extended structure of economic production in those areas relatively safe for settlers, as these were the highest value bundle of rents available. It obviously also made sense for the settlers to support, participate in, and develop these institutions also. In territories rife with disease and danger for Europeans, settlement was a far less attractive option. In these areas the highest value rent bundle was to permit the full-scale extraction of anything of value. Those looking to settle and produce, looking for the rule of law and an extended production cycle moved elsewhere or never showed up. The essence of government in these territories was rent seeking run amok.

Productive institutions require governance structures in order to be rendered viable

and governance structures do not flow from thin air. They are brought into being and rendered stable. In the era of empire, institutions were instantiated by bureaucracy and bureaucratic structures. The individual *in situ* most central to these structures was the governor. In areas of extractive institutions, governor' behavior was relatively unimportant and they could therefore be largely left to their own (possibly rapacious) devices. It was in those areas of productive institutions that they needed to be watched, there that an effective bureaucratic structure was essential.

This volume has discussed four unique principals of bureaucratic structure that ought to have been present in those areas with low mortality and productive institutions. First, those governors in low mortality colonies were paid systematically more than those in high mortality countries. Second, significant resources were devoted to the development and maintenance of communication networks. Third, that these networks were more developed in low mortality colonies and in these colonies focused more upon eliciting and transmitting third party and extra-bureaucratic communication regarding governor performance. Fourth and final, the number of formal regulations and procedures increased over time. The fourth point is also essential for explaining the durability of institutional structure impact through the present time.

Examining the case of the British Empire, all four propositions are born out. Instead of paying a higher wage in areas of extractive institutions to compensate governors for the risk of death, these individuals were paid less than their colleagues operating in territories with productive institutions. This rendered demotion or termination of

employment painful for governors and provided an incentive structure for assiduity. Necessary to bring these incentives to bear were methods of acquiring information about governor performance. Such information structures can be found in the hiring of inspectors general, of random spot checks, a structure of overlapping and competing bureaucracy, the solicitation and acceptance of direct reports by locals, and by the establishment of responsible government and the requirement that all debates be recorded, published, and sent to London. Of these information structures, overlapping bureaucracy and responsible government were present in settler territories but not in extractive regions. Finally, there is significant evidence of ossification of the bureaucratic structure of the British. The number of pages devoted to such affairs expanded steadily over time, more than doubling (from 121 to 290 pages) between 1864 and 1915. Also, while it is not currently possible to examine the impact of falling mortality rates upon the bureaucratic structure of the British as such estimates are not available, it is evident that the pecuniary structure for governors was unresponsive to the advent of the telegraph, which revolutionized communication within the empire.

Thus, there is now a more complete explanation for institutional establishment, durability and the colonial legacy: immigrants to an area, in conjunction with the sovereign, selected institutions; these institutions were instantiated by bureaucratic structure; finally, bureaucratic structure ossified over time and became unresponsive to the underlying conditions that informed the institutional calculus. As mortality rates converged, bureaucratic structures and thereby institutional structures remained rooted in place.

In addition to being relevant for our understanding of the evolution of institutions, this analysis has important ramifications for the administration of development assistance. One conclusion that can be drawn from the British experience is that a main force that led to more productive institutions in some areas (and subsequent economic performance) was the degree to which a local governor was dependent upon and responsive to his local population. The sad fact is that the track record of development organizations and aid money has been to render governments less responsive to their population rather than more. It should be no surprise, then, that aid money has failed to spur growth.

It still remains to extend this research to cover other colonial powers, in the process strengthening the general conclusions drawn here and delving into the causes of the variation between colonies. Also missing from the picture is an understanding of how the institutions of empire survived independence and were incorporated into modern states. In the meantime, however, this analysis has shed light upon the source of institutional regimes generally, and why they proved durable in the case of the British.

