CONTRACTING PRACTICE IN THE UNITED STATES POSTAL SERVICE
THE IMPACT OF VALUES, INSTITUTIONS AND MARKETS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy
in the Graduate School of the Ohio State University

by
Hung Phu Nguyen, MSc.

** * * * * 

The Ohio State University
2008

Dissertation Committee:

Approved by:
Professor Trevor Brown, Adviser
Professor Anand Desai
Professor Douglas Jones

Adviser

Public Policy and Management
Graduate Program
This dissertation studies the contracting policies and practices taking place in the United States Postal Service during the last 12 years.

Using the Value-Institution-Market framework, the dissertation comes to two important findings. First, at the macro level, values and institutions factors frame the contracting environment and changes in each of these categories caused the overall aggregate contracting levels to fluctuate over certain periods of time. Second, at the micro level, in essence, it is the differences in the market factors across activities that explain, for the most part, their comparative variations of contracting levels.

These findings have important implications. First, core competences of the USPS which are very politically important should be performed both by internal resources and vendors, but internal resources must play the main role. This is to safeguard that public values are sustained. Second, non-core areas – which are less politically important, less asset-specific, and have more potential vendors – should be outsourced. This is to economize costs while improve organizational performance.
Dedicated to my Great Family
ACKNOWLEDGEMENTS

I wish to thank Professor Trevor Brown, Professor Anand Desai, Professor Douglas Jones, and Professor Edward Rosenberg for intellectual support and encouragement, and enthusiasm which made this dissertation possible.

I am grateful to the Vietnam Ministry of Education and Training and the Vietnam Ministry of Posts and Telecommunications which provide the funding for this dissertation.

I am indebted to Doctor Nguyen Thuong Thai – head of the Business Administration Department of the Posts and Telecommunications Institute of Technology, Doctor Mai Van Buu and Doctor Phan thi Thu Ha – head and deputy head of the Public Policy Department of the National Economic University, and Doctor Luu Huong – deputy head of the Finance Department of the National Economic University for their invaluable supports.

I also wish to thank those who helped me to handle various grammatical and editorial works, including Adam Eckerd, Russell Blair, Ketra Rice, Lisa Brown, Caitlin Rak, Aaron Whaley, and Ashley Meadows.
VITA

1992 - 1996  Thang Long University, Hanoi, Vietnam
1996 - 1998  Master of Business Administration, Centre Franco-Vietnamien de Formation à la Gestion, Hanoi, Vietnam
2004 - present PhD program, the Ohio State University, Columbus, Ohio

FIELDS OF STUDY

Major field: Public Policy and Management
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LIST OF ABBREVIATIONS

CSPO  Comprehensive Statement on Postal Operations
NPO   National Postal Organization
ST    System theory
TCE   Transaction Costs Economic theory
UPU   Universal Postal Union
VIM   Value-Institution-Market framework
WB    World Bank
CHAPTER 1

DISSERTATION PROPOSAL

1.1. Problem Statement

Postal service is a traditional core function of any government. According to the Universal Postal Union (UPU)\(^1\), virtually all national postal organizations (NPOs) are a state-owned entity operating in an almost monopolistic nationwide delivery market. They are either a nonprofit for-public-benefit Governmental Agency (the traditional model which still prevails in poorer countries) or a commercially-oriented public company (the reformed model and future direction of advanced countries). Only a few countries have been in various stages of privatizing, which transforms their NPO into a profit-seeking private business operating in a liberalized market (UPU, 2004; World Bank and UPU (Kumar Ranganathan, Rohini Dey), 1996).

Internally, NPOs worldwide are facing serious problems of all network industries (such as cross-accessibility, peak-load, cross-subsidies, aggregate accounting), and of monopoly (poor productivity, overpaid labor, poor quality of service, predatory pricing against potential market entrants) (Crew & Kleindorfer. 1992 p2, 1994\(^2\), 2000, 2001, 2002). Externally, NPOs around the world are facing certain very serious problems, including powerful competition

\(^{1}\) www.upu.int, 2005

from substitute services (i.e., telecommunication and internet services) and competitors (i.e., logistic corporations) which are leading to shifting customer demands and severe financial and rigid institutional constraints that prevent them from controlling their most important input factors of production (i.e., labor, pricing). Additionally, as numerous new low-density delivery routes are added each year to the postal delivery network, especially in new residential areas, the profitability per delivery point is going down, hurting sustainability of the NPO.

Faced with those challenges, NPOs have adopted several potential strategies including diversifying services, consolidating and optimizing network facilities, applying technology, work-sharing, and especially contracting out a portion of their network to outside low-cost competent vendors. Many NPOs have outsourced parts of their internal production and management activity, so that the sluggish postal incumbent can explore outside expertise to cut costs or improve performance (Pierre Guislain/WorldBank, 2004). Outsourcing is not new. Nowadays, almost every governmental organization outsources (Kettl, 1993, p. 158). Contracting involves make-or-buy decisions, a choice by government not to produce a product or service itself but buy it from the outside (Kelman, 2002). By this way, the government-contractor relationship is viewed as a supply chain management, with the government as buyer and contractor as supplier of the goods/services. This contract-based relationship forms the base of indirect government. Indirect government has proliferated, as the government is increasingly relying on outsourcing to improve the program effectiveness and expand the range of services delivered to its citizens (Kelman, 2002). Outsourcing involves three key tasks:

1. **Production decision**: make or purchase the product (a goods or service).
2. **Decision of contract design**: arranging of pricing, incentives mechanism, dispute resolving mechanism in the contractual relationship with sellers.

To perform successfully through contracting, the government needs to be a “smart buyer” of the goods and services it is purchasing. This means government needs to be able to identify the values of the program; specify the product it wants to buy and sustain a strong and competitive market for the product it actually buys. It also needs to specify tools and
resources available under institutional regulation to manage and ensure the quality of the program and its outcome and output (Kettl, 2002). Thus, values–institutions–markets are three important influencing factor categories that have an impact on the outcome of the outsourcing decision. Moving from government direct service delivery to managing indirect service provision, the government must develop the capacity to manage indirect tools to ensure its ability to deliver values expected while enforcing important norms like responsiveness and equity. In so doing, among many other things, Kettle (2002) contended that structuring contracts is one of the key activities for successfully managing indirect programs. The contract design is a central mean to achieve high contract delivery performance by aligning all those elements above into a combined and well structured solution.

The make-or-buy decision in postal organizations are of my research interest, and is the subject of this dissertation, which will limit the research scope to the context of the United States Postal Service (USPS) only. The important questions of postal contract design and contract-management are logical options for future research.

1.2. RESEARCH QUESTIONS

The motivation of this dissertation is to develop an understanding of how value, institutions and markets frame the service delivery environment and drive contracting decisions in the context of the USPS. There are certain compelling research questions that come from a postal organization’s decision to organize its basic production process: (i) why some tasks are conducted internally with public personnel, while other tasks are bought through contracts with outside vendors, and (ii) why some activities see higher aggregate contracting levels than others.

Answers to these questions would enrich the current literature on public contracting, with the application on a very particular case of a public monopoly which does not operate under most of the federal laws regarding purchases.
1.3. **Initial Assumptions and Propositions**

The production line of the USPS is organized in a mixed way: some functions are conducted internally while other tasks are purchased through contracts with outside vendors. The contracting environment is framed by three categories of factors – values, institutions, markets; and changes in each category affect the magnitude of contracting. For example, as the USPS increasingly adopted commercialized principles, the magnitude of contracting increased. When new postal legislation and purchasing regulations were introduced, the levels of contracting increased. However, the degrees of contracting vary among purchasing portfolios (e.g., transportation, supplies) with their different characteristics and marketplaces which give rise to their transaction costs of exchange. Non-core areas tend to see more contracts than core areas. But within core areas, functions having higher asset specificity or a less efficient market (i.e., mail sorting, delivery) will have lower levels of contracting than other more marketable functions (e.g., transportation). Those things also decide some features of contract design. For example, the supplies contracts tend to have shorter times and fixed prices, while the transportation contracts may have longer times with cost-reimbursement pricing.

In summary, use of outsourcing decisions are driven by transaction costs inherent in the particular contractual exchanges and the influences of values, markets, and institutions factors.

1.4. **Proposed Research Design and Methods**

1.4.1. **Method and approach**

**Theoretical foundation:** I am going to use systems theory (ST – particularly Thompson’s arguments from *Organizations in Action*) and the Transaction Cost Economic theory (TCE – particularly Williamson’s arguments, 1975, 1981, 1993) to craft my theoretical explanation of postal make-buy decisions.

**Framework:** The framework I am going to use in answering the research questions above is the framework suggested by Trevor Brown, Matthew Potoski, and David Slyke (2006), which takes into account the combination of three main components **values, institutions**
and service markets, in the whole contract management process. This is a nice and comprehensive framework for research about contracting. Mission (values), market control (price), hierarchical control (authority), and trust (network interdependence) all play a critical part of a successful contracting government (See more Dudley, 1999). The decision whether to make or buy a public product comes from multi-dimensional arrays of factors. The two most critical factors are values and market conditions. The government first maps out expected values that the product should bring about, then based on market conditions it decides the ways that products could be procured in-house or externally, and establishes institutional arrangements to guarantee appropriate product provision. On one hand, the interactions between values–markets would drive the institutional arrangements. On the other hand, the constraints that institutions impose back to values and markets would provide forces to shift the values and inform the market conditions to change. In summary, all three sets of factors above have effects on how efficient transaction costs are associated to the contracting process. “In this framework, (1) stakeholder preferences and democratic processes establish the values to be optimized in service delivery; (2) public law and organizational arrangements determine the contracting tools available for balancing competing values; and (3) the characteristics of service markets influence which contracting tools and vendors are best suited to achieve stakeholder values” (Trevor Brown and Matthew Potoski, and David Slyke; 2006).

**Empirical Tests:** An important part of the dissertation is to find the empirical evidence supporting propositions laid out in the theoretical explanation section. I will look to the USPS’s supply chain management policy and purchasing regulations to identify turning points where value and institutional changes occurred in the USPS purchasing policy. I also analyze data of the USPS's purchasing portfolios over the time span of last 10 years by the Interrupted Times Series model to identify variations in the aggregate levels of contracting, and then tie them to purchasing policy turning points above. Though that will not help to explain the make-or-buy decisions, that helps us to learn when the USPS changed the rules and the structure, and how that increased the aggregate levels of outsourcing versus the internal services provision. This will indicate the impacts of values–institutions–market factors on make-buy decisions.
1.4.2. Data

The primary source of quantitative data is the Commercial Business Daily (http://cbd.cos.com) and Federal Business Opportunities (www.FedBizOpps.gov), which provides USPS’ Request for Proposals and Contract Awards since 1995. I also analyze the specificities of some randomly-chosen contracts in certain purchasing portfolios before and after each turning point to see if their changes link to changes of values and institutions. The secondary source of data comes from additional interviews with contracting officers to see how new institutional developments affect or constrain their work in practice. The USPS purchasing rules and regulations, and strategy can be found online at www.usps.com.

1.5. LIMITATIONS OF PROPOSED RESEARCH DESIGN AND METHODS

The strength of this dissertation is that I can do a cross-contract-portfolio analysis and thereby increase the internal validity of conclusions. However, since pre- and post-reform data are not easy to collect, it lacks empirical studies on postal reforms, especially the cross-countries or cross-region studies to get a comparative overview. Thus, the theoretical story of contracting in the USPS that I address in this dissertation may have limited external validity, i.e., in its applicability to other countries. Still, aspects of this research may well have useful use in similar analyses of the postal organizations.

Moreover, data is also a source of concern. The transparency and reliability of postal operating data is often troublesome, because naturally, monopoly powers are reluctant to reveal certain data to public scrutiny. Troubles of postal data include the inaccurate, incomplete, and inconsistent data (GAO-03-230, 2003); the lack of data, the vast difference between actual service levels and the published standards (Robert and Mitchell3, 2006); and the difficulty to measure accurately postal data (Corby, 1979); thus the inadequacy of data that requires a constant and adversarial process by intervenors to begin to reflect the truth.

(Mary Rouvelas, 2003). Because of the lack of primary data, researchers often have to use secondary data sources, which are heavily censored, less authentic, and even modified in favor of post office owners, thus further reducing the validity of research conclusions.

1.6. Expected Contributions to Theory and Practice

Despite the importance of the postal service to the economy and despite its many interesting economic problems, the postal service has surprisingly received considerably less attention in the literature than other traditional public utilities (Michael Crew, Paul Kleindorfer, 1992, p vii, p 2; UPU, 2000).

Given the importance of an efficient and effective national postal service (the USPS is the second largest state agency, behind only the Army) and the potential for the USPS to contract for billions of dollars in services, both the USPS’s decision to outsource certain activities and how it manages its supply chain are important public policy questions. This dissertation is designed to contribute to the current literature on public contracting, with the application to a very particular case of a public monopoly which does not operate under most of federal laws on acquisition.

One of my expectations is that this dissertation can reveal the link and the contradiction between political forces (values) and rules in the public contracting environment. It also demonstrates how it drives contracting behavior. While government values large service systems with service security and safe public jobs, it also increasingly interested in cost cutting behavior. Whereas the former stresses sustainability through integrity (system approach), the latter values sustainability through business orientation (TCE approach). The latter provides opportunities for outsourcing with the issue of Postal Act 2006, while the former inhibits it through a number of Congressional resistances (i.e., hearings and proposed legislations prohibiting most of postal outsourcing). This tension makes it very difficult for the USPS to control its major cost factor – labor. To address contradictory challenges, the USPS progressively relaxed its binding purchasing regulations and eventually turned it into

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4 Vice President of Alliance of Nonprofit Mailers commented to the Presidential Commission on the Postal Service in February 20, 2003.
non-binding purchasing principles so that the contracting managers have more discretion in maneuvering under different economic and political influences.

In summary, contracting has been studied widely in many areas, but not in the particular case of the postal monopoly. Thus, the findings of this dissertation with empirical evidence would fit nicely into a missing part of the public contracting literature.

1.7. **ROADMAP OF DISSERTATION**

The next Chapter reviews in detail the background and context of challenges facing postal service agencies cross nationally and which drive the use of contracting. Chapter 3 provides a theoretical explanation of the make-or-buy decisions. It includes the framework and basic theories I use in crafting my arguments which lead to propositions. Chapter 4 and chapter 5 are two empirical studies and discussion of the make-buy decisions. Chapter 6 summarizes findings and implications for practices, as well as suggests future directions of research.
CHAPTER 2

BACKGROUND AND CONTEXT OF CHALLENGES FACING THE NATIONAL POSTAL ORGANIZATIONS

2.1. CHALLENGES OF NATIONAL POSTAL ORGANIZATIONS

The postal sector has remained virtually unchanged for many decades all over the world. Traditionally, postal services are inherently a governmental function. There has been a general belief that, because of its vital social and economic justifications, postal services are best provided under a government monopoly (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, pp. xi, 61). “For various reasons, the mails were seen as a vital service of a service with the ability to provide monopoly rent, and so the state took over the role of performing them” (Crew & Kleindorfer, The Economics of Postal Service, 1992, pp. 1-2). This explains why almost all national postal organizations (NPO) are nationally based and government-owned monopolistic entities (OECD, 1999, pp. 7, 21). Internally, NPOs worldwide are facing serious problems of network industries (such as cross-accessibility, peak-load, cross-subsidies, aggregate accounting), and of monopoly (poor productivity, overpaid labor, poor quality of service, predatory pricing against potential market entrants) (OECD, 1999; Crew & Kleindorfer. 1992 p 2; 1994; 2000; 2001; 2002). Externally, NPOs around the world are facing serious problems, including powerful competition from substitute services (e.g., telecommunication and internet services) and new business competitors (e.g., logistics corporations). This has led to shifting customer demands and severe financial and rigid institutional constraints which prevent them from controlling their important input factors of production (e.g., labor, services) (WB and UPU, 2001, pp. 3-5)
However, the NPOs do have opportunities to address these challenges. Potential strategies mainly include increasingly using technology innovations, work-sharing, and especially outsourcing a portion of the network to outside low-cost but competent vendors (WB and UPU, 2001, pp. 3-8). Many NPOs have outsourced parts of their internal production and even management activity (World Bank (Pierre Guislain), 2004). Private sector participation is introduced into the system so that a sluggish postal incumbent can benefit from outside technological expertise to cut costs and improve performance.

The following section will analyze the current common status of NPOs internationally.

2.1.1. Decreasing Growth and Changing Composition of Demand

According to the World Bank: “...today the postal industry finds itself undergoing major changes. Increasing competition, new customer expectations, technological advances and internationalization of business are creating enormous challenges for this essential service sector” (WB and UPU, 2001, p. 6).

NPOs are facing increasing threats from competitors and alternative providers (i.e., airlines or rail-way transportations, internet and telephone and electricity communications, banking products) and customers’ changing demands (especially demands of business mailers) on modified and diversified flexible services (See more on UPU - Strategic Planning Group, 2006; UPU, Post 2004; UPU, Post 2005; USPS, Comprehensive Statement of Postal Operation, 2000, 2001, 2002; Atkinson, Shane Ham, and Robert, 2001, p. 8). In past decades, postal systems did not have any competitors and postal customers had little choice. Even now, many postal services, particularly in middle and low income countries, provide a "supply-driven" rather than a "market-driven" service. Customers had to buy what the NPO offered rather than what they wanted for their sizable needs (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 112). Today, there are many competitors and most customers have a wide variety of combined choices offered by aggressive and well run companies in the market, such as TNT, DHL, UPS, FedEx, railways, airlines, small local grocery delivery firms, or other e-business firms (Amazon, Google, Yahoo). Customers’ demands are also changing due to evolving technology. Business customers like banks, store retailers, and utility companies, faced with a more intense requirement of accessibility and responsiveness, are increasingly adopting electronic forms of communication (e-filling, e-billing and e-payment) to reduce paperwork and mail communication. Households change their attitudes, behaviour and expectations of traditional products and services, as they adapt
to a network age. They are attracted by the convenience and choice offered by information technology. Consequently, the postal demands are likely shifting to other delivery and/or electronic competitors, and the rates of growth in letter post volume have been falling in the past 20 years (OECD, 1999, p. 21; Universal Postal Union, 2002, p. 28; Wik-Consult, 2006, pp. 171, 188; WB and UPU, 2001, pp. 3-8; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 1).

In terms of communication market shares, “…the growth of electronic communications mechanisms has severely reduced the domain of the postal sector in several countries, particularly in developed countries where access to substitutes is greater” (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 136). A UPU study entitled “Post 2004” revealed that, in 1995, the share of physical mail in the world communications market was only about 20%, as compared to 75% for fax and telephone, and approximately 5% for electronic mail. The UPU’s study “Post 2005” predicted a trend towards the substitution of letter mail, progressing at different rates in different groups of countries, but averaging out to somewhere around 17% of worldwide letter mail volumes (UPU, 2004, p. 7). For example, the OECD reported that the USPS lost about 35% of its business-to-business first class mail to e-mail, teleconferencing and faxing. However, a recent comprehensive European study suggested that while “electronic substitution may account for a proportion of the slowing in volume growth, or even of the reductions in certain mail segments”, it did not find a radical decline in EU-wide mail volumes. “A gradual electronic substitution trend is probable” (OECD, 1999).

Moreover, not only is the shifting of postal demand to alternatives problematic but also the changing composition of delivery volume matters. According to OECD and the UPU, the individuals-to-individuals flows which constitute the main subject of USO account for only 10% of traffic (OECD, 1999, p. 25; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 21). Many scholars and policy makers argued that the increasing structural shifting composition of mail to more advertising and commercial mail fits poorly with traditional postal program objectives, which are predicted on general public welfare purposes, not for narrow the benefit of commercial firms (Geddes, 2005).
The extent to which the traditional post is suffering from substitution is still open to debate (UPU, 2004). While many growing countries still see volume growth (e.g., 5.8% in the Latin America and Caribbean region and 3% in the Arab countries), others do not. Mainly as a result of substitute services, declines in mail volumes have been observed in certain countries in recent years. For example, in 1998-2001 period, Finland was 4.3% down, Sweden -2.7%, Norway -2.4%, Denmark -1.0%, Canada -2.0%, and the USA was 5.0% down (UPU, 2004, p. 7). UK mail market is declining overall at the rate of 2.5% per annum. Japan Post experienced a 2.3% drop in the 2003-2004 fiscal year (Source: Luis Jimenez, Pitney Bowes (presentation in Hamburg, PostExpo 2002)). The volumes fell as well in the developing countries in Asia and the Pacific, Africa, and Central and Eastern Europe and CIS regions, amounting to 5.5%, 1.9%, and 1.1% respectively. In general, since 2000, worldwide domestic volumes have dropped by an average of 0.2% per year; the international letter-post volumes dropped as well, by 2.5% between 2004 and 2005. This worsening trend would undermine

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the economic and financial position of the NPOs, and eventually could lead to a postal death spiral (Crew & Kleindorfer, 1994; Shaw & Nader, 2006, p. 69; Muma, 2003, pp. 3, 7; WB and UPU, 2001, p. 9).

**Figure 2**: The postal death spiral (WB and UPU, 2001, p. 10)

### 2.1.2. Labor Driven Productions

NPOs have traditionally been big employers in the public labor force. Internationally, the postal labor costs in general amount to from 60% to 80% of total operating costs (Universal Postal Union, 2002, p. 69). Naturally, postal services are labor intensive but generally low in capital costs (Universal Postal Union, 2002, p. 69). Production processes were largely manual due to the limited availability of low-cost applicable technologies for postal operations procedures and a lack of resources necessary for automating the processing of letter mail and other items. Technology thus is not critically important for the NPOs’ survival.

Such a labor driven production have several implications. **First**, all NPOs are politically and economically important public employers because of their size and contributions to the national economy. Many countries even use the NPO as a macro tool to create jobs in time of high unemployment (Walsh, 2002; Panzar, 1994, pp. 24-32). In the EU, post offices employed about 1.6 million persons accounting for almost 0.8% of all jobs and contribute
0.9% of total GDP. In America, the USPS employs approximately 700,000 employees, making it the country’s 15th largest employer and contributing approximately 1% of total GPD, while the Brazil Post employs 82,253 employees, making it the biggest company in Brazil in number of employees. In Asia, the India Post employs 600,000 persons, China Post employed over 688,000 in 2005, and Japan Post employs over 271,000 persons (Universal Postal Union, 2002, p. 69; Muma, 2003, pp. 7-10).

Second, it is hard to markedly improve efficiency and performance of the NPO. Arguably, many contend that while technology can help in other public utility industries, like telecom or transportation, applications of technology in postal sector to increase performance and productivity are probably limited (Crew & Kleindorfer, 1992). Thus, any incremental/marginal approach to improve performance would rely extensively on the labor policy only (Wachter, Hirsch, & Gillula, 2001; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 104). However, restrictive labor regimes are keeping wage costs high and limit the flexibility of the NPOs in employing labor in the most efficient manner. Organizational and operational efficiency is hard to achieve since secure public jobs coupled with the high formalization and standardization of postal procedures give little incentive to postal employees to work innovatively and effectively. In a retail context, numbers of workers cannot easily be changed to reflect changes in the volume of transactions (Guislain & Lee, 2004, p. 12). This high labor content contributes to the physical limitations in service provision – particularly as regards cost and service levels (Wik-Consult, 2006, p. 176; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 20). The situation is even worse where overstaffing is the case. Some postal managers abused the NPO for self-interest by bringing as many family members as possible to their offices, regardless of the actual work demands and the associated extra costs (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, pp. 1,4,95; Commission of the European Communities, 2006, p. 3).

Third, not only is overstaffing problematic, highly unionized labor also generates further problems for the NPOs, limiting their ability to control cost. According to the UPU, “Postal workers in most countries are organized into unions or trade associations. In some postal administrations, labor is a driving force for change while, while in others it will try and block any sector reform movement, largely out of a fear that such reforms could mean a loss of jobs or other drawbacks for postal workers” (UPU, 2004, p. 35). Any reform policy of a major kind generally faces strong postal unified
labor resistance; for any chance of success, the postal workforce needs to be engaged and involved in the postal reform process.

In sum, the size and the unionization of the workforce involved are often an obstacle of reform (OECD, 1999, p. 31). The labor driven production leads to the chronic problem of low productivity which is being discussed in the next section.

2.1.3. Poor productivity

Poor productivity that leads to rising cost is one of causes of poor financial performance. Developing countries have the lowest productivity figures. The World Bank found the efficiency of incumbent operators is weak. Developing countries deliver perhaps one-tenth or fewer letters per employee than developed countries; the developed countries have better rates but still not on a par with the private sector (World Bank, The Postal sector in Developing and Transition countries, 2004). Even in the U.S., “despite major gains in efficiency and productivity through automation of letter mail, the costs of maintaining an ever-expanding postal network are rising faster than revenue, especially costs outside the direct control of the Postal Service, such as retirement and health benefit liabilities” (USPS Transformation Plan, 2002). The GAO’s report, “USPS – Major Management Challenges Report”, showed that that “postal productivity … increased only about 11 percent in the past three decades – despite vast changes in automation and information technology”. In fact, productivity declined 3.3 percent from fiscal years 1993 to 1999, and improved only modestly thereafter. For another example, the gap in postal labor productivity between Italy and the average for the other industrialized countries range from 13% to 40% (Studies of Palm (1987), Perelman and Pestieau (1988), Compagnie et al. (1991), EEC (1992) quoted in Comandini, 1995, p. 8). The challenge is even greater for an incumbent operator in a developing country, where mail volumes are significantly lower and the scope of services narrower (Guislain & Lee, 2004, p. 12).

The productivity gaps between NPOs and private firms are fairly significant. For example, the Royal Mail of UK in its website reported that its competitors were 40% more efficient than it was7. The Postal Rate Commission found that the USPS’ "nonproductive time" constitutes 28.4 percent of mail-processing labor costs; there is one manager for every ten

workers at the USPS, compared with one for every 15 workers at Federal Express (Hudgins, 1996)\(^8\). Those gaps may be partly attributable to the difference in incentives between the NPOs’ break-even policy and a private firm’s earning-a-competitive-return policy, as well as the extra hidden subsidies the NPOs get from government\(^9\). The incentive structure of postal systems under the break-even basis is flawed: no shareholders or other residual claimants demand accountability from postal management and profit from increased efficiency (Atkinson, Shane Ham, and Robert, 2001, p. 9; Crew & Kleindorfer, 2003, p. 190). There is little relationship between performance and rewards, and the combination of the postal grading system, salaries and taxation means that the senior management structure runs out of financial incentives in its lower echelons. Moreover, top management is on weak ground when exhorting local managers to save money when the results of local effects cannot be traced through to some positive ends at the national level (Corby, 1979). For the USPS, Peter Ferrara found that USPS was able to overpay its bureaucracy in salary, perks, and benefits, while minimizing work obligations for each employee. The organization does not put pressure on workers to maximize effort, minimize waste and costs, and produce the best service for consumers, as do organization that must face competition every day, therefore consumers suffer poor and deteriorating quality (Ferrara, 1990, p. 2). He quoted a recent study by the USPS that costs for routes on which services are contracted out to the private sector are about 50% less than the cost for the USPS to provide the same service directly. A series of GAO reports over the last decade on the factors underlying the USPS’ unimpressive productivity record has documented persistent problems in the corporate culture and workplace environment, including low employee morale, adversarial relationships between postal management and union leadership at the local and national levels, an “autocratic” management style, and an inappropriate and inadequate performance management system\(^{10}\). The widely held view among employees is that the USPS management

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\(^9\) Such as NPOs are exempt from taxes and regulation that private firms have to pay and comply: no parking tickets, no sale and property taxes, favorable borrowing rate.

fails to recognize high performance and tolerates poor performance. Whether justified or not, these are perceptions and attitudes that inevitably impede efforts to improve labor productivity (Comments of The EMA Foundation Institute for Postal Studies before President’s Commission on USPS, 2003, p. 49).

The India Post (The Reform of India Post, India Post, 2002) study attributes low productivity in NPOs worldwide to overstaffing while downsizing is not politically feasible, and existing staff frequently do not possess the requisite skills and experience. This is a problem that postal organizations worldwide have faced and for which none has developed a suitable solution, except where postal operations have been fully commercialized. India Post found “incentive mechanisms are also weakly developed. Performance-related pay is almost nonexistent, and virtually all promotions are based on seniority rather than capacity. The number of external hires is small. All specialists and managers - even at the highest levels - have been developed from within the organization”.

2.1.4. Poor Management

Poor management policy characterized by low autonomy, accountability and transparency requirements may be the main source of poor financial performance (World Bank (Pierre Guislain), 2004, p. 7). The management style of the past decades was often bound to rules and regulations, which resulted in a bureaucratic indifference to the needs of the customer (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. xv). Regarding internal management, according to Tim Walsh, the NPO management performance in developing countries suffers because (i) the postal managers typically face poorly articulated, multiple and often conflicting objectives; (ii) accountabilities are not clear as there are few explicit performance target and incentive structures to promote right behavior; (iii) excessive political influence over management (Walsh, 2002). Regarding governmental management over the sector, poor management results from guaranteed subsidies which give little incentive to the

NPO to operate in the most cost-effective manner. Also, there is a conflict of interest when the government plays the roles of regulator and operator simultaneously. This old organizational arrangement of postal departments appeared to restrict managerial flexibility, stifle innovation, discourage cost-consciousness, and cater to the demands of special interests, with the consequent dramatic increase in transaction costs (Tierney & Sherman, 1980; Crew & Kleindorfer, Rowland Hill's contribution as an economist, 1991, p. 5). Additionally, NPOs do not possess data and accounting systems that can capture accurate cost and revenue data to help management decision making – it is generally understood that real performance is often far from what is published (UPU website, viewed 2002; Tim Walsh, 2002). Cohen identified a source of this information problem as the fact that routes are scattered all over the country making it too costly for auditors to identify and separate mail addressed to these boxes from their remaining mail (Cohen R., 1993).

The management autonomy is also made difficult by political pressures (Atkinson, Shane Ham, and Robert, 2001, p. 7). Postal policy is widely thought to be highly politicized in every country. Under political pressures, an NPO has to maintain readily-accessible postal facilities throughout the nation and cannot close an underutilized post office or a delivery route solely because of an operating deficit. In the USPS case, “excessive political interference in operational matters … post office counters are often established or maintained in particular constituencies for political reasons, without any network or service logic” (Tim Walsh, 2002). This leads to the wide belief in the US that “much of the Postal Service’s existing physical plant is redundant, obsolete, or otherwise uneconomic in its size, location, configuration, or design”.

In sum, management in overall has often shown little inclination to do the hard work of restructuring and reorganizing to cut costs. This results in the continued operation of underutilized or unnecessary postal infrastructure, and consequently serious financial deficits (OECD, 1999, p. 31).

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2.1.5. Serious Financial Deficit

Serious financial deficits or unduly low returns are a direct result of the challenges enumerated above, namely poor productivity and poor management. Virtually, all NPOs suffer different levels of financial deficit, which are becoming a persisting burden for the national budgets. According to the World Bank: “The sector represents a consistent large financial drain on the budget. In most developing countries, the service is unable to generate sufficient income to cover its operating expenses” (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, pp. 1, 5). This “created large financial deficits in countless postal administrations around the world”. The principle cause was “Cost factors were not given sufficient weight in government decision-making processes” (UPU, 2004, p. 5). As a result, the sector suffers from chronic underinvestment (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 5).

In terms of return on sales, the postal sector throughout the world is operating at a loss (about -3 percent return on sales) in 1998 (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 5). Some examples of NPOs operating at a loss in 2001 include USPS, Japan Post, India, China, Russian Federation, Thailand and Jordan (Tim Walsh, 200112). It should be noted that, commercial postal operators like UPS and FedEx also suffer from economic downturns. According to UPU, two thirds of public operators are anticipating a drop in the proportion of revenue generated by the letter post (which accounts for 58% of total postal revenue) (UPU, 2004). Previously, when the Post was still with the Telecommunication in a single organization that shared human and other resources – the Post-Telegraph-Telecommunication, the postal loss would be automatically compensated by a subsidy from its financially healthy brother Telecom; otherwise, government would reimburse the Post from the general national budget. With monopolistic power over pricing and statutory mandates, NPOs have generally found it easier to raise prices or to go to the Government and Congress/Assembly for subsidy increases rather than take on the painful job of cutting costs. The resistance to cutting costs thus is high (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, pp. 61-85).

12 Tim Walsh, Economic development and postal reform, presentation at the UPU postal development action group, Berne 20 April 2001.
The sector market also poses new set of problems leading to lower unit revenue, furthering poor financial performance. While the growth of physical volumes for traditional products are predicted to go down, more delivery addresses are being added each year to the network as a result of growing population, e-economies, and international trade, which implies lower unit revenues and higher postal rates to recover total costs. For example, the USPS in 2003 delivered 133% more mail to 72% more delivery points with only 17% more employees compared with the USPS in 1971. The USPS's network has 1.7 million new addresses added every year, making deliveries per route increase from 520 in 2005 to 530 in 2007, while at the same time volume growth has slowed down due to competition (USPS - Annual Report 2007, p 56). Unfortunately, net income is going down, causing a decline in revenue per delivery point from $469 in 2000 down to $433 in 2006 (USPS Vice Chairman Alan Kessler, 2007; Stevens, 2004, p. 2; USPS Comprehensive Statement on Postal Operation, 2007, p 44-56), pushing the USPS to “offset the disappointing revenue with cost reductions and new strategies for growth” (Potter, 2007 (April 17)). This decreasing unit revenue increases pressure to outsource delivery to low-cost alternatives.