APPENDIX

Economic Freedom of the World Components

- I. Size of Government: Expenditures, Taxes, and Enterprises
 - A. General government consumption spending as a percentage of total consumption
 - B. Transfers and subsidies as a percentage of GDP
 - C. Government enterprises and investment
 - D. Top marginal tax rate
- II. Legal Structure and Security of Property Rights
 - A. Judicial independence (GCR)
 - B. Impartial courts (GCR)
 - C. Protection of property rights (GCR)
 - D. Military interference in rule of law and the political process (ICRG)
 - E. Integrity of the legal system (ICRG)
 - F. Legal enforcement of contracts (DB)
 - G. Regulatory restrictions on the sale of real property (DB)
- III. Access to Sound Money
 - A. Money growth
 - B. Standard deviation of inflation
 - C. Inflation: Most recent year
 - D. Freedom to own foreign currency bank accounts
- IV. Freedom to Trade Internationally
 - A. Taxes on international trade
 - B. Regulatory trade barriers
 - C. Size of trade sector relative to expected
 - D. Black-market exchange rates
 - E. International capital market controls
- V. Regulation of Credit, Labor, and Business.

REFERENCES

REFERENCES

- Acemoglu, D, Johnson, S, Robinson, JA, and Yared, P. "Income and Democracy." *American Economic Review* 98, no. 3 (2007): 808-42.
- Acemoglu, Daron, and Johnson, James. "Persistence of Power, Elites and Institutions." *NBER Working Paper Series* 12108 (2006):
- Acemoglu, Daron, and Johnson, Simon. "Unbundling Institutions." *Journal of Political Economy* 113, no. 5 (2005): 949-95.
- Acemoglu, Daron, Simon Johnson, and James Robinson. *Institutions as the Fundamental Cause of Long-Run Growth*. Cambridge, MA: National Bureau of Economic Research, 2004.
- Acemoglu, Daron, Johnson, Simon, Robinson, James, and Thaicharoen, Yunyong. "Institutional Causes, Macroeconomic Symptoms: Volatility, Crises and Growth." *National Bureau of Economic Research Working Paper* 9124 (2002):
- Acemoglu, Daron, Simon Johnson, and James A Robinson. *The Rise of Europe : Atlantic Trade, Institutional Change and Economic Growth*. Cambridge, MA: National Bureau of Economic Research, 2002.
- Acemoglu, Daron, Johnson, Simon, and Robinson, James A. "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution." *The Quarterly Journal of Economics* (2002):
- Acemoglu, Daron, Johnson, Simon A., and Robinson, James. "The Colonial Origins of Comparative Development: An Empirical Investigation." *The American Economic Review* 91, no. 5 (2001): 1369–401.
- Acemoglu, Daron, and James A Robinson. *Economic Origins of Dictatorship and Democracy*. Cambridge, New York: Cambridge University Press, 2006.
- Acemoglu, Daron, Johnson, Simon, and Robinson, James A. "The Rise of Europe: Atlantic Trade, Institutional Change and Economic Growth." *American Economic Review* 95, no. 3 (2005): 546-79.
- Adams, Julia. "Principals and Agents, Colonialists and Company Men: The Decay of