2.2. OPPORTUNITIES AND POTENTIAL SOLUTIONS

The situation described above persisted for many years, during which time postal services could rest assured that their operations were not – nor could they be – subject to any form of competition in a completely stable postal environment. The existing postal institutional model is inconsistent with the new environment, leading to limited performance. Further, the NPO’s poor performance was increasingly seen as inhibiting national economic efficiency and productivity (UPU, 2004, 2006; Robert M. Campbell, 2001; Richard Geddes, 2000, Michael Crew and Kleindorfer, 2000; Tim Wash, 2002). Despite this fact, a majority of NPOs are still government departments (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 5) operating without the necessary degree of administrative flexibility and financial autonomy required to meet the challenges posed by the growing demands for postal service in competitive environment. Concerned about the postal losses, budget deficits, and poor

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service performance, governments around the world have been finding new postal policy directions (UPU, 2004; UPU - Strategic Planning Group, 2006, p. 42; EU's Postal Directive, 1997, 2002; Commission of the European Communities, 2006; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 2).

Recently, in many parts of the world, the postal industry is in different stages of a structural adjustment process marked by two main trends, namely (i) market liberalization and (ii) public-private partnership. Except for a few isolated attempts at full privatization (e.g., Sweden, New Zealand, Singapore, Japan), “…there are no signs of any specific ongoing efforts in this direction”. Thus, the trend is apparently to keep the official postal service under government control to a certain extent (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. xiv; UPU, 2004, p. 19).

There are however opportunities for the NPOs to meet their challenges in innovative ways.

2.2.1. Technology solutions
According to Universal Postal Union, any postal authority that is planning to reform or improve its services should include technological reform high on its agenda. Technology not only presents threats but also provides opportunities. The technologies are being exploited for “New-Economy” services. The posts are both using and offering technology solutions (Universal Postal Union, 2002, p. 37; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 22).

Internally, the Posts are replacing old paper-based models with new IT and internet-based applications for management (e.g., data treatment, internal document circulation and communication). Information technology helps NPOs to process and synchronize data that are necessary for precise management and accounting purposes. That helps cut labor costs while increasing significantly management performance. Also, increasing applications of technology in most of Europe, Japan, and the US help substantially increase the productivity of NPOs in OECD. In the US, for example, mechanization and automation raised the total productivity growth since postal reorganization to 50 percent between 1971 (the year the
USPS was created) and 2000. Especially, the USPS gained improved productivity in a period of 7 straight consecutive years.

Externally, the posts are applying communication technologies to provide value-added products and services to customers (ranging from the hybrid mail, track-and-trace service, online postage, to the provision of e-mail addresses to the public, online financial services, to the operation of portals, and e-fulfillment services). For postal services in a number of countries, technology has been a generator of growth for physical mail. Overall, the financial contribution from those services is currently small but growing and is seen as a potentially significant revenue stream in the longer run (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, pp. 131-149).

For the near future, the World Bank and the UPU jointly claimed that, “unless the postal service integrates communications technology into its service provision, the economics and the changing market preferences may prevent the post from providing a truly universal service.” This is because the explosive growth of the communications market will force more NPOs to move beyond their core business of physical mail, diversifying in order to broaden the range of choices they offer their customers. To maintain their position and fortify their competitiveness, NPOs need to develop hybrid postal products which combine electronics communications technology with traditional hard-copy delivery (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 22; World Bank (Pierre Guijslain), 2004, pp. 12-15).

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However, investing in technology research and acquisitions has trade-offs. Technology is expensive and for long-term benefit only. Technology investments would in the very short term increase spending and lead to frequent and higher rate increases, which could spur

political and social grievance\textsuperscript{16}. On the other hand, a policy of no additional technology-related investments while helping reduce spending and avoid rate increases may see continuing increases in the postal workforce and eventually higher postage rates in the longer term. Thus, this opportunity is arguably feasible only to the industrialized countries (which generate 83\% of domestic letter items\textsuperscript{17}) and a few wealthier and populous developing countries. This is because for less developed countries (e.g., Africa), technologies are prohibitively expensive and cannot be justified by the low domestic volumes. For example, an automated sorting plant imported from Germany costs the USPS several hundred millions of dollars, which is equivalent to annual revenues of a typical NPO in a developing country like Vietnam (whose operating revenue was 62 million SDR for 2004 compared to 44,430 million SDR of the USPS\textsuperscript{18}). In addition, mechanization is impeded by operational and maintenance issues, including the absence of standardized letter shapes and thicknesses, erratic electricity supplies, dependence on foreign spare parts. Also, mechanized plants are cost effective only with high economies of scale and scope which can be attained only in the industrialized countries where around 80\% of population live in high-density metropolitan areas, or in China and India where populations of some major cities reach over tens of millions. In addition, automation may require restructuring of postal production networks, re-training of workers, and educating mail senders to comply with postal standardized items. This is very time-consuming, costly and differentially benefits stakeholder classes.

\textsuperscript{16} Even in a rich country like the United States, more recently, postal management has decided to cut almost all investments in technology to reduce spending and avoid more frequent and higher rate increases (Mailers Council’s testimony before the President’s Commission on the United States Postal Service. Feb 12th 2003. Page 17).

\textsuperscript{17} UPU, The worldwide postal network in figures http://www.upu.int/news_centre/documents/en/brochure_the_worldwide_postal_network_in_figures_en.pdf

\textsuperscript{18} UPU – Statistic query which was made in www.upu.int on Oct 2007.
2.2.2. Economic solutions: Partnerships, work-sharing and contracting

Phasing in competition and phasing out monopoly is an institutional trend in the postal sector in industrialized and EU countries. In this process, contracting out parts of the service delivery is perhaps the preliminary step, preparing for the next larger scale reform of privatization (UPU, 2004). Bringing in the private sector for the management and provision of the postal service may be the most prudent, and most rapid, way of upgrading the management capability of the postal organization in low income and middle income countries as well (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 24)

Many countries have outsourced elements of the internal services of the Post to outside low-cost and competent private firms. Private sector participation is introduced into the system so that the postal incumbent can explore outside proven modern expertise to cut costs or improve performance. Private sector participation can be developed through outsourcing non-core activities (i.e., building and car fleet maintenance, cleaning, office and equipment supplies, information, etc), franchising retail outlets and providing third party services through postal outlets. In a number of countries, franchising has led to a significant increase in access points in rural areas. Diversification in the form of providing of non-postal services on behalf of other companies is a useful way of generating additional income and expanding the scope of the postal retail service. In the U.S., postal office buildings can even be sold and leased back to the core business. Even core functions such as transport services can be provided by third parties who can share logistics costs and reduce postal fleet costs (Joe, 2006).

This section provides a brief on common tools to introduce private sector participation to improve the performance of incumbent postal operators, including performance contract, management contract, and concession (See Figure 3).
In a **performance contract**, the government and the postal operator negotiate and agree on objectives and the means to reach them. Typically performance contracts deal with: (a) legal and institutional changes; (b) economic regulation such as tariffs, price caps, salary increases, and employment targets; (c) scope of universal service, and subsidies to compensate for their cost; (d) financial commitments to increase capital or provide loan guarantees; and (e) financial and operational performance targets (revenues, cost reductions, productivity, quality of service and customer satisfaction, etc.). They tend to be an excellent tool to track success in efforts to improve public sector performance, but typically lack the incentives needed to make significant improvements or sustain them. Tanzania and Morocco are among the countries using performance contracts in reformed posts with incentives and penalties for achieving and failing targets. Tanzania implements market liberalization through new licensed competitors. Morocco has entered a number of partnerships with private sector firms. The reforms have resulted in viable postal services with increased access and diversification of services (World Bank (Pierre Guislain), 2004).

By a **management contract**, the governments of Trinidad and Tobago, Guatemala, and Malaysia expect to rapidly and fundamentally improve the operations and the financial performance of the postal incumbents, through the introduction of experienced and focused management. Although management contracts do not involve as strong incentives as would
be the case with private ownership and investment, they can be a good way to achieve a quick transformation of the postal operator. According to a study by the World Bank (2004), Trinidad and Tobago outsourced the management of the Post to help transform the company into a commercialized business which the government could later privatize. A five-year management contract focused on five key performance targets of customer satisfaction: universal delivery, quality of service, total revenue, and net income, and the contractor was paid for performance in those five key areas. Four of the five targets have been met with substantial increases in volumes, revenues, and delivery, significant improvements in customer satisfaction and quality; positive net income however has not yet been achieved.

Guatemala also opted for a management contract to improve the management of the postal service (1998). The contractor had an obligation to provide a basic service for letters weighing up to 20 grams. In return the contractor received a government subsidy per item, and had exclusive rights to the postal network which was used as a platform to provide other services. The management contract resulted in increased volumes, improved quality and efficiency, and a reduction in subsidies paid by government. The success of the management contract led to the signing of a 10-year concession agreement in May 2004. The agreement changes the method of paying for the USO, and a regulatory function is being established to regulate all operators in the market (World Bank (Pierre Guislain), 2004, p. 9; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 17).

**Concession** is another approach to introduce private participation by providing a private company with the right to operate the postal enterprise at its own risk for a fixed period. In return the concessionaire commits to investing in the company and to the provision of specified services. The key ingredients to successful concessions are to ensure that the government, the concessionaire and the customers all benefit from the concession agreement. Other key ingredients to a concession agreement are clear service targets and access goals. Observations give inconclusive results: concession in Argentina failed, but in Guatemala it worked. Guatemala pays the concessionaire for the provision of universal service (per item) and in return receives a percentage of all revenues. It also receives a fixed rental payment for postal outlets and buildings and the rights to certain services (World Bank (Pierre Guislain), 2004, p. 10; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 18).
Worksharing is a specific type of contracting which has been used extensively in Europe and the US (UPU (Fouad Nader; Michael Lintell), 2008, pp. 41-44). Because even total liberalization of the monopoly may not be effective in creating postal competition (e.g., Sweden and New Zealand), worksharing may be a more effective way to introduce competition into a postal market. Robert Cohen defined “Worksharing” as essentially an unbundling of the postal value chain that allows mailers to select the activities they wish to purchase from the NPO with the provision that the NPO always performs the delivery function. The basic idea is those NPO functions that can be performed better and at lower cost by the private sector should be outsourced to the private sector. Worksharing includes typically presorting, pre-barcoding, transportation, or downstream entry (e.g., drop shipping). In the US, workshare mail now accounts for over 78% of total mail volume, approximately $15.3 billion or 25 percent of the total USPS costs of $62.2 billion (Merewitz & Zupan, 1993; Cohen R., 2003). If the USPS had no worksharing discounts and instead performed all work on its total volume in 1999, its costs would have been $77.5 billion. It is reasonable to conclude that the net savings to mailers and to the U.S. economy are quite substantial (Cohen, Ferguson, Waller, & Xenakis, 2002).

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Attractive as these economic solutions seem to be, they nevertheless encounter several impediments that come from three major factors: values, institution, and market and service (Read Brown, Potoski, & Slyke, 2006) as analyzed in the following section.

2.3. Impediments

The NPOs’ ability to do its work is influenced by expectations of changing stakeholders (i.e., Congressional, Board of Governor, customers, mailers, suppliers, labor unions, contractors) and postal priorities, political mandates (e.g., universal service, budget constraints), and market conditions (UPU, 1996; USPS, Office of inspector general, Five year Strategic Plan, 2004, p.8).

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20 See more on Cohen, Testimony before the President’s Commission on Postal service, 2003
2.3.1. Value Impediments

In any society, public values vary along groups of stakeholders, communities, locations, and political contexts. Such variations lead to non-alignments of interests, which are a major impediment to the efforts of reform. Major value impediments in the postal sector come from the divergence in stakeholders’ opinions over issues like (i) the balance between improving service versus the cost to provide that improved service, and (ii) retaining a monopoly for equity purposes versus introducing competition for quality and cost efficiency.

Major impediments also rise from the battles of values in the relationships among major stakeholders: government – service recipients, postal managers – labor unions, and NPO – suppliers and potential competitors, with the mediating role played by elected politicians. In the end, actions of postal policy must reflect the balance of those stakeholders’ values.

The government–citizen relationship encompasses how to maintain at least universal service availability. From the government standpoint, social equity and national economic development are primary concerns. However, there are value variations across countries. Many countries consider postal service an inherent governmental function for its vital role in the society and economy as a communications infrastructure connecting people, facilitating education dissemination, economic exchanges, and moderating poverty (UPU, 2004, p. 6; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 61). Physical delivery service is also a UN-chartered human right that must be guaranteed by government (UPU, 2004; Crew & Kleindorfer, 1992, pp. 1-2). For those reasons, government direct provision of affordable universal postal service to every citizen regardless of geographic conditions was a must regardless of cost, a policy tool that prioritized social equity (e.g., service availability and accessibility for all, responsiveness to popular demands, employment,) rather than economic efficiency (financial success, productivity). As previously mentioned, because of the affordable pricing policy in which services were priced under-cost and uniformly, most NPOs suffered heavy financial deficits and thus needed to be compensated from the government budget. Nowadays, however, higher income and living standards and communication technology advancements have resulted in changing household and business consumption behaviors, reducing the importance of postal services alone to the society and
national economy. Some nations now may contend that postal services are not intrinsically governmental but are potentially a commodity or marketable good (Japan, Sweden, New Zealand, etc) (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, pp. 17, 93). Those nations argue from the market position, which contends that universal services are economically beneficial and therefore can be left to the private sector (World Bank (Pierre Guislain), 2004). Thus, the priorities of financial success, effectiveness in management, and efficiency in technique have increasingly overwhelmed former considerations, especially in developed OECD countries (UPU, 1999; Vittes, 1985, p. 504; Commission of the European Communities, 2006). Under this new perception, postal policy may no longer be considered a policy tool of government, leading to the connection between postal services and public benefits being weakened or even lost (Vittes, 1985).

That emerging new policy direction may sharply conflict with the vantage point of a large portion of service recipients and their interest groups, whose primary concerns are with accessibility, securing safe and reliable services, and equality of treatment. Most of them consider government to be associated with “fairness”, “reliability” and “affordability”, and thus direct government provision of a public service is preferred (Savas, 2000). A public NPO is more favored than a privatized postal operator or private postal firm is, since the general belief is that the private firm would sacrifice public benefits for their seeking for profits (such as increasing price, reducing delivery frequency, closing unprofitable rural routes and post offices, and so on. Other concerns include privacy protection and the possibility that merely privatization may transfer a public monopoly into a private one with worse outcomes (UPU - Strategic Planning Group, 2006; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, pp. 27-30).

In the relationship between the NPO with its labor unions, suppliers and competitors, the values battle encompasses the implications of a different business model of postal service provision. From the postal managers’ standpoint, efficiency and productivity may be top priorities. Reducing staff, automating, buying external expertise and efficiency are their preferences. This viewpoint is shared by suppliers and potential delivery competitors

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because it opens up business opportunities for them. However, this viewpoint by nature encounters strong resistance from postal labor unions, whose job and wage security is in danger under any organizational change. Efficiency-oriented policies often encounter difficulty in implementation because of non-cooperative attitude. In some countries, the labor unions are so strong that they can resist most efforts to implement reform (e.g., USPS).

The competitors’ concern is about guaranteeing a level playing field in the market, through liberalization partially or fully, so that they can compete freely. Competitors are concerned that the incumbent NPO may have access to funds that are not available to the entrant, and it may use such funds to engage in anti-competitive pricing. These funds might come from protected services or from the state or from other sources (such as funds to subsidize universal services). From its standpoint, the NPO is concerned that the competitors may cream-skim the profitable areas only, leaving universal service burden to it, thus requiring a fund or preserving protected areas to sustain production.

The above value incongruence of stakeholders necessitates the mediating role of elected politicians, whose primary focuses include political accountability and responsiveness. Some aligned with postal labor unions may argue that direct government involvement in service provision and market regulation is the primary way to guarantee government accountability and sustain widely accessible and affordable postal services. Others aligned with postal managers may argue that postal policies have failed the targeted beneficiary – the households – since businesses and mailers take most of the benefits from the (traditional) affordable postal service policy22. The national budget in this case was largely misused to subsidize economically-able entities with universal services when they need more value-added services. The politicians aligned with businesses or mailers may argue that the businesses-to-households and urban-to-rural cross subsidies policy in the postal sector23 has unnecessarily overpriced services to businesses and urban users. Volume usage should mean a price discount.

22 80% of mail traffic flows between organizations, not to- or from-individuals.

23 This policy aims at sustain service availability for economically and geographically disadvantaged citizens.
In summary, the public and political pressures on the reformed model of the NPO differ from those of the old post office departments. The notion of who is “the public” also differs. Reforming an NPO from a non-profit to commercial entity requires a process to depoliticize and professionalize postal operations (Vittes, 1985). This leads to a differing value structure implicit in the operations of this public entity, resulting in fundamentally altered conceptions of employment and productivity. Since most organizations and individuals resist change, the NPO’s managers’ attempts to make decisions which can mediate stakeholders’ values incongruence often encounter impediments. Currently, stakeholders’ value incongruence as explained above has made salient a need to split commercial services from universal services to serve business and household separately, and unbundling the production chain to outsource components which can be done cheaper and more efficiently by the market (suppliers and even potential competitors).

2.3.2. Institutional impediments

Institutions are the arrangements that bind economic systems: labor market, firms, services market, banking, international trade (Coase, 1937 as quoted in Williamson O. , 1993). The provision of postal services is governed by the postal law and regulatory policies.

Postal law in almost all countries defined NPO as a non-profit public organization which is owned and operated by the government. No private firms were allowed to participate in the market which includes delivery services for letter mail and parcels to households and businesses’ door. Contracting in postal organizations was discouraged and very limited. Nowadays, certain countries allow some degree of competition in the postal industry. In OECD countries where postal reform policy is advancing, only a few have completely liberalized their postal sector; other countries retain a reserved area for the incumbent NPO. The statutory monopoly and public ownership fail to give NPO necessary incentives to be aggressive in cost-cutting, a basic ground for contracting decisions. In the case of the United States, the Postal Act 1970 with collective bargaining process has a provision requiring that any contracting decisions of the USPS be discussed with postal labor unions; this constrains the discretion of contracting officers (USPS Vice Chairman Alan Kessler, 2007).
Regulatory policies also create certain impediments. The freedom of postal management in a monopoly situation is mainly constrained by requirements to meet break-even principle and the lengthy pricing regulation\textsuperscript{24}. Traditionally, a common financial requirement in postal sectors is the break-even principle, based on the NPO’s mission is to serve the public and not to make profit (UPU, 2004; OECD, 1999; WB and UPU (Kumar Ranganathan, Rohini Dey), 1998). Very few countries have undertaken regulatory reform (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 3). This break-even policy requires pricing certain services at a certain level of quality at a price that would not normally be economically justifiable (OECD, 1999, p. 10). Consequently, there are no strong incentives for innovation and cost containment, and an outsourcing plan of postal managers would get no ground support from within (Panzar, 1993; Panzar, 1994).

The regulation mechanism is constraining the flexibility of NPO’s pricing and service policy as well. Pricing for the postal system is far too insulated from market forces. Part of this comes from the problems inherent in lengthy rate cases: to change postage charges for a service/product, NPO has to submit its justification to a regulatory commission which goes through time-consuming regulatory process to support or reject the approval. NPOs are therefore locked into a pricing system that do not give them flexibility and that will not allow them to negotiate prices with major partners. This reduces the scope for local marketing arrangements, and encourages centralization, as unit managers do not have real power.

In sum, the nature of institutional constraints enumerated above significantly impairs NPOs’ ability to respond efficiently to changing market conditions, substantially degrading the effectiveness of the decision-making process, and limiting its ability to correct mistakes and adapt to change promptly.

\textsuperscript{24} E.g., either by a requirement to maintain a geographically uniform tariff (at least for the price of a standard letter) or by some form of price cap. All OECD countries reported that the price structure of the incumbent allowed discounts for bulk or pre-sorted mail (OECD - Directorate for financial, fiscal and enterprise affairs. Committee on competition law and policy, 1999, p. 8)
2.3.3. Markets and Services impediments

The overall movement toward commercializing postal operations in advanced countries is impeded not only by value incongruence and institutional arrangement, but also by certain difficulties inherent in the services and their marketplaces. The difficulties relate to the nature of tasks to be performed and the relative competitiveness of service marketplaces, which may make some activities more successfully outsourced than others. The characteristics of a service which affect its marketability include three major components: (i) asset specificity, (ii) service tasks definability, measurability and monitorability, and (iii) the competitiveness of the market of the service (See more in Chapter 3). All three groups determine to the degree of transaction costs and the ease or difficulty of implementing a contract.

The postal network presents a number of specific features that have crucial impacts on all issues of organization and production policies. The traditional vertically-integrated structure leads to strong economies of scope, scale, and network, where more functions are served by the same system. This vertically integrated structure of a post is based on the widespread consensus of the natural monopoly feature of the network industry. By contrast, the recent emerging economic view of OECD countries contends that only a segment of the network should enjoy the natural monopoly status: the distribution network. Other segments could have quite competitive markets. For example, collection of mail can well be done by retailers; transportation of mail can be outsourced to airlines or truck firms. Even within the distribution network, it can be argued that while natural monopoly maybe true for the segments in rural areas, it does not describe those in urban areas (Crew & Kleindorfer, 2002; Panzar, 1993).

Transportation may be the best candidate for outsourcing, as it is a simple service with many vendors. Defining tasks a contractor has to fulfill is rather easy (e.g., move all mail bags from A to B in every morning within X hours safely) and it is easy to monitor the contractor’s performance (e.g., count mail bags in and out, visually check integrity of mail bag, track mailbags’ weight before and after transportation, verify name tags, check schedule commitment, and so on). In addition, transporting mail does not have any asset specificity (i.e., no specially equipped truck required), the sunk investments of transportation – highways and airways – are owned and operated by the public sector. Thus, contracting mail
transportation is not a complex task. However, while long-distance transportation has constant returns to scale, short-haul transportation (typically between post offices and mail-processing centers) may exhibit some scale diseconomies resulting from scheduling constraints and the need to operate some less-than-truckload movements. This difference should entail more effort and costs to materialize short-haul contracts. This is reflected by the fact that much short-haul transportation is undertaken by the USPS itself, while most long-haul transportation is contracted out (Panzar, 1994, p. 4). In any event, a substantial portion of the USPS’s total transport activities are contracted out (USPS Vice Chairman Alan Kessler, 2007).

The sorting function may encounter more challenges in being outsourced because of its rather high asset specificity (i.e., high sunk costs of specialized facilities which cannot be used for other purposes). This may inhibit private investment in a sorting plant project to do business with the USPS with no assurance of a favorable outcome. Once a private firm decides to build a sorting center, it has to locate the facility at the right network location, design and install automated equipment with the right features. But even with lower unit costs, the firm cannot be sure it will get the contract because of potential labor unions opposition, or low volumes that do not necessitate a new sorting plant, or simply no intention from the USPS to outsource sorting in this particular area. Thus, a true market for sorting activity has not developed by modern postal organization. This reflects in that virtually all NPO around the world perform sorting mail internally.

Supplies and maintenance are peripheral functions of the NPO as with other organizations. The marketplaces for them are quite competitive and efficient, market information is readily available, and contracting them does not present a special challenge.

2.4. CONCLUSION AND RESEARCH QUESTIONS

The political and institutional contexts as well as the market conditions of postal services described above give rise to some compelling research questions. In order to improve overall performance, what functions or activities should the NPO produce internally, and what should the NPO go to the market for? In the context of chronic postal deficits worldwide, this question is important in the process of searching for viable business models for the NPOs that are more economically efficient, effective, and accessible to all.
In the United States, the Clinton Administration’s Reforming Government program (1993) reflected a change in the values that underlie public policies which involved public service provisions. The USPS is not fully outside of this context. The motivation of this dissertation is to develop an understanding on how the developments of environment factors – values, institutions, and markets – frame and drive the use of contracting in the USPS. Such understanding would contribute to the current literature on public contracting, with application to a very particular case of a public monopoly which operates outside most federal laws on acquisition.

The next Chapter is going to provide a theoretical explanation of the make-or-buy decision of a NPO, based on which it develops four propositions on how the values, institutions, and market influenced the postal contracting policy and practices.
CHAPTER 3

THEORY

3.1. OVERARCHING FRAMEWORK: VALUES, INSTITUTIONS AND MARKETS (VIM)

The compelling research questions that come from postal challenges and potential solutions are the questions of how postal organizations decided to organize their basic production processes or how and why they changed in response to changing environment conditions. Specifically, (i) Why are some tasks conducted internally, with public personnel, while other tasks are bought through contracts with outside vendors? (ii) What factors drive the practices of contracting in the USPS?

The framework I am going to use in answering the research questions above is the one suggested by Trevor Brown, Matthew Potoski, and David Slyke (2006), which takes into account the combination of three main components values, institutions and service markets conditions throughout the whole contract management process. This is a comprehensive framework for researching contracting.

An organization’s missions (which manifests the values), market control (which coordinates through price), and institutions including hierarchical control (which coordinates through authority and rules) and trust (network interdependence) all play a critical part of a successful contracting government (See more Dudley, 1999; Seidenstat, 1999, p. 46; Ouchi, 1980). Thus, values, markets, and institutions are three critical dimensions of the contracting environment. The government first maps out expected values that the task (i.e., perform a function, produce a goods, deliver a service) should bring about. Then, based on market conditions, it decides the ways that task should be performed in-house or externally, and
establishes institutional arrangements to guarantee appropriate product provision. On one hand, the interactions between values–markets would drive the institutional arrangements. On the other hand, the constraints that institutions impose on values and markets would provide forces to shift the values and inform the market conditions to change.

Figure 4: Groups of factors which influence the outsourcing environment.

First, values exist in any society. Common values in the public sector include equity, efficiency, and effectiveness which are associated with the organization’s founding missions. Because different participants in any program have different values, motives, organizational culture, and management techniques, there is inherent variability of values across communities, states, and nations. As values and motives influence the roles and actions that stakeholders play in the political process, and stakeholders always seek to maximize their own utility while minimizing associated risks, “value nonalignment” would pose significant problems for effective management to best reflect all stakeholders’ preferences (Kettl, 1988, p. 14; Savas, 2000). Make-or-buy decisions for public services, thus, in part involve fundamentally a political choice with important political consequences. Political factors – such as the orientation of the political culture, the general public opinion toward privatization, court attitudes (Moe, 1987), the level of unionization of the public employees
and the influence of public unions (Naff, 1991) – play an important role in determining values.

Second, the discretion of managers to make decisions is, however, under the constraints of institutions. An understanding of economic activity requires systematic inquiry into the institutional context in which such activity takes place (Coase, 1937). Government by proxy inevitably produces deep conflicts in values and methods, and those conflicts predictably cause serious problems in performance and accountability. The institutional mechanisms are to create a fair and organized playing ground for all parties involved in the contract, to hold elected officials and bureaucrats accountable for their decisions, as well as to provide guidelines and techniques that are necessary for contract managements to keep the right track in implementation (Kettl, 1988, p. 14; Moe, 1984). They include (i) legal institutions like public rules governing the range of actions that can or cannot be taken, and (ii) other structural aspects of the environment like organizational arrangements which define capacity/resources the managers have in delivering services (Moe, 1984, pp. 742, 762; Brown, Potoski, & Slyke, 2006).

Finally, characteristics of the market conditions of the service in consideration also affect the make-or-buy decision. Service characteristics (like marketability, task definability and measurability, and asset-specificity) and marketplace characteristics (like competitiveness and information asymmetry) all affect contracts’ transaction costs, and consequently their implementation and performance.

In summary, all three set of factors above have effects on how efficient transaction costs are associated to contracting process. “In this framework, (1) stakeholder preferences and democratic processes establish the values to be optimized in service delivery; (2) public law and organizational arrangements determine the contracting tools available for balancing competing values; and (3) the characteristics of service markets influence which contracting tools and vendors are best suited to achieve stakeholder values” (Brown, Potoski, & Slyke, 2006).

The application of this VIM framework in an organizational study has important connections with two major streams of organizational theory – the System and the Transaction Cost Economic theories. A make versus buy decision analysis conducted by a business must always address both strategic and operating considerations. The strategic aspect stresses protecting the firm competitive advantage, while the operating aspect is concerned with
tactical and cost-related issues. Whenever a strategic consideration conflicts with a tactical consideration, the former takes precedence over the latter. In general terms, they are at different levels of managerial activities but complement each other in some ways within strategic management.

At strategic level, the primary management decisions includes defining organizational missions and domain, as well as building core competencies for the organization to achieve its missions in best ways. The missions of an organization are a democratic reflection of the collective attempts of stakeholders to achieve their values; The domain is constrained by institutional arrangements; The core competencies are mostly affected by the market factors. The strategic approach involves forward thinking not only about protecting and developing the organization’s competencies, but also about expanding the organization’s domain and territories in an environment contingent upon technologies, suppliers and customers. Those contents are discussed and linked in a systematic perspective in the Systems theory (ST) – particularly in the Thompson’s Organizations in Action. At the operating level, the managers analyzing the organization’s operational and production processes are concerned with how to economize and mitigate kinds of costs and risk inherent in the exchange transactions between organizations or between successive tasks. These contents are discussed in the Transaction Cost Economic theory (TCE), whose primary focuses are centered in market-related factors. The connections between VIM framework and the two theories are illustrated in the figure below.
In the next section, the dissertation is going to provide a brief synthesis of these two theories, as well as their applications in explaining the decisions of make or buy under VIM framework.

3.2. LITERATURE REVIEWS

3.2.1. System theory

System theory views the world in terms of collection of resources and processes that exist to meet goals. Rather than reducing an entity (e.g. the organization) to the properties of its parts or elements (e.g. offices and divisions), system theory focuses on the arrangement of parts and relations which connect them into a whole. This particular organization determines a system, which is independent of the concrete substance of the elements (e.g. people, task unit, etc) (Cambridge Dictionary). In this way, the ST perspective underlines a systems-oriented conceptualization of organization as an open system operating with rationality, which models the organization as a chain of the input–processing–output, and focuses on organizational interdependencies with the environment, and the reduction of uncertainty to
achieve control over or adapt to the environment. Major concepts of ST include system-environment boundary, input, output, process, hierarchy, technology and technical core, linkages of the organization elements, and information.


An enterprise organization is a system built from the integration of functional areas (i.e., management, finance, accounting, transport, inventory, other logistics elements or activities, so on) working together toward a common goal/purpose of attaining an objective (i.e., service provisions). Various areas of production system are integrated by the flows of materials, making each dependent to others for survival (Hutchinson, 1987, p.4). An enterprise organization like the NPO is an open system, depending on its environment and reacting with it. The ‘open’ means the degree of blurring of system boundaries toward the...
environment. The more open a system is, the more it is necessary to also account for the properties of the environment. The more open and dynamic systems are more difficult to describe and explain (e.g., the constituent parts of the system) than the closed and stable systems are.

The overall logic of the ST is simple. Whether we consider scientific management (Taylor, 1911), administrative management (Gulick and Urwick, 1937) or bureaucracy (Weber, 1947), ingredients of organization like material, people, information and financial resources, are chosen deliberately for their necessary contribution to a goal and configured into organizational or technical process intended to attain highest efficiency in delivering goods and services that enable the system to achieve some desired level of performance (Thompson, 1967, pp. 4, 11-13; Swanson, 1987). To achieve functional alignment (of its goals, structure, technology and environment) for survival in the presence of persistent uncertainty, individuals of organization act rationally and deliberately under universal agreement about the overarching mission of the organization (Thompson, 1967; Swanson, 1987).

The ST sees that a formal organization exhibits responsibility and control in technical, managerial, and institutional levels. First, the technical level focuses on effective performance of all technical functions (e.g., the conducts and supervisions of production operations), while the managerial level mediates between the technical functions and those who use their products as well as procures resources necessary for carrying out the technical functions (e.g., employment and purchasing policies). The managerial actions are based on technical rationality, which is evaluated by two criteria: (i) instrumental – whether actions produce desired outcomes, and (ii) economic – whether the results are obtained with least resources. The former is prior to the latter. The former reflects the managers’ orientation toward balanced set of stakeholders’ preferences, while the latter reflects market-related conditions. From this view, for an organization in a manufacturing industry, certain rational public managers may want to minimize significant contingencies by combining successive stages and other crucial activities of production into the organization in order to reduce or eliminate contingencies one element may put on others. This so-called vertical integration process is essential because bounded-rational individuals function most efficiently and rationally in a climate of certainty, and thus technologies cores should be buffered from the
uncertainties of the environment. However, this vertical integration for making most in-house frequently led to capacity in excess of what is needed for the organizations’ major missions. Other public managers, in contrast, may prefer to minimize the power of task-environment elements by maintaining competitive alternatives, such as through contracting for part of capacity (Thompson, 1967, pp. 4, 11-13, 32, 35-37, 40, 46, 54). Contracting entails uncertainty; but the uncertainty and creative responses to it are necessary for innovation for survival to occur (Pondy & Mitroff, 1979).

Second, the organization is a part of a wider socio-economic system. Real systems are open to and interact with their environments, and can acquire qualitatively new properties through emergence, resulting in continual evolution. The socio-economic system is subjected to generalized norms – or institutions, such as formally codified law, informal standards of good practice, public authority, and elements expressing public interest. These legitimate the organization and regulate the interactions between parts of the system. Institutions provide constraints that the organization must face. The organizations should be more flexible and adaptive, and managers must be more able to learn from the environment and make decisions based on changing circumstances (Thompson, 1967, pp. 11-13, 24).

The logic of ST is based on a number of assumptions. The assumptions on human contend that individuals within the system (i) are bounded-rational, (ii) are risk-adverse (i.e., dislike uncertainty which is manifested in forms of inefficiency and dysfunction), and (iii) have different preferences and talents. The assumptions on environment contend that (iv) environment at varying levels is complex and uncertain, thus in an open system there is no complete control over environment and uncertainty is inevitable; (v) resources for organizations are scared, therefore competition for resources is critically important. The assumptions on organizations contend that (vi) the goal of an organization is survival through effectiveness and efficiency.

In the section 3.2.3, we will see how these logics of ST fit with VIM framework in describing contracting environment of the USPS.

3.2.2. Transaction Costs Economic

In terms of economics, the decision of a governmental agency to whether retain the production of an activity in-house or contract for it with outside vendors can basically be
explained through the Transaction Cost Economic (TCE) theory. The TCE, while explaining the industrial organizations, establishes and explains the link between types of transactions, governance devices, and contract law (Esser, 1996), thus can be utilized for the Values-Markets-Institutions framework.