- Colonial Control in the Dutch East Indies.” *American Sociological Review* 61, no. 1 (1996): 12-28.
- Agrawal, Anup, and Knoeber, Charles R. “Firm Performance and Mechanisms to Control Agency Problems Between Managers and Shareholders.” *The Journal of Financial and Quantitative Analysis* 31, no. 3 (1996): 377-97.
- Albouy, David Y. “The Colonial Origins of Comparative Development: An Investigation of the Settler Mortality Data.” *National Bureau of Economic Research* 14130 (2008).
- Alchian, Armen, and Demsetz, Harold. “Production, Information Costs, and Economic Organization.” *The American Economic Review* 62, no. 5 (1972): 777-95.
- Andrew, C. M., and Kanya-Forstner, A. S. “France, Africa, and the First World War.” *Journal of African History* 19, no. 1, World War I and Africa (1978): 11-23.
- Arai, Mahmood. “An Empirical Analysis of Wage Dispersion and Efficiency Wages.” *The Scandinavian Journal of Economics* 96, no. 1 (1994): 31-50.
- Asiwaju, A. I. *Western Yorubaland Under European Rule, 1889-1945 : A Comparative Analysis of French and British Colonialism*. London: Longman, 1976.
- Ayittey, George B. N. *Indigenous African Institutions*. Ardsley-on-Hudson, N.Y: Transnational Publishers, 1991.
- Baker, George P., Jensen, Michael C., and Murphy, Kevin J. “Compensation and Incentives: Practice Vs. Theory.” *Journal of Finance* 43, no. 3 (1988): 593-616.
- Barnett, Correlli. *The Collapse of British Power (Pride & Fall Sequence)*. Pan Books, 2002.
- Barro, Robert J. “The Control of Politicians: An Economic Model.” *Public Choice* 14 (1973): 19-43.
- Bebchuk, Lucian Arye, and Fried, Jesse M. “Executive Compensation as an Agency Problem.” *The Journal of Economic Perspectives* 17, no. 3 (2003): 71-92.
- Bell, Sydney Smith. *Colonial Administration of Great Britain*. New York: Longman, Brown, Green, Longmans & Roberts, 1859.
- Benton, Lauren A. *Law and Colonial Cultures : Legal Regimes in World History, 1400-1900*. Vol. Studies in comparative world history, Cambridge, UK ; New York, NY: Cambridge University Press, 2002.
- Bernstein, Lisa. “Opting Out of the Legal System: Extralegal Contractual Relations in the

- Diamond Industry.” *The Journal of Legal Studies* 21, no. 1 (1992): 115–57.
- Bertram, Anton. *The Colonial Service*. Cambridge Eng: The University press, 1930.
- Boettke, Peter J. *Calculation and Coordination*. New York, NY: Routledge, 2001.
- Boettke, Peter J. “Why Culture Matters: Economics, Politics and the Imprint of History.” *Nuova Economia e Storia* 3 (1996): 189-214.
- Boettke, Peter J., Leeson, Peter T., and Coyne, Christopher J. “Institutional Stickiness and the New Development Economics.” *American Journal of Economics and Sociology* 67, no. 2 (2008): 331-58.
- Bratton, Michael, and de Walle Van, Nicolas. *Democratic Experiments in Africa : Regime Transitions in Comparative Perspective*. Vol. Cambridge studies in comparative politics, Cambridge, U.K. ; New York, NY, USA: Cambridge University Press, 1997.
- Buchanan, James M, Gordon Tullock, and Charles Kershaw Rowley. *The Calculus of Consent : Logical Foundations of Constitutional Democracy*. Indianapolis: Liberty Fund, 2004.
- Carlos, Ann M., and Kruse, Jamie B. “The Decline of the Royal African Company: Fringe Firms and the Role of the Charter.” *The Economic History Review, The New Series* 49, no. 2 (1996): 291-313.
- Carlos, Ann M., and Nicholas, Stephen. “"Giants of an Earlier Capitalism": The Chartered Trading Companies as Modern Multinationals.” *The Business History Review* 62, no. 3 (1988): 398-419.
- Carlos, Ann M., and Nicholas, Stephen. “Agency Problems in Early Chartered Companies: The Case of the Hudson's Bay Company.” *Journal of Economic History* 50, no. 4 (1990): 853-75.
- Collins, Robert O. *Problems in the History of Colonial Africa, 1860-1960*. Englewood Cliffs, N.J: Prentice-Hall, 1970.
- Coyne, Christopher J., and Boettke, Peter J. “The Role of the Economist in Economic Development.” *Quarterly Journal of Austrian Economics* 9, no. 2 (2006): 47-68.
- Daniels, Jonathan. *Frontier on the Potomac*. New York: The Macmillan Company, 1946.
- Davies, K. G. *The Royal African Company*. New York: Octagon Books, 1975.
- Davis, Lance E., and Huttenback, Robert. “The Political Economy of British Imperialism: Measures of Benefits and Support.” *The Journal of Economic History* 42, no. 1

(1982): 119–30.