The TCE’s unit of analysis is a transaction. “A transaction occurs when a goods/service is transferred across technologically separable interface” (Williamson O., 1981, p. 552). In the relationship government-as-buyer and vendor-as-supplier, a transaction is a contract of economic exchange, in which government buys a goods/service from vendors. The TCE suggests that transactions differ in their associated frequency, uncertainty, and asset specificity (Williamson O., 1981).

![Figure 7: Dimensions of a transaction (Developed from Williamson O., 1993; Winch, 2001)](image)

The basic TCE contention is: hierarchies and markets are two alternative “governance mechanism” instruments for organizing work or completing a set of transaction; The market relies on prices, competition and contracts to keep all parties to an exchange, while hierarchies bring parties to an exchange under direct control through structures of authority.
and rules (institutions) (Coase 1937; Williamson, 1985; Ouchi 1979, 1980). Contact mechanism resides in between them (Dudley, 1999; Bradach and Eccles, 1989).

Focusing on economizing cost, if the cost to produce a product (i.e., a task, a goods, a service) in-house with internal resources (labor, capital, fixed asset, and hierarchy costs) is higher than the cost to buy it from the market (vendor’s production costs plus the costs to implement and manage economic exchange transactions), externalizing the product production via contracts with vendors would be more cost-efficient (see Table 1).

| It is more cost effective to produce when |
| (Cost_{INTERNAL PRODUCTION} + Cost_{HIERARCHY}) < (Cost_{BUY-IN} + Cost_{TRANSACTION}) |

| It is more cost effective to outsource when |
| (Cost_{INTERNAL PRODUCTION} + Cost_{HIERARCHY}) > (Cost_{BUY-IN} + Cost_{TRANSACTION}) |

*Table 1: Decision principle of the Make-or-Buy decision*

The TCE logic has important applications in three levels of arranging production organization. In the first level of overall structure of enterprise, it helps explain how operating parts be related to one another (e.g., vertical integration, multidivisional firm, multinational enterprise). In the second level of operating parts, it helps deciding what activities should be performed within firms, which outside it, and why. This is the matter of defining criteria of efficiency boundary. In the third level of the manner human assets are organized, TCE helps managers to design teamwork production, workgroup in ways not only to save costs but also to minimize risks of free-rider and opportunism.

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The TCE explains sources of transaction costs to a contract based on a series of assumptions on the characteristics of (i) human behavior, (ii) product and its marketplace, and (iii) information (Williamson, 1976, 1981, 1993; John Donahue, 1989). First, the human behavioral assumption contends that people are bounded-rational, self-interested and opportunistic with guile (Williamson O., 1981, pp. 553-554). Because of bounded-rationality, parties around a contract can not foresee all future possibilities to specify them all in the contract, resulting in a potentially incomplete or flawed contract. As people and parties are naturally self-interested, they tend to shirk for their owned interests. These complicate contracting environment, and thus require additional efforts and consequent costs to monitor and enforce contract compliance. Second, the product assumptions contend that product’s asset specificity and marketplace are source of transaction costs (Williamson, 1976; 1981 p. 555)26. Williamson (1985) identified three distinct types of transaction-specific investments, (i) including site specificity (like mail processing centers must be placed in the busiest intersection of postal traffic network), (ii) physical asset specificity (e.g., mail processing equipment need to be specifically designed and mostly cannot be used for other purposes), and (iii) human asset specificity (such as special managerial competence and aptitude, firm-specific and production-specific skills and knowledge, which require special in-job learning). Higher asset specificities incur extra costs of investment and management for the transaction. The characteristics of the marketplace of the products influence the transaction costs as well. Some products are more marketable and there are plenty of providers for them while others are not. The more the products are marketable, the less the costs, the time, and the efforts are to arrange the transactions. Third, the information assumption contends that there are hidden information and information asymmetry between parties of a transaction that entails risk adverse and moral hazard issues, and eventually increase transaction cost. This is because as the CG cannot acquire all the information about the vendor’s production while the interest of vendor may not align with that of CG, the vendor may act with opportunism – even with guile, by potentially not reporting accurate information to cheat for extra profit. This incurs costs to CG for monitoring to prevent risks of abuse, fraud, and poor performance. In sum, the asset

26 Dyer, however, found that Japanese transactors incurred significantly lower transactions costs than U.S. transactors, even though they had made greater asset-specific investments (Dyer, 1997, p. 536).
specificity, marketability and the ease or difficulty of measuring a task performance give rise to transaction costs (Williamson O., 1975; Williamson O., 1993).

### 3.2.3. ST and TCE perspectives on Make-or-Buy Decision and Supply Chain Management

Nowadays, almost every governmental organization outsources. Government increasingly relies on external production to improve the program effectiveness and to expand the range of services delivered to its citizens (Kettl, 1993, p. 158; Kettl, 2002). In this way, the government–contractors relationship is viewed as a supply chain, with the government as the buyer and the contractor as the supplier. This contract-based relationship forms the base of indirect government. Managing indirect government thus relates to two main decisions: (1) the Make-or-Buy decision – a choice by government not to produce a product or service itself but buy it from the outside (Kelman, 2002); and (2) the Supply Chain Management (Bogetoft & Olesen, 2002, p. 189; Kelman, 2002). Those decisions can be explained from ST and TCE perspectives.

The ST perspective at a more overarching and strategic level looks at the service production on how it is organized, managed, and delivered. ST sees that incorporating in the agency activities which otherwise would be sources of serious contingencies is an essential way to minimize the uncertainty to the agency and dependency of the agency on the environment. Such direct productions not only maximize stable continuity and responsiveness of service delivery through capacity constantly available to public managers, but also increase responsibility of public managers. In addition, vertical integration helps improve standardization for increased efficiency and potential cost-savings. The TCE perspective at a tactical and operating level, however, suggests including in the agency only activities which can be performed in house at lower costs than the markets can provide. These indirect productions through markets are advantageous in that they help the agency acquire additional capacity and expertise economically. Since the strategic considerations always take precedence over operating ones, many agencies still perform activities crucial to the continuity of its production even though they could be bought at a lower cost from the markets. The TCE framework suggests unbundling service delivery into separate area productions and management activities with identifiable discrete tasks and responsibility to
reveal which tasks may better be performed internally and which tasks via contracting, based on the transaction costs inherent in service. Still, the managers have to analyze individual components in the context of their environment, but not in isolation, because the whole in reality is always seen to differ from the sum of its parts due to synergistic effects (Hobbs, 1996; Momme, 2002, p. 63). The TCE scholars have contended that the criteria for deciding whether to privatize any service or keep it in public hands are: the less the service is asset specific and its provision is uncertain, the more the service is marketable and can be accurately measured (i.e., specified, evaluated, and monitored), the more “to buy” is appropriate compared to “to make” (Kelman, 2002, pp. 305-306; Donahue, 1989; Brown & Potoski, 2003, p. 444; Kettl, 1988; Williamson O. , 1981).

Once the decision has been made in favor of buy, the agency has to effectively structure and execute an efficient management process in a way that ensures the stability and continuity of production chain, maximizes the quality of the supplies, while minimizing transaction costs and uncertainty. The ST suggests approaching the supply chain strategically in its full environment context as a system of suppliers–agency–customers. The ST approach suggests not only protecting and developing an organization’s competencies, but also expanding its domain. Establishing partnerships with upstream suppliers (which is very close to vertical integration) is a manner by which the agency can reduce or eliminate significant contingencies through coordinated actions of interdependent elements. This helps minimize coordination costs as partnerships coordinate by plan rather than by mutual adjustments. (Thompson, 1967, pp. 20, 40, 41, 54, 57; Moe, 1984, p. 750; Masten, Meehan, Snyder, 1989; Monteverde, Teece, 1982; Walker, 1988). The TCE suggest that managers analyze exchange transactions by their key characteristics in the context of supply chain, including (1) the degree of uncertainty surrounding the transactions; (2) the frequency of the transactions, (3) the total volume of exchange between transactors, and (4) the degree of asset specificity.

First, as uncertainty rises, vertical integration (e.g., strategic alliance with partners) is expected to increase, because it is less possible or even no longer possible to specify fully all contingencies in a contract. Second, the more frequent the transactions are, the higher the expected aggregate purchasing levels are. This is because repeated transactions (i) increase the cost of defection/opportunism on the part of the suppliers and result in more cooperative behavior (Winch, 2002, p. 156; Axelrod, 1984; Parkhe, 1993), (ii) allow for more opportunities in the future to correct for transaction inequities, thereby reducing bargaining
costs (Dyer, 1997, pp. 544-545), and (iii) provide buyers and sellers with information about one another, thereby increasing the bilateral trustiness by more transparency and understanding. Third, higher-volume transactions are preferable in supply chain management, as the greater the total volume of exchange between transactors, the lower the transaction costs per unit of exchange (Dyer, 1997, p. 546). Forth, as asset specificity decreases, external supplies are preferred to internal production. The asset specificity cost tends to be lower in service area (where there are a larger number of firms providing substitutable products and firms are rather labor intensive) as opposed to manufacturing area (where firms might feature capital intensive). (Lonsdale, 2001, p. 23; Dyer, 1997, p. 535).

3.3. PROPOSITIONS

3.3.1. Values, institutions and markets frame the postal contracting environment

The contracting environment of a NPO is framed by three factor groups of value, institution, and market, as illustrated by the figure below.

27 There are several sources of asset specificity in a supply chain relationship, including (i) supplier owns proprietary technology required for the project; (ii) a particular contractor’s work forms a large percentage of the total cost of the works, and switching costs arise as a result; (iii) hold-up problem emerges when contractor’s high transaction-specific work is scheduled for a key point in the project’s critical path; (iv) post-contractual dependency because of high switching costs (locked-in) (Webster, 2002; Klein, Benjamin, Crawford, & Alchian, 1978; Dyer, 1997; Winch, 2002). In addition, in case of high-industry-concentration market, such as air transportation market in which there are very limited number of airlines in each country, increasing concentration leads to a “small numbers bargaining problem” (Williamson, 1985).

28 Most research to date has produced results that are consistent with the logic that asset specificity is greater for transactions within hierarchies than across markets.
Figure 8: Dimensions of Contracting decisions (See more on Brown, Potoski, & Slyke, Complex Contracting: Lessons in Contract Management from the Department of Homeland Security’s Secure Border Initiative, 2007)

i. Values

Value is the most important factor to the existence of an entity in any society. In the public sector, priorities of an organization are often placed first and most on equity (i.e., fairness of treatment and accessibility), then efficiency, effectiveness, accountability, transparency, to name some. In case these values conflict with one another, traditionally other values will often be sacrificed in order to achieve equity.

In case of the postal sector, defining values and value preferences is a political process which is expected to have significant and pervasive impacts on organizations’ behavior. The current battle of values has turned from a traditional system view of the postal system as a whole to a new analytical TCE perspective that unbundles the whole postal system into discrete functional areas to reveal which ones are inherently governmental or internal, versus which ones are commercial and should be outsourced.

First, regarding the government, it is facing with a range of perception about the values of the NPO to the country, as well as preference on how the mission should be performed
effectively. The foremost principle debate on values of the sector relates to the critical role of the postal delivery system to the country. Traditional postal scholarship considers the postal delivery service as a whole to be inherently governmental as it serves as an essential communication infrastructure critical for socio-economic developments (World Bank and UPU (Kumar Ranganathan, Rohini Dey), 1998, pp. xi, 61, 93). It is the same here in the United States (Crew & Kleindorfer, 1992, pp. 1-2). This implies that the postal system is a core function of the government. The government takes full responsibility of providing this service. The postal service provision is established as a fully vertically integrated production process with a top-down hierarchical structure. The postal service is operated under statutory public monopoly with little chance for private participations (Panzar, 1993). The ST suggests that such a structural organization maximizes certainty and controllability, as well as broadens the service territory (see 3.2.3.). However, increasing numbers of reformers have called for additional commercializing of the sector, contending that postal services contain potential commercial activities and postal labors are overpaid for what they have been doing. Under sizable pressures of certain stakeholders and deficit levels of the sector, the government strongly recommended the USPS to act in commercial manner as the private firms do, including contracting to acquire cost-efficient capacity and down-sizing for productivity, as reflected in the report by the President's Commission on USPS 2003).

Second, turning to the postal managers, seeking efficiency and effectiveness, their emphasis is on developing the internal core production capacity and performance while maintaining access to a cost-efficient and innovative supplier base, which complements internal core competencies (Pondy & Mitroff, 1979; Thompson, 1967, p. Preposition 3.1.). The USPS's leadership considers contracting a promising tool that they would utilize to cut costs and operating losses. However, the questions of what areas to be outsourced and outsourced to what degree require the postal managers be “smart”. Principally, high-value areas should not be outsourced. USPS defines value of a task as its relative importance to the USPS, assessed by following factors: criticality to business operations, importance to profitability, importance of product or service quality, spend amount, percentage of total spend, and relationship to strategic goals (USPS, 2006, p. 18). Kelman (2002, p. 307) suggests “organizations should concentrate more energy and management attention on the organization’s core competencies and less on activities not central to organization”. Kettl (1988, p. 15; 1993, p. 210) contends that contracting core functions is dangerous for fundamental organizational
controls therefore effective contract management must avoid contracting for core governmental functions. In addition, “inherently governmental” activities which involve policy-making decision or rely on the government’s monopoly are not appropriate for contracting out, no matter how advantageous it may be to contract them, because on the constitutional level, the government cannot delegate away basic responsibility for its programs (Kettl, 1988, pp. 12, 15; Kelman, 2002, p. 307). However, functions which are not intrinsically of governmental roles should be performed by markets (Savas, 2000). Oliver Williamson argues that the public contracting decisions are both economically and politically based: (i) for the market concerns, procurement transactions can be contracted out in the basis of economic benefits, (ii) for the values concerns, the redistributional transactions are often highly politicized and difficult to contract out (e.g., rural delivery), and (iii) for the institutional concerns, regulatory transactions are often associated with asset specificity, natural monopoly, information asymmetry between providers and consumers, and are not likely to contract out (Williamson O. , 1999). Thus, NPO’s “core” activities would be less preferable for contracting, while “noncore” activities in contrast would be more preferable for contracting.

The value preference of the government and postal managers in the postal sector may be adjusted reflecting the context of (i) the nature of functional areas and its market conditions (ii) the deficit levels of the sector (e.g., NPOs in deficit are more likely to lean to private participation and reduced purchasing), and (iii) the turnover of political parties in power (e.g., the new U.S. Administration is increasingly advocating less government and more private initiatives under their structural adjustment programs).

Third, as the ST suggests, the managers mediate the technical functions and those who provide their inputs (e.g., postal offices and office supply contractors), as well as those who use their outputs (e.g., delivery units and households who received career or contract delivery). The contractors, the mailers and the service recipients’ preferences therefore are to be considered as well. Mailers may seek for additional worksharing discounts, contractors may seek for new business, or households may resist contract delivery fearing of privacy and security vulnerability. There were some cases in which contracting failed because households in one residential area strongly opposed the closure of a post office for its replacement by a contract delivery firm which they feared did not go through a thorough screening process.
Fourth, the set of postal values is strongly influenced by postal labor unions as well. Though the model may fail commercially (Kettl, 1988, p. 10), postal labor unions everywhere are in favor of the traditional model of monopolistic state-owned NPO for secured and high paid jobs. Contracting entails job reduction which they naturally do not want to see. In some places, postal labor unions are so united that they could resist even the most tentative outsourcing plans (e.g., the APWU was able to block several mail processing outsourcing tentative programs).

Stakeholders’ value preferences are often conflicting one another. For example, regarding the worksharing issue alone, the USPS leadership wants to utilize worksharing to reduce labor demand and workloads, the mailers are demanding the worksharing discount they deserve for their pre-prepared mails; the postal unions as opposed call for decreased worksharing to clear excessive facilities capacity and labor cut threat. Postal managers have to balance the stakeholders’ preferences according to their priority in and importance to the organization missions, business strategy, and production continuity; trade-offs are to be made. The balanced set of stakeholder values would be dynamic, leading to the contracting levels change overtime. For example, the USPS launched optimization plan on facilities after 2004 aiming at outsourcing certain processing capacity and achieved initial results. However, the program was almost stalled in 2007 following postal unions’ pressures and congressional resistance; many decisions have been overturned or suspended (see Chapter 5).

The dissertation in analyzing contracting conditions of postal activities will classify values and value preferences associated with activities according to a criteria scale of core versus non-core, political versus economic concerns, strategic versus tactical. Activities being core, political, and strategic would see more direct production. Non-core, commercial, and operational activities would see more contracting.

**ii. Institutions**

Turning to contracting instead of direct service delivery depends not only on an organization’s own policy, but also acutely on legal requirements and other mandates. Any public outsourcing is constrained by institutions including public rules as well as organizational arrangements which define range of authority, capacity and resources the managers have in delivering services (Brown, Potoski, & Slyke, 2006).
In a traditional environment, the NPO is required by postal law to perform direct service provision and to only take government supply channels for operational needs: it is bound to use other government agencies for transport services, procurement of property, construction of buildings, etc. Presently, in many advanced countries where the postal reform is undergoing, a corporatized postal entity which is subject to both postal law and company law can utilize private-sector provisions of any of these activities unless otherwise stipulated in legislation. However, in the case of a statutory corporation, these powers may have to be specifically granted through legislation (World Bank and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 105).

In case of the United States, contracting with the USPS differs from contracting with other government agencies for several institutional reasons. First, the Postal Act 1970 turned the USPS from a governmental agency to a government-owned corporation, independent of the executive branch of the United States government, mandated by law to operate like a private business when it is advantageous to do so. The Postal Act of 1970 allows and encourages the USPS to seek more access to cost-efficient manners to deliver service, including contracting, but it does not provide strong incentives to do so. For example, it regulates the USPS to break-even. This policy requires pricing certain services at a certain level of quality at a price that would not normally be economically justifiable. Consequently, there are no strong incentives for innovation and cost containment, and an outsourcing plan of postal managers would get no ground support from within (Panzar, 1993; Panzar, 1994; OECD, 1999, p. 10). It also requires that contracting decisions must get the approval of the postal labor unions (the so-called Collective Bargaining Provisions) (USPS Postmaster general John Potter, 2007 (April 17)). This restricts and even incapacitates the USPS on deploying its outsourcing programs in many cases.

Second, unlike other government agencies, in order to operate in a business-like fashion, the USPS is exempted from most key federal laws, regulations, and executive orders pertaining to procurement that apply to government contracting implemented by executive branch entities (GGD-91-103, 1991). “Congress afforded the USPS broad powers of operation in the

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marketplace, excluding it from most Federal laws and regulations concerning contracts, property, works, officers, employees, budgets, and funding; as well as the establishment, adjudication, and judicial review of administrative procedures and determinations” (USPS, 2006, p. 47). Most importantly, the USPS is not subject to the Federal Acquisition Regulation (FAR), which is the primary regulation governing all Federal executive agencies in their purchasing of goods and services with appropriated funds. This arrangement aimed at freeing the USPS business from certain inherent burdensome administrative procedures intended for the executive branch. The USPS is allowed by law to develop its own purchasing regulations and guidelines, and though having significant similarity with the FAR in structuring and managing contracts, these guidelines were and are far more lenient and less rigorous than the FAR requirements. While the FAR requires to be “full and open competition” for all public contracts, the USPS purchasing regulation just encourages “adequate competition” with consolidated and prequalified supplier base. In addition, the latest developments of Purchasing Manuals were transformed into sets of new principles, guidelines, and policies which are suggestive and have no binding power, fundamentally different to those of earlier USPS purchasing regulations that had the force and effect of a law. More than ever before, this largely broadens the managers’ degree of discretion and authority to turn to cheaper external resources more than ever before. Nevertheless, there are still a number of laws governing purchasing and material management at the USPS, and the Supply Management department must comply with those requirements in all activities.30

The institutional context that the postal managers are facing changed significantly following the latest major legislative development in the postal sector since 1970 – the Postal Accountability and Enhancement Act 2006. The legislation directs USPS to concentrate on what it does best – processing and delivering mail, and operate as commercial as a private business does, while still being committed to maintaining its standing as a socially responsible service organization. It also transfers the obligation to fund USPS retiree military service to the Treasury, thus freeing up billions of dollars, enabling USPS to begin

reinvestment and paying back its debts. Such a development would relieve constraints imposed by prior legislation on certain core-area activities, giving opportunities for outsourcing.

Regarding the USPS own contracting policies, they are seen as becoming more aggressive in facilitating contracting and purchasing in some particular functional areas. They are being more standardized and consolidated but still giving more discretion to contracting officers. For example, a single purchasing process was created to ensure the consistency if not uniformity of the purchasing practices throughout the USPS. These policy changes were accompanied by several organizational rearrangements which led to the complete restructure of different contracting units into the newly established Supply Management in 2002.

The institutional arrangements described above frame the contracting environment in which the postal managers are working. This environment is very dynamic. Changes over time have increasingly untied the postal managers from operational constraints, opening up access to outside cost-efficient expertise. To fit institutional factors into the VIM framework, we will classify them into two sets – restricting or favoring contracting. We expect the functional areas falling into favoring end would see higher contracting/purchasing levels and vice versa.

iii. Markets

The contracting environment is constrained not only by values and institutional arrangements, but also by certain difficulties associated with the services and their marketplaces. The major difficulties relate to the nature of the tasks to be performed and the relative competitiveness of their marketplace. These may make some activities more successfully outsourced than others.

The TCE suggests that services that are more marketable would see more contracting. Characteristics that affect a service's marketability include three major components: (i) asset specificity, (ii) the measurability, and (iii) the competitiveness of the market of the service. All three groups determine the degree of transaction costs and the ease or difficulty to implement a contract. First, TCE suggests that elements characterized by unique or very high asset specificities would see low contracting as higher asset specificities incur extra costs of investment and management for the transaction for transactors. For example, products and services like Mail Processing, Delivery and Industrial Equipment, Material Handling,
Mail Transportation Equipment, and Stamp Printing, are highly unique and specialized; External suppliers may face challenges in meeting quality specifications on a consistent basis, making the item in-house seem to assure quality and lower risk. However, ST suggests that strategic concerns and resource limitations may justify buying from established and innovative suppliers (Thompson, 1967; USPS, 2006, pp. 23, 126). But once they outsourced, the USPS risks being locked in the relationship with contractors (see the Emery contract failure case in Chapter 4).

Second, tasks that are difficult to measure do not favor contracting. Delivery is one such task. It is very difficult to verify if a delivery man (either career or contract) did actually deliver the right items to the right address at right time schedule. In fact, the USPS actually does not measure the delivery performance of most types of mail (GAO-08-503T, 2008, p. 18). Thus, once outsourced, the USPS becomes vulnerable to the opportunism of contractors. For this reason, postal managers would rather contract tasks that are more easily measurable to avoid monitoring burden and costs.

Third, the characteristics of the marketplace of the elements under contracting consideration influence the make-buy decision as well. Some services or products are more standardized, thus marketable and available from a wide pool of suppliers (e.g., collection, transportation), while others are not (e.g., processing, delivery). Efficient markets with more vendors, more competition, and more information would entail fewer risks and lower transaction costs and more informed decisions by buyers (Kettl, 1988; Kettl, 1993; Brown, Potoski, & Slyke, 2006).

To fit market factors into the VIM framework, the dissertation will classify them into two sets: marketable and non-marketable. Standardized uniform products and services are more marketable, while unique, highly specialized, or customized products and services may be less marketable. We expect that the functional areas falling into marketable groups would see higher contracting/purchasing levels while ones falling into non-marketable groups would see lower levels.
iv. Interactions between Values, Institutions, and Markets factors

These three groups of factors simultaneously influence the contracting environment. However, in some decisions to contract a particular element, one group of factors may take precedence of the others.

First, certain kinds of values may be more importantly dominant while market factors are only secondary to be thought of. E.g., traditional postal philosophy of affordable and ubiquitous delivery service stressed primarily on how to increase society equity rather than on seeking cost efficiency, while the modern postal reform policies stress more how to sustain affordable delivery service economically. As a result, there are circumstances in which the values drive the decisions, whereas in other cases the market conditions drive the decisions. See the picture below.

![Figure 9: Values-Market Map Approach.](image-url)
The map is built with two dimensions. The Values axis is a spectrum showing the changing degree of publicness of the subject activity (a task/function/service). It varies from high publicness in the left end to low publicness in the right (see more in next section). The Market axis reflects the market condition of the subject activity. It ranges from market-failure (where there is virtually little or no competitive market for the activity) to high marketability (where there are plenty producers for subject activity). Because for a public service sector, values are foundation and thus safeguarding values matters most, the higher the degree of publicness of the subject activity, the less likeliness that activity is externalized and vice versa. Furthermore, the less marketable the activity, the more it should be produced in-house to ensure productions are adequate and appropriate to the society’s needs. Any activity that falls into the lower left corner is best to be internalized, as Values and Market conditions both indicate internalization the best choice. Any activity that falls in the upper right corner is best to be externalized, as Values and Market conditions both indicate externalization as the best choice. For a product, when the market conditions favor contracting, its production starts to move up along the market dimension; When its associated values are more supportive to contracting, its production pushes to the right side; When markets are non-competitive, values carries high publicness, its production goes to left side.

Second, in other cases, institutional factors may shadow markets factors. Legislation often requires that the government keeps certain minimum levels of internal capacity for certain goods and services in cases of crisis (e.g., national defense purpose), or the USPS not to close offices which are not making profits. Particularly, the Postal Act 1970 requires that contracting decisions of the USPS be approved by postal unions to be effective. After 9-11, the Congress prohibited the USPS to move mail by commercial airliners. In addition, many Congress members are endorsing the introduction of new legislation that if enacted would prevent most of postal outsourcing for the claimed purpose of protecting the public postal system. Under such laws, the USPS is constrained from contracting even though it is very advantageous to do so. For example, many mails which would have been transported fast and cheap by the airliners now have to go by ground transport.

These interactions between markets and institutional factors are illustrated by the Figure 10 below. Products that fall into the lower quarters of the map should be produced by the
government. Products that fall into upper quarters are candidate for buying from outside vendors, especially for those that fall into the upper right corner.

![Markets-Institutions Map](image)

**Figure 10: Markets-Institutions Map**

The combination of two maps above (Values-Markets and Makets-Institutions) in a single 3D coordination helps understand the dynamic of production decisions of make-or-buy of the USPS. The Frontier of Internal Production locates right in the root of 3-D coordination, where all 3 categories of factors indicate that it is best to perform the subject activity internally. Functions and services that fall into this area would have virtually no contracting. The Contract Production Frontier (or External Production Frontier) is the front-top-right box, where all 3 categories of factors indicate it is best to contract for the subject activity.
Functions and services fall into this area are expected to have very high contracting magnitude (See Figure 11).

![Diagram](image)

**Figure 11:** Internal Production Frontier (back-left-low box) and External Production Frontier (front-right-top box)

The three yellow boxes (front-top-left, front-bottom-right, and back-upper-right) construct Contract-Preferred Frontier, where 2 out of 3 categories of factors indicate it is better to contract for production. Functions and services in those areas would have medium contracting magnitudes, and those that fall into upper boxes would see higher contracting magnitude since they are more marketable. The three white boxes (front-left-bottom, back-left-top, and back-right-bottom) form the Internal-Production-Preferred Frontier, where 2 out of 3 categories of factors indicate it is better to perform subject activity internally. Functions and services fall into this area would see very low or nil contracting magnitudes (see the Figure 12).
This map will serve as an instrument to theoretically predict where the production of certain components of postal services would be according to their economic and institutional contexts. The map also helps predict the corresponding contracting levels of these components. If they are not there, or the observed contracting levels do not match with prediction, the dissertation will try explaining what the gaps between theory and observations are.

* * *

In addition to intertwined interactions, these three factor categories keep changing gradually over time, making the postal contracting environment dynamic. The value category has seen the most changes in the last few decades, involving an adversarial ideological battle which attracts government, national postal administrations, businesses, and the public to voice aloud (Universal Postal Union, 2002). There are two diverging perspectives of postal stakeholders. The social position values the essential role of postal services to national developments. Their social and economic benefits outweigh the cost of provision. As a public good, they must be safeguarded by some sort of public enterprise to avoid the risk of inadequate provision if left to private sector. The market position however contends that
Postal services are economically beneficial and therefore can be left to the private sector, through participation, privatization, or new market entrants. For example, individuals have been contracted for delivery in many rural communities; private contractors have transported most of the mail; firms can easily reduce unprofitable rural routes by lowering service standards, such as decreasing the delivery frequency to twice a week rather than the current of once a day. Up to now, though still politically dominant, the social position gradually is losing its ground under the fast changing postal environment. The successful deregulation process in other public utilities also has made the market perspective on postal reform increasingly more salient.

These changing sets of values lead to new institution arrangements favoring contracting. The new Postal Accountability and Enhancement Act (2006) explicitly and strongly encourages concentrating on core competences while commercializing other postal activities. In this environment, outsourcing becomes an effective tool for controlling costs if applied properly; contract postal units are needed for expansions of retail access and replacements of non-profitable post offices; contract mail processing plants are needed for network optimization program. (USPS Inspector General Williams David, 2007, p. 1). Moreover, the new contracts between the USPS and its 4 labor unions also changed to reflect the new situation, enlarging the range of activities that the postal managers can rely on outside vendors to perform with least cost.

The delivery market has changed as well. The emergence of the private sector as a dominant force in the transportation and communications sectors has been actively pushing to open the postal market for private participation (WB and UPU (Kumar Ranganathan, Rohini Dey), 1998, pp. xiii, 17, 93). In addition, worksharing policy has lead to more mailers to perform presorting and transportation of mail before handing over to the USPS for last-mile delivery.

31 Carl R. Danner, Legal and Institutional Perspectives - The postal service and telecommunication analogy; Stephen Agar and Ian Reay, The postal pipeline liberalization; Pekka Leskinen and Kent Karlsson, Postal joint ventures. All are in “Emerging Competition in Postal and Delivery services”, Michael Crew and Paul Kleindorfer 1999.
Development of values, institutions, and the market over time have substantial impacts on the contracting environment, leading to the drifts of certain internal functions and services to other production frontiers (i.e., transportation moves from Internal Production Frontier to External Production Frontier) and consequent changes in their contract magnitudes (See Chapter 4 and 5).

3.3.2. Basic propositions: changes in categories of factors should drive use of outsourcing

Having analyzed the influences and intertwined interactions of three categories of factors to the contracting environment, the dissertation develops the proposition that changes in categories of factors should drive the use of outsourcing

Regarding Values factors:

P₁: As the USPS increases to adopt commercialized principles, the magnitudes of contracting increase.

E.g.: Contracting for core-areas like transportation and delivery are increasing since 1997. Contracting magnitudes of Supplies and Service purchasing, Facilities purchasing, and Maintenance activities increased to new levels after 2002.

Regarding Institutions factors:

P₂: Changes in contracting organizational arrangement alter the magnitude of contracting.

E.g.: The establishments of Purchasing Teams in 1997, Supply Chain Management division in 2002, and Contract Delivery Service groups increase the aggregate levels of contracts.

P₃: Changes in purchasing rules governing purchases in a particular purchasing portfolio have impact on the magnitude of this portfolio’s contracting.

E.g.: The introductions of newly-designed Purchasing regulations in 1997 and Purchasing Guidelines in 2005 impacted the annual contracting magnitudes of the USPS in following period. The annual growth of Contract Delivery Service increased from 1% to 4% after CDS had been revised in the Purchasing Manual 2003.
Regarding Markets dimension:

**P₄: Across Services:** Services having more competitive markets enjoy larger aggregate contracting magnitudes than other services having less competitive markets. Services being more asset specific, difficult to measure quality and quantity, and involving a higher degree of uncertainty have lower aggregate contracting levels.

E.g., Facilities, Mail Equipment, Services, Supplies and Transportation have different market conditions and their magnitudes of contract vary in proportion with the degree of their market competitiveness. USPS buys increasingly more transportation but very little delivery.

### 3.4. Conclusion

This chapter has laid out theoretical explanations concerning the organization of the postal production of a typical NPO, based on which, it provides certain propositions on impacts of the interactions of three categories of factors on the contracting environment and magnitudes. The next chapter documents empirical evidence supporting such propositions.
CHAPTER 4

DISCUSSION OF THE INFLUENCES OF VALUES AND INSTITUTIONS ON MAKE-OR-BUY DECISIONS IN THE USPS

4.1. Brief Theory Introduction

Contracting out is a challenge for any government because of political sensitivity behind the decisions and their outcomes. Central to it are painful efforts to align public values, institutions, and service-market conditions across contracting phases.

Values are the foundation and starting point of any public program. The task of postal managers is to identify the preferences of all postal stakeholders then balance them into its action plans according to their priority and importance to the organization strategic missions and plan. Trade-offs are to be made if values are in conflict. In delivering on values, the public managers are under the institutional constraints of public laws, its own policy and regulations, and other mandates. Public law sets the boundaries within which public managers must operate. External regulations direct the public organizations not to do certain specific behaviors which are supposed to violate overall public interests. Internal regulations and organizational arrangements define range of authority, tools, capacity and resources the managers have at their disposal in delivering services. If the goals are innovation and efficiency, then contracting with a private vendor may be more desirable, because private employees operate with higher-powered, compensation-based, and profit-oriented incentives. If the goal is more government control over service provision, then internal production may be preferred, because the government employees’ motivations are typically better aligned with the agency’s mission (Brown, Potoski, & Slyke, 2006, p. 325).
(Rosenbloom and Piotrowski 2005; Wise 1990). Consequently, such interactions between values and institutions will frame the contracting environment and drive the decision-making of the public managers.

In the next sections, changes in purchasing attributable to categorical factors’ changes will be discussed with empirical evidence to support the dissertation’s propositions provided in Chapter 3. First, the Chapter identifies values and institutional changes over time through documentary analysis and attempts to predict impacts they may have had on the contracting behavior of the USPS. Next, the Chapter analyzes empirical data to match evidence with the theoretical prediction, and finally comes to conclusions.