Davis, Lance Edwin, and Robert A Huttenback. *Mammon and the Pursuit of Empire : The Political Economy of British Imperialism, 1860-1912*. Vol. Interdisciplinary perspectives on modern history, Cambridge [Cambridgeshire] ; New York: Cambridge University Press, 1986.

Davis, Lance Edwin, and Robert A. Huttenback. *Mammon and the Pursuit of Empire Abridged Edition: The Economics of British Imperialism (Interdisciplinary Perspectives on Modern History)*. Cambridge University Press, 1988.

Downs, Anthony. *An Economic Theory of Democracy*. New York: Harper, 1957.

Downs, Anthony. *Inside Bureaucracy*. Santa Monica, CA: Rand Corporation, 1967.

Eisenhardt, Kathleen M. “Agency Theory: An Assessment and Review.” *The Academy of Management Review* 14, no. 1 (1989): 57-74.

Enelow, James M, and Melvin J Hinich. *The Spatial Theory of Voting : An Introduction*. Cambridge [Cambridgeshire] ; New York: Cambridge University Press, 1984.

Engerman, Stanley L, and Sokoloff, Kenneth L. “Factor Endowments, Institutions, and Differential Paths of Growth Among New World Economies: A View From Economic Historians of the United States.” *NBER Working Paper Series Historical Paper* 66 (1994): 1-54.

Engerman, Stanley L, and Sokoloff, Kenneth L. “Institutional and Non-Institutional Explanations of Economic Differences.” *NBER Working Paper Series* 9989 (2003): 1-46.

Engerman, Stanley L, and Kenneth Lee Sokoloff. *Colonialism, Inequality, and Long-Run Paths of Development*. Cambridge, MA: National Bureau of Economic Research, 2005.

Englebert, Pierre. “Pre-Colonial Institutions, Post-Colonial States, and Economic Development in Tropical Africa.” *Political Research Quarterly* 53, no. 1 (2000): 7-36.

Fama, Eugene F. “Agency Problems and the Theory of the Firm.” *The Journal of Political Economy* 88, no. 2 (1980): 288-07.

Fama, Eugene F., and Jensen, Michael C. “Agency Problems and Residual Claims.” *Journal of Law and Economics* 26, no. 2 (1983): 327-49.

Fama, Eugene F., and Jensen, Michael C. “Separation of Ownership and Control.” *Journal of Law and Economics* 26, no. 2 (1983): 301-25.

- Ferguson, Niall. *Empire*. New York, New York: Basic Books, 2002.
- Fiddes, Sir George. *The Dominions and Colonial Offices*. New York: G. P. Putnam's and Sons, 1926.
- Gann, Lewis H, and Peter Duignan. *Burden of Empire: An Appraisal of Western Colonialism in Africa South of the Sahara*. London: published for the Hoover Institution on War, Revolution and Peace by Pall Mall P, 1968.
- Gann, Lewis H, and Peter Duignan. *Colonialism in Africa, 1870-1960*. Vol. 1, London: Cambridge U.P, 1969.
- Gann, Lewis H, and Peter Duignan. *African Proconsuls : European Governors in Africa*. New York: Free Press, 1978.
- Gann, Lewis H, and Peter Duignan. *The Rulers of British Africa, 1870-1914*. Stanford, Calif: Stanford University Press, 1978.
- Gifford, Prosser, and William Roger Louis. *France and Britain in Africa: Imperial Rivalry and Colonial Rule*. New Haven: Yale University Press, 1971.
- Gjesdal, Froystein. "Information and Incentives: The Agency Information Problem." *The Review of Economic Studies* 49, no. 3 (1982): 373-90.
- Glaeser, Edward, and Shleifer, Andrei. "Legal Origins." *Quarterly Journal of Economics* 117, no. 4 (2002): 1193-229.
- Gordon, John Steele. *A Thread Across the Ocean: The Heroic Story of the Transatlantic Cable*. New York: Harper Perennial, 2003.
- Greif, Avner. *Institutions and the Path to the Modern Economy : Lessons From Medieval Trade*. Vol. Political economy of institutions and decisions, Cambridge ; New York: Cambridge University Press, 2006.
- Greif, Avner. "Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition." *The American Economic Review* 83, no. 3 (1993): 525-48.
- Greif, Avner. "Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies." *The Journal of Political Economy* 102, no. 5 (1994): 912-50.
- Hall, Henry Lindsay. *The Colonial Office; a History*. London, New York [etc.]: Pub. for the Royal Empire Society by Longmans, Green and co, 1937.
- Headrick, Daniel R. *The Tools of Empire: Technology and European Imperialism in the*

- Nineteenth Century*. New York: Oxford University Press, 1981.
- Headrick, Daniel R. *The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850-1940*. New York: Oxford University Press, 1988.
- Henry, Peter B., and Miller, Conrad. "Institutions versus Policies: A Tale of Two Islands." *The American Economic Review* 99, no. 2 (2009): 261-67.
- Hess, Robert L, and Dalvan M Coger. *Semper Ex Africa. A Bibliography of Primary Source for Nineteenth-Century Tropical Africa as Recorded By Explorers, Missionaries, Traders, Travelers, Administrators, Military Men, Adventurers, and Others*. Vol. Hoover bibliographical series; 47, Stanford: Hoover Institution on War, Revolution, and Peace, 1972.
- Hillman, Arye, L. "Nietzschean Development Failures." *Public Choice* 119 (2004): 263-80.
- Hopkins, A. G. *An Economic History of West Africa*. London: Longman, 1973.
- Isichei, Elizabeth A. *History of West Africa Since 1800*. New York: Africana Pub. Co, 1977.
- James, Lawrence. *The Rise and Fall of the British Empire*. London: Little, Brown, and Co, 1994.
- Jeffries, Charles. *The Colonial Empire and Its Civil Service*. Cambridge, 1938.
- Kaukiainen, Y. "Shrinking the World: Improvements in the Speed of Information Transmission, C. 1820–1870." *European Review of Economic History* (2001):
- Killingray, David. "The Maintenance of Law and Order in British Colonial Africa." *African Affairs* 85, no. 340 (1986): 411-37.
- Kirk-Greene, Anthony H. M. *On Crown Service : A History of Hm Colonial and Overseas Civil Services, 1837-1997*. London ; New York New York: I.B. Tauris Distributed by St Martin's Press, 1999.
- Kirk-Greene, Anthony H. M. *Britain's Imperial Administrators, 1858-1966*. Vol. St. Antony's series, New York: St. Martin's Press, 2000.
- Kirk-Greene, Anthony H. M. *Glimpses of Empire: A Corona Anthology*. New York: St. Martin's Press, 2001.
- Lang, Sean. *Parliamentary Reform, 1785-1928*. Vol. Questions and analysis in history, London ; New York: Routledge, 1999.