4.2. Values in the Postal Contracting Environment

This section identifies the sorts of values that drive contracting practices of the USPS in the period from the Postal Act 1970 until present.

As previously mentioned, the USPS was established as a Government Agency – the Post Office – for the social mission of connecting Americans by affordable and reliable means of communication. For this, the Post Office was perceived as a non-profit public servant, not a business for profits. Major targeted beneficiaries of postal services were citizens and government offices nationwide. This made the Post Office strongly affected by political authorities, especially when its budget was funded by the Government conditioned the approval of Congress.

At its establishment, the USPS was based upon on high degree political authority rather than economic authority, and this fundamental source of authority can be expected to have significant and pervasive impacts on the organization. The public value that was most confronted by the government and postal managers at that time was effective social equity, such as the accessibility and fairness of treatment for all citizens regardless how disadvantaged they are. For this purpose, a huge nationwide service system that works at all times and all places was established to guarantee accessible and responsive service delivery. Almost every task was performed in-house. The government even played both roles of operating and regulating the service delivery, leading to the conflict of interests. The private had virtually no chance to participate in the system, except in transportation of mail.
However, such a system scarified efficiency for effectiveness. Low efficiency resulted in poor financial performance, thus the governments had little choice but to lower service quality to minimum levels. Such low service quality damaged government accountability and further, did not satisfy the commercial needs of businesses which become major mailers in the society nowadays. Those mailers are drivers and locomotives of the national economy and they demand effective tools to communicate with their customers. Providing them with commercial services is a must to facilitate the national economy. This in turn required that the government provide higher quality service for commercial purposes which depart from social purposes of traditional mail services. Such higher quality services demanded more investments, entailing larger government subsidies which worsened the government’s deficit budget, and higher postal rates which reduced affordability to citizens. This ran counter to the government’s will, and so on. Consequently, the struggles in balancing the values of different stakeholders would eventually lead to a kind of dead spiral path if the government did not have a breakthrough solution (Crew & Kleindorfer, 1994; Shaw & Nader, 2006, p. 69; Muma, 2003, pp. 3, 7; World Bank and UPU, 2001, p. 9).

The last three decades have seen a progressive change of perception from political base to a more economic base. Recognizing the benefit of a commercialized postal system, Congress passed the Postal Act 1970 that transformed the Post Office into the United States Postal Service – a government-owned corporation. The USPS became more a market venturing public organization. Contracting was allowable, but as the USPS had to reach agreement with postal unions before any contracting decision, postal managers’ discretion in making decisions was limited.

Since the early 1990s, outsourcing has prevailed in every industrial sector. It has been perceived as a solution for better public organizations by the Clinton Administration’s Reinventing Government program, as well as by the Bush Administration. This leads to a progressive commercialization process that turns the government and postal managers’ priorities toward obtaining higher efficiency through using best practices of the private sectors. The government believes the USPS needs more discretion and flexibilities to outsource to improve service performance while cut costs. The postal managers contend that inviting expertise private participation into the internal production process would increase USPS competence and performance with less touching the benefits of different
internal and external stakeholders. The USPS’s suppliers lobby for further opening of the USPS production system to private participations. However, the postal labor unions have been strongly opposing the idea, based on the claim that outsourcing would break the quality of the service; but the true drive behind the oppositions would be fear of losing secured high paid jobs. Many congressional men are behind them – as of July 9, 2007, there were 222 out of the 435 representatives bipartisan co-sponsors of the House Resolution 282, a resolution introduced by the Albio Sires, expressing the sense of the House of Representatives that the USPS should discontinue the practice of contracting out mail delivery services.

The period from 2000 to present saw the balance of political values in the postal sector changed significantly, favoring more fundamental reform calls from USPS leaders while attempting to mitigate postal labor unions resistance. The Bush Administration took office in this period. Like the preceding Clinton Administration, the Bush Administrations favors moving functions not inherently governmental to the private sector where possible, believing that the private sector can provide services better and at a lower cost. The USPS was one of major focus. In December 2002, Bush Administration created the President’s Commission on the Postal Service to examine the USPS’s foundation assumptions and operations in the new context, as well as to propose recommendations for a more viable future while minimizing the costs to U.S. taxpayers. The Commission held a series of 9 public meetings throughout the nation over a period of 8 months and heard from a wide range of postal stakeholders as it examined every aspect of the USPS operations. Witnesses included the Postmaster General, Postal Service governors, other senior officers of the organization, leaders of postal unions and management associations, representatives of the mailing industry, competitors, academics, and economists. By July 2003, the final report was sent to the President containing several Commission’s recommendations for fundamental changes necessary to protect the nation’s access to affordable, universal mail service long into the future. Principal recommendations involved adopting extensive commercial practices, reforming procurement, outsourcing functions, and rationalizing the network of facilities (GAO-04-540, 2004, p. 5; USPS Comprehensive Statement, 2003). This report reflected most the value preference balance of all stakeholders of the time.

32 Full documentary achievement can be found in http://www.treas.gov/offices/domestic-finance/usps/
In this context of conflicting perceptions, the task of government is codifying value balances through the political process (e.g., hearings, conferences) into public laws and organizational arrangements that determine the prioritized values and the range of tools and resources that the public managers can employ to delivery such values. The next section will explore how the institutions evolve in the last three decades.

4.3. INSTITUTIONS IN THE POSTAL CONTRACTING ENVIRONMENT

There have been a number of regulations changes in purchasing policy at the USPS along four periods of over the last 30 years. The first period was after the issue of the Postal Reorganization Act of 1970 by which the USPS was established as a government-owned corporation. The second was after the introduction of USPS’s own Purchasing Manual in 1997, which explicitly adopted business-like attitudes. The third was after 2002 when the USPS’s purchasing function was completely restructured. The fourth and most recent is from 2006, when purchasing regulations were transformed into a set of non-binding guidelines, and the Postal Act 2006 takes effect. These values and institutional changes have affected the magnitude of annual purchases.

4.3.1. Period of 1970 - 1996

The first period occurred after the establishment of the USPS in 1970. Adjusting from an extensive political focus of social equity to a growing economic focus of cost efficiency and effectiveness, Congress passed the Postal Reorganization Act of 1970, transforming the Post Office – a Government Agency, into the independent USPS – a government-owned corporation.

Consequent to its fundamental values and organizational changes, the new institution also allowed the USPS to develop its own purchasing rules and regulations, operating like a private business when it is advantageous to do so. Congress afforded the USPS substantial flexibility in conducting its procurement by exempting USPS from many federal purchasing laws, regulations, and executive orders pertaining to procurement that applied to other executive branch entities. However, initially the USPS did not take full advantage of these exemptions when it adopted, as a matter of policy, various federal procurement practices not otherwise applicable to it: the Postal Contracting Manual 1972 was nearly identical to those
of other federal agencies. This might be the result of the risk-adverse attitude or behavioral inertial of the postal managers of the time.

The USPS still adopted prevailing federal procurement policy and practices until 1988 when it first introduced its own self-designed purchasing regulations – the USPS Procurement Manual 1988, which was designed to take advantage of the best public and private purchasing practices. This was done following a number of recommendations by consultant, including Department of Defense, General Services Administration, and National Aeronautics and Space, and internal study groups to improve postal procurement. Compared to the prior issue and the Federal Acquisition Regulation (FAR), this new procurement manual provided contracting officers with more discretion in matching its capacity and operating styles with those of operating customers. For example, while the federal policy required “full and open competition” for all federal contracts, the USPS policy accepted “adequate competition” and “simplified purchasing”.

Regarding purchasing organization structure, the USPS started efforts toward consolidating purchasing under a single authority and this effort moved forward during fiscal year 1994. The Vice President of Purchasing was given authority for all USPS contractual actions and procurement policies to ensure that greater uniformity and consistency were brought to purchasing policies and procedures. Two new buying organizations were established in Purchasing, one dedicated to the purchases of major facilities, and the other to the purchases of mail transportation. Also established was the Procurement Policy Committee, which is responsible for the overall scope of Postal Service purchasing policy. Purchasing also established new oversight and approval procedures for the solicitation, award, and termination of certain high-dollar-value contracts. These uniform procedures would promote greater consistency in purchasing (USPS CSPO 1994).

However, according to GAO findings in a 1991 report, despite the objective of the new procurement regulations was to provide more discretion in exercising business judgment when making procurement decisions, contracting officials used them limitedly and with caution. First, the procurement organizations used restricted competition sparingly because,

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33 This was because insufficient attention to some practices had contributed to the risk of contractual problems (GAO/GGD-96-59, 1996, p. 5).
for the most part, they continued to seek all available competition and did not develop the approved sources or products lists needed to limit competition. Second, it required intensive use of scarce professional resources to carry out the prequalification reviews of potential contractors (GAO/GGD-91-103, 1991, pp. 2-3). Thus, overall, the USPS’s purchasing practices still more closely resembled those of federal agencies than might have been expected from the differences in discretionary judgment permitted by their respective rules. This may be explained by the risk-adverse value preference of the postal managers, or there was possibly a lag time before the new regulations took effects.

In sum, with such changes in values and institutions accompanied by behavior lags, the contracting magnitudes for this period were expected to have risen but at a slow pace.
Figure 13: The intertwined interactions between values and institutions in the period 1970-1996

Values factors

Political concern increased relative to economic concerns
Government and Congress wanted USPS to self-sustain

Increased stress on economic sustainability relative to that on social equity

Organizational changes

Transformation of Post Office to USPS in 1970

Institutional factors

Regulation changes

Postal Act 1970
Congressional Exemptions of USPS from several laws governing governmental purchasing

Issue of USPS purchasing rules and regulations Postal Contracting Manual 1972 (largely resembled FAR)

Issue of USPS-owned Procurement Manual 1988 (designed to take advantage of the best public and private purchasing practices through increased discretion)

Establishments for centralization of controls
- Procurement and Supply Department
- Facilities Department
- Office of Transportation and International Services

Competitive negotiations replaced sealed-bids
Prequalification of suppliers

Officers expected to make use of increased discretions, but GAO analysis found no true difference.
4.3.2. Period of 1997 – 2001

This period occurred after the implementation of the Reinventing Government program of the Clinton Administration (1992-2000) which aimed at creating a government that works better and costs less. This program detailed specific actions intended to reduce the government’s direct involvements and save cost. The President issued directives to implement mission including a number of recommendations such as cutting the work force, cutting internal regulations, and requiring agencies to outsource tasks. In addition, Congress adopted a law – the Government Performance and Results Act – that required agencies to develop strategic and performance plans, along with measurements of performance, and publicly report progress annually. USPS was not out of this context. Increasing calls from different stakeholders for adoption of more commercial practices in the postal sector and for cutting chronic debts were the main political causes that drove contracting regulation and practices during this period.

Recognizing that its purchasing system tended to be more costly than private sector equivalents because it was subject to several statutes that affect contracting and public sector practices (USPS Strategic Plan, 1998, p. 30), and following several GAO reports about a number of failures in its procurement policy and fundamental defects in its procurement process, which were not due to causes that should be addressed through legislation (GAO/GGD-96-59, 1996, pp. 3-11), the USPS took important efforts to revise the existing regulations or introduce new internal regulations to prevent the reoccurrence of such purchasing-related failures in future. New purchasing regulations or revised regulations at the time were introduced by steps in 1997, 2002, 2005 and 2007.

Reflecting value change from more a political duty to a commercialization preference, the USPS replaced the then purchasing regulations Procurement Manual 1988 by the Purchasing Manual 1997 on January 31, manifesting a fundamental institutional step to adopt competitive principles into the purchasing practices. This PM 1997 rewrote purchasing policies and procedures and repositioned Purchasing and Materials within overall USPS business objectives. This was intended to progressively improve and enforce Supply Chain
Management philosophy and sought to improve the USPS’s bottom line and competitive position (USPS, Purchasing Manual, 1997) (see Figure 14).

Figure 14: Features of the 1997 Purchasing policy (Recapitulated from Purchasing Manual 1997)

The new regulation featured several developments. First, it required purchasing goods and services primarily from commercial suppliers, using commercial methods in the same manner as its commercial counterparts and competitors. For example, the procurement function (i) replaced the Simplified Purchasing method with the Commercial Purchasing method to focus on competitive purchases of commercially available items, (ii) used the single Purchasing Process, which contains rules and procedures common to all purchases, in order to promote increasing uniformity and consistency throughout USPS’s purchasing, and to avoid cross-authority (GAO/GGD-98-11); (iii) encouraged contracting officers and purchase teams to publicize in the marketplace about purchase opportunities through the media in addition to the Commerce Business Daily or the Journal of Commerce. Second,
new purchasing policy sought to improve the supply process by encouraging contracting officers to prequalify suppliers regardless of the commodity being purchased and building strong and mutually beneficial partnerships with suppliers. This led to the size of supplier base shrunk while its qualification augmented, and the number of strategic partnership increased to offer quick deliveries with secure stable supplies source and often with cost savings (USPS Comprehensive Statement 2001). The previously termed "contractor" or "vendor" were renamed “supplier”. This work was supposed to not only to solve the problems of exchange but also to reduce the prices that USPS would have to pay for purchases. Third, the USPS added more commitment to provide competitive opportunities to small, minority and woman-owned businesses (USPS, CSPO 2004, p27). Finally, minor revisions were made to the rules of Design and Construction Purchasing and Mail Transportation Purchasing. The reforming efforts led to a complete redesign of the contractual documentation used for Postal Service solicitations and contracts in 2000.

The purchasing policy reform was accompanied by an important organizational change to implement effective and efficient purchasing practices. The USPS established Purchasing Teams to ensure corporate cohesion in the purchasing efforts. Being cross-functional and commodity-focused, these teams provided overall guidance and direction to the purchase, took part in purchase planning, best value determinations and supplier discussions. The USPS also established the Electronic Commerce to significantly cut purchasing lead time and administrative overhead while doing business with suppliers.

In summary, this period saw initial institutional steps to integrate commercial values into the operations. New major rules included (i) the grants of more discretion and ultimate contracting authority to contracting officers, (ii) the requirements to gather procurement activities into hands of a small number of specialized purchasing teams, (iii) the purchasing process revised to facilitate contracting practices. Consequently, in this context, the dissertation expects that the contracting magnitudes of this period would rise.
Figure 15: The intertwined interactions between values and institutions in the period 1997-2001
4.3.3. Period of 2002-2005

The USPS in this period faced challenges so considerable (i.e., a difficult economy, a high debt, a mail volume decline) that the GAO placed it on the high-risk list\(^\text{34}\). Following directions recommended by the President’s Commission on the Postal Service and under pressures to cut costs while improving overall performance, the USPS implemented major overhauls of its internal regulatory and organizational structures (GAO-04-540, 2004, p. 1). Part of its reform strategy was to find more efficient ways to procure goods and services, as well as to outsource more functions which could be done less costly by suppliers (USPS Vice Chairman Alan Kessler, 2007; USPS STP, 2002). This led to certain important institutional changes in purchasing environment. First, major rule changes included the introduction of the Purchasing Manual issue 2 on January 31, 2002, and later the introduction of Purchasing Manual issue 3 on December 25\(^\text{th}\) 2003. These issues included the additions or revisions centered on the USPS’s continuing efforts to (1) reflect the best practices of the private and public sectors, (2) streamline and simplify the purchasing process, and (3) provide a policy structure that furthers the USPS’s use of supply chain management business practices. **Commodity-based purchasing** and **national contracts** were two critical initiatives. The new Supply Management organization established five commodity-based portfolios that purchase the goods and services required by the USPS, including transportation, supplies, services, facilities, and mail equipment\(^\text{35}\) (USPS, CSPO, 2002; p 30). National Contract was

\(^{34}\) GAO placed USPS on its high-risk list in April 2001. The GAO’s high-risk list identifies federal programs or operations that are highly vulnerable to waste, fraud, abuse, and mismanagement or that requires urgent attention to ensure that the government functions in the most economical, efficient, and effective manner possible.

\(^{35}\) The Transportation Portfolio is responsible for purchasing all types of mail transportation, bulk fuel, mail transport equipment services used by suppliers and, the servicing and maintenance of such equipment. The Supplies Portfolio is responsible for purchasing supplies ranging from computer hardware and software to vehicles and vehicle supplies. The Services Portfolio is responsible for purchasing services ranging from consultants to maintenance, repair and operations (MRO) services. Facilities Portfolio is responsible for purchasing, design and construction and related services, and facility fixed products and equipment (non-mail
intended to consolidate the USPS’s spending on certain commodities. Previously, USPS employees had typically purchased supplies in a highly decentralized manner (from local, regional, or national businesses), using cash or purchase cards or through contracts or agreements. In turning to national contracts for certain items, the USPS attempted to reduce costs and improve efficiency in its acquisition approach, by (i) negotiating with selected suppliers based on volume discounts and then (ii) directing employees to use these contracts or make purchases from designated suppliers. The national contracts allowed the USPS to establish uniform processes, specifications, and standards for the work while reducing the amount of labor required (USPS CSPO, 2006, p26). For example, through Commodity-Based program, purchase teams defined requirements, analyzed demand data, used process management tools to devise optimum business approaches, and worked with

processing). Mail Equipment Portfolio is responsible for purchasing operational equipment and associated research and development (R&D). This includes automation and materials handling equipment.

According to the interview with Morris Joe (Purchasing official of the Columbus USPS-OH) in May 2006 and June 2007: if the value of a single contract/purchase is less than $10 thousand, it can be done by the local service center through formal or informal process (i.e., verbal). Competition is not mandatory, but encouraged. The competitions for contracts under $10 thousand used to be mandatory, but actually are not. In Morris’ early days, everything had to be competitive, even for the value of $50. There had to be at least 3 vendors to compete, and only the cheapest was chosen, though it might have the worst quality. One had to go with the least expensive offer, but there was no assurance of quality and many did not provide what they promised. Now CUSPS realizes the need of best values. If a contractor had a good reputation, reasonable price, and good quality, CUSPS can stay with him. The tight business relationship is going to help USPS get the inventory and service quicker, and the contractor sticks with CUSPS to earn money. If he does a poor job, USPS gets poor performance, and he will get nothing.

Contracts/purchases greater than $10 thousand must go through a very formal process. They are competed for through a solicitation process (ie, among 3 vendors in Franklin county). Solicitation is sent to vendors. Vendors have 30 days to reply, and the manager decides. The potential contractors can actively write in a letter to the CUSPS service center, telling who they are, what they can provide and want to bid for contracts; They do not need to come to see the purchase specialist any more (Morris at CUSPS for example). Purchasing used to be centralized to a group of people. They get used to it in certain ways. From 2001, it is decentralized to local managers. As a result, the Purchasing office which used to have 10 people, now only has Morris. Since 2003, it is mandatory to use electronic buying, through ebuy.usps.com, to cut costs and improve management ability.
suppliers to reach mutually beneficial agreements. Then the National Contracts program consolidated smaller contracts for goods and services into large nationwide contracts. Through this manner, a long-term contract was awarded to Goodyear Tire and Rubber Corporation, which then became the exclusive supplier of new tires with at least 10% saving per year; and a national contract was awarded to provide body repair and painting for the postal vehicle fleet, replacing approximately 122 separate contracts (USPS CSPO, 2006, p26).

Second, the USPS started the purchasing deregulation process in 2003, taking full advantage of the freedom provided to the USPS by the Postal Reorganization Act 1970. This was a critical step for commercialization. The traditional 300-page purchasing regulations, which had the force and effect of law, were to be replaced by “simplified regulations”, those were more business-like, streamlined, and focused on obtaining the best values. The new one would combine the USPS’s buying and supplying policies and practices in order to further institutionalize proven supply chain management business practices throughout the USPS. This change, from a set of regulation-based policies to one based on the commercial best practices of the private sector, was intended to provide the business flexibility necessary to be successful in a highly competitive environment. Purchasing deregulation was to be fully implemented by the end of 2004 (USPS CSPO, 2003). The new proposed purchasing regulations were first published for review and comment in the Federal Register on March 24, 2004.

Third, the purchasing function was completely restructured in 2002 to facilitate commercialized purchasing implementation by combining the policies and procedures of purchasing with those of material management operations. Prior Purchasing and Materials now were restructured into Supply Management. This major organizational change resulted in numerous changes in organization names and managerial titles and authorities.

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In sum, this period saw speeding-up changes in stakeholders’ value preference, especially the government, which expressed an overall tendency to deregulation. The Report of the President’s Commission in the Postal Service explicitly encouraged and endorsed the USPS plan to apply best practices found in the private sector, of which many required legislative action for implementation (GAO-04-540, 2004, p. 5; USPS Comprehensive Statement,
This led to the USPS’s fundamental shift from the traditional purchasing policy to a more professional and business-like supply chain management as explained in its issues of new sets of purchasing regulations – the Purchasing Manual issue 2 and issue 3. In addition, to help the financially struggling USPS, the Congress passed a legislation that substantially affected USPS’s finances by enabling it to pay down its debt by more than one third, from $11.1 billion at the close of 2002, to $7.3 billion in 2003. A better financial situation, plus relaxed and commercialized regulations were expected to contribute to higher contracting levels. In the context of such efforts, it is expected that **overall purchasing volumes in this period would increase** as contracting officers could reach out more with effective tools and without fearing of violating redundant public purchasing regulations. However, in certain purchasing areas, the contracting levels might see a decrease, resulting from consolidating purchases and National Contract programs.
**Figure 16:** The intertwined interactions between values and institutions in the period 2002-2005

<table>
<thead>
<tr>
<th>Value</th>
<th>Institutional changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush Administration continues favoring public outsourcing</td>
<td>Purchasing Manual revised in 2002 (issue 2)</td>
</tr>
<tr>
<td>USPS: Commercial principles progressively more prevail – Economic concerns increased relative to political concerns</td>
<td>(designed to take advantage of the best public and private purchasing practices through increased discretion)</td>
</tr>
<tr>
<td>Congress: Calls for the self-funded sustainability of the USPS. But some politicians proposed legislative efforts to prevent postal system outsourcing.</td>
<td>- Adjustment of Purchasing methods</td>
</tr>
<tr>
<td>National Economy: limited calls for privatization of the USPS. Strong calls from big business mailers to deregulate the sector.</td>
<td>- Adjustment of contract delivery service</td>
</tr>
<tr>
<td>Postal unions: tough oppositions to outsourcing</td>
<td>- Adjustment of contract highway transportation service</td>
</tr>
<tr>
<td>Household recipients: In large part satisfied with status-quo</td>
<td>- Purchasing deregulation 2003</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Organizational changes</th>
<th>Regulation and Rules changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Complete restructuring of Supply Management organization</td>
<td>Purchasing Manual revised in 2005 (issue 3)</td>
</tr>
<tr>
<td>- Establishments of 5 Commodity-based Purchasing (transportation, supplies, services, facilities, and mail equipment) and National Contracts to consolidate purchases and streamline purchasing process.</td>
<td>New Law which affect postal debts</td>
</tr>
<tr>
<td>- Establishments of contract offices and delivery routes</td>
<td>Expectation: Increased overall contracting magnitudes, Particularly in Mail Acceptance and Delivery areas</td>
</tr>
</tbody>
</table>
4.3.4. Period of 2005 to Present

This period sees the most fundamental legislative change since the Post Act 1970. In 2006, the Congress passed the “Postal Accountability and Enhancement Act”. The Act shows the intent of Congress that the USPS should enhance its ability to operate in a more businesslike manner and foster growth and innovation in the mailing industry, while still continuing its traditional mission of providing reliable universal service at affordable prices. The Act permits the USPS to operate and conduct business in a commercial fashion that it was denied before, insists on rationalizing investments in the infrastructure and realigning resources to improve the efficiency (USPS Guiding Principles for Implementation of the Postal Act of 2006). However, some congressional Democrats remain opposed to almost any outsourcing.

This period also sees the most fundamental changes in the USPS purchasing policy. For the first time, the USPS explicitly recognized the benefits of concentrating resources in core competencies while considering the outsourcing of activities that can be performed more efficiently and at lower cost by others (USPS, Strategic Plan 2006-2010, 2006). Consequently, it took a number of actions to further deregulate purchasing and institutionalize the Supply Chain Management philosophy throughout the USPS. Initially, proposed reformed regulations that combined buying and supplying practices were published for reviews and comments in the Federal Register (March 24, 2004), providing a forum where postal stakeholders aggressively attempted to push forward their values. Comments came primarily from twenty postal stakeholders, including some of USPS’s suppliers, certain research institutes, as well as mailer organizations. Supporting comments came from Boise Office Solutions, Lockheed Martin, and Northrop Grumman – all of whom were in long-term strategic partnerships with the USPS. They stated support and encourage to USPS’s desire to operate more effectively and implement best business practices of the commercial sector.


38 http://www.usps.com/postallaw/

One contended that streamlining USPS’s acquisition regulations could be appropriate and fundamental to realizing the full benefits of postal reform and could result in greater efficiencies. The other contended the streamlining would accomplish this by facilitating more flexible contract relationships and permitting faster acquisition times. Concerning and opposing comments came from postal labor unions, the Mail Contractors of America Inc., the Association for Postal Commerce, questioning whether USPS’s rationale for making such major changes had merit. For example, the labor unions strongly opposed the new outsourcing-oriented policy, fearing that it would undermine the quality and consistency of the public service, as well as cut jobs; Many were concerned that the lack of defined purchasing policies and procedures might create an environment of uncertainty for suppliers, as well as potentially lead to inconsistent and contradictory practices and contracting decisions. After review, minor adjustments were made to the proposed regulations. The Interim Purchasing Guidelines were finally published in the Federal Register on April 19, 2005, and became effective May 19, 2005, replacing all issues of prior USPS purchasing regulations. It included a nine page rule that mainly discusses canceling business relationships, debarring or suspending suppliers, and limiting suppliers’ ability to seek redress when disputes or contract claims arise. The Interim Purchasing Guidelines were an initial preparation for and later were replaced by the Supplying Principles and Practices, the current effective. Effective from July 30th 2007 to present, the Supplying Principles and Practices are not binding regulations of the USPS. They are merely advisory and illustrative, will be for internal use only, may be altered or superseded at any time without notice, and will not have the force or effect of law. They are intended to grant the most flexibility and discretion possible to contracting officers when applied to specific business situations. The USPS expects that with more authority and discretion given, postal managers will have freedom to choose effective production methods in efforts to cut costs effectively.

40 http://www.treas.gov/offices/domestic-finance/usps/

41 For example, bidders do not know how the USPS would conduct purchasing functions and make purchasing decisions, how USPS officials could be held accountable for their decisions. See Comment of the Association for Postal Commerce on the USPS’s Proposed Rule, 69 Fed. Reg 13, 786-793, 2004, and http://www.wickwire.com/lawyer-attorney-1042900.html

Postmaster General John Potter, 2007 (July 19)). In addition to new guidelines for purchasing, this issue also gives new requirements on the qualifications of contracting officers, continuing professionalism, protection of employee information, and the USPS’s right to audit the supplier’s compliance with the requirements of purchasing.

**Figure 17**: The structure of the old (left) and new (right) USPS’s purchasing regulation. Source: (GAO-06-190, 2005, p. 13)

USPS claimed that these new regulations were more business-like, streamlined, and focused on obtaining best value (USPS, CSPO, 2005, p 25). Main highlights included: (i) the Guidelines were not binding regulations of the USPS; (ii) the Guidelines were intended for internal use only; and (iii) The Guidelines did not create any right, substantive or procedural, enforceable against the USPS. Most of the founding principles of Purchasing Manual were kept but with some limited degree of revisions and modifications. However, such radical changes in nature of the new purchasing regulations have raised substantial concerns from
postal stakeholders about how changes will be implemented. These concerns relate to the potential impact on suppliers’ ability to track and hold accountable contract officers, and the USPS’s ability to achieve efficiencies while ensuring the fair and consistent treatment of suppliers (GAO-06-190, 2005, p. i).

In sum, this period sees the political balance change toward favoring further commercializing USPS's activities, as manifested by the issues of the Postal Act 2006 and the latest USPS purchasing regulation. These institutional developments show fundamental changes of postal preference and direction of evolution. They institutionalize more commercial values, regulatory flexibilities, management discretion, and consequent outsourcing opportunities. In this context, the overall levels of contracts in this period are expected to rise, either in number of contract awards or in contracting amounts.

However, the new bargaining contracts between the USPS and its postal labor unions have certain provisions that require the USPS to consult the unions’ opinion before making outsourcing decisions, and certain Congressional resistances to postal network outsourcing may have negative effects on the outsourcing efforts of the USPS. We will find out about it in the data analysis in the successive section.
**Figure 18: The interactions between values and institutions in the period 2005-Present**

<table>
<thead>
<tr>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush Administration continues favoring public outsourcing.</td>
</tr>
<tr>
<td>USPS: Leadership wants to concentrate on core competence, outsourcing is opportunity to sustain service provisions.</td>
</tr>
<tr>
<td>Postal labor unions: outsourcing is a threat to public security.</td>
</tr>
<tr>
<td>Mailers: reform necessary to facilitate mailers' business which accounts 80% of postal demand.</td>
</tr>
<tr>
<td>Congress: Mixed attitude. 2 efforts to oppose outsourcing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational changes</strong></td>
</tr>
<tr>
<td>Continue simplifying Purchasing organization and processes.</td>
</tr>
<tr>
<td>Terminations of certain facilities, consolidate parts of their tasks to other facilities and outsource the others to contractors</td>
</tr>
<tr>
<td>Establishments of new contract delivery routes and contract offices</td>
</tr>
<tr>
<td><strong>Regulation and Rules changes</strong></td>
</tr>
<tr>
<td>Interim Purchasing Guidelines 2005</td>
</tr>
<tr>
<td>(designed to take advantage of the best public and private purchasing practices through increased discretion)</td>
</tr>
<tr>
<td>Strategic Supply Management 2005</td>
</tr>
<tr>
<td>Postal Act 2006</td>
</tr>
<tr>
<td>Supplying Principles and Practices 2007 (a guidance with no binding force of law)</td>
</tr>
</tbody>
</table>

Expectation: Increased overall contracting magnitudes.
4.3.5. Summary

The review section above reveals a major value preference change from one that stressed on political responsibility to one that is more commercial for most of major postal stakeholders, including the Government, the Congress, the USPS, and mailers. The Government, the Congress, and the USPS all recognized the benefits of concentrating resources in core competencies while considering the outsourcing of activities that can be performed more efficiently and at a lower cost by others. These changes are reflected in the progressive institutional developments during the last decade that produced a major legislative solution – the Postal Act 2006 – that reformed fundamentally the business foundation of the USPS, and led to the internal deregulation of its purchasing.

As mentioned in the Chapter 3, the basic proposition is that values and institutional factors frame the contracting environment, and changes in these categories would lead to changes in contracting levels. For these periods, with values favor and institutions facilitate contracting, the overall expectation is that the aggregate levels of contracting rise through the four periods. The next section will analyze contracting data to find evidence of contracting fluctuations that match with value and institutional changes.

4.4. Data and Results

4.4.1. Methods and Data

An important part of this dissertation is to empirically test the propositions laid out by the theoretical explanations of postal production decisions. In order to find out if there were increases or decreases in the aggregate levels of purchasing after each event in which the USPS changed its rules or internal organizational structure, I use the Intervention Time Series Analysis on the aggregate data of USPS purchasing acquired from the Commercial Business Daily.

i. Time Series Intervention Analysis

The Intervention Time Series Analysis empirically tests time series values (i.e., number of contract awards) and answers the common research question of whether an outside event affected subsequent observations. For example, did the implementation of a new purchasing
policy improve economic performance; did it affect subsequent contracting rates; and so on. In general, we want to evaluate the impacts of one or more discrete events on the values in the time series. Four major types of impacts that are possible include (1) permanent abrupt; (2) permanent gradual; (3) abrupt temporary, and (4) gradual temporary, depending on their onset and duration characteristics. This type of interrupted time series analysis is described in detail in McDowall, McCleary, Meidinger, & Hay (1980).

**Figure 19**: Types of intervention components. From McDowall et al. (1980).

The intervention model can be basically explained in the equation below. For a particular service s, the magnitude of contracting can be explained as:

\[
M_{st} = \beta_{s0} + \beta_{s1} \times \text{time}_{s1} + \beta_{s2} \times \text{intervention}_{st} + \beta_{s3} \times \text{time after intervention}_{st} + e_{st}
\]

**Equation 1**: Time-series Intervention Model.
In which,

\[ M_{st} \]  Magnitude of contracting for the service \( s \) at time \( t \).

\[ \beta_{s0} \] estimates the baseline level of the outcome at the beginning of the time series.

\[ \beta_{s1} \] estimates the pre-intervention trend where \( \text{time} \) is a continuous variable indicating the time in month at time \( t \) from the start of the study period.

\[ \beta_{s2} \] estimates the change in level post-intervention where \( \text{intervention}_{st} = 0 \) before the intervention, and \( \text{intervention}_{st} = 1 \) after the intervention.

\[ \beta_{s3} \] estimates the change in post-intervention trend where \( \text{time after intervention} \) is a continuous variable indicating the number of months after the start of the intervention at time \( t \). It is coded as zero before the intervention.

\( \epsilon_{st} \) includes random error and autocorrelation.

The intervention is added to the equation by simply using a dummy variable to divide the time periods into two sets - before an intervention event and after it. Then we check if the Auto-Regressive Integrated Moving Average (ARIMA) models are the same before and after. The intervention had a significant effect if the omega statistic is significant. Alternatively, the closer the delta statistic is to 0, the more abrupt the effect of the intervention is.

The null hypothesis includes

1. The level of the series before the intervention \( (\beta_{s0}) \) is the same as the level of the series after the intervention \( (\beta_{s2}) \) or \( H_0: \beta_{s0} - \beta_{s2} = 0 \); 

2. The trend of the series before the intervention is the same as the trend of the series after the intervention, \( H_0: \beta_{s1} - \beta_{s3} = 