- Lazear, Edward P., and Rosen, Sherwin. "Rank-Order Tournaments as Optimum Labor Contracts." *The Journal of Political Economy* 4, no. 1 (1981): 841-64.
- MacInnes, C. M. *Principles and Methods of Colonial Administration*. Vol. Colston papers, v. 3, Philadelphia: University of Pennsylvania press, 1950.
- Newbury, C. W. *The West African Commonwealth*. Durham, N.C: Published for the Duke University Commonwealth-Studies Center [by] Duke University Press, 1964.
- Newbury, C. W. *British Policy Towards West Africa; Select Documents 1786-1874*. Oxford: Clarendon Press, 1965.
- Newbury, C. W. *British Policy Towards West Africa. Select Documents 1875-1914; With Statistical Appendices, 1800-1914*. Oxford [Eng.]: Clarendon Press, 1971.
- Njoh, Ambe. "The Impact of Colonial Heritage on Development in Sub-Saharan Africa." *Social Indicators Research* 52 (2000): 161-78.
- North, Douglass C., John J. Wallis, and Barry R. Weingast. *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History*. Cambridge, MA: Cambridge University Press, 2009.
- North, Douglass Cecil. *Institutions, Institutional Change, and Economic Performance*. Vol. The Political economy of institutions and decisions, Cambridge ; New York: Cambridge University Press, 1990.
- Ollé, James Gordon Herbert. *An Introduction to British Government Publications*. 2nd ed., fully revised and enlarged ed. London: Association of Assistant Librarians, 1973.
- Olson, Mancur. *The Logic of Collective Action; Public Goods and the Theory of Groups*. Vol. Harvard economic studies, v. 124, Cambridge, Mass: Harvard University Press, 1965.
- Olson, Mancur. *The Rise and Decline of Nations : Economic Growth, Stagflation, and Social Rigidities*. New Haven: Yale University Press, 1982.
- Olson, Mancur. "Dictatorship, Democracy, and Development." *The American Political Science Review* 87, no. 3 (1993): 567-76.
- Parkinson, C. Northcote. *Parkinson's Law*. New York: Houghton Mifflin Co, 1957.
- Parsons, Timothy. *The British Imperial Century, 1815-1914: Imperialism From the Perspective of World History (Critical Issues in History)*. Rowman & Littlefield Publishers, Inc, 1999.

- Searle, G. R. *Entrepreneurial Politics in Mid-Victorian Britain*. New York: Oxford University Press, 1993.
- Shapiro, Carl, and Stiglitz, Joseph E. "Equilibrium Unemployment as a Worker Discipline Device." *American Economic Review* 74, no. 3 (1984): 433-44.
- Sokoloff, Kenneth L., and Engerman, Stanley L. "History Lessons: Institutions, Factors Endowments, and Paths of Development in the New World." *The Journal of Economic Perspectives* 14, no. 3 (2000): 217-232.
- Spear, Thomas George Percival. *The Nabobs; a Study of the Social Life of the English in Eighteenth Century India*. [Rev. ed. with historical introd.] ed. London: Oxford University Press, 1963.
- Standage, Tom. *The Victorian Internet*. New York: Berkley Books, 1999.
- Sutherland, L. S. "The East India Company in Eighteenth-Century Politics." *The Economic History Review* 17, no. 1 (1947): 15-26.
- Tullock, Gordon. *Bureaucracy*. Vol. 6, *The Collected Works of Gordon Tullock*. Indianapolis: Liberty Fund, Inc, 2005.
- von Mises, Ludwig. *Bureaucracy*. New Haven, CT: Yale University Press, 1944.
- Watts, Ross L. "Agency Problems, Auditing, and the Theory of the Firm: Some Evidence." *Journal of Law and Economics* 26, no. 3 (1983): 613-33.
- Webster, Anthony. "The Political Economy of Trade Liberalization: The East India Company Charter Act of 1813." *The Economic History Review* 43, no. 3 (1990): 404-19.
- Wieschhoff, H. A. *Colonial Policies in Africa*. Vol. African handbooks, 5, Philadelphia: University of Pennsylvania press, 1944.
- Williamson, Oliver E. "Organization Form, Residual Claimants, and Corporate Control." *Journal of Law and Economics* 26, no. 2 (1983): 351-66.
- Williamson, Oliver E. "The New Institutional Economics: Taking Stock, Looking Ahead." *Journal of Economic Literature* 38, no. 3 (2000): 595-613.
- Williamson, Thora, and A. H. M Kirk-Greene. *Gold Coast Diaries : Chronicles of Political Officers in West Africa, 1900-1919*. London ; New York New York: Radcliffe Press St. Martin's Press [U.S. distributor], 2000.
- Zook, George Frederick. *The Company of Royal Adventurers Trading Into Africa*. Lancaster, Pa: Press of the New Era Printing Co, 1919.

CURRICULUM VITAE

Joshua Peter Hill graduated from Wheaton North High School, Wheaton, Illinois, in 1992. He received his Bachelor of Arts from Whitworth College in 1999. He received his Master of Arts in Economics from George Mason University in 2007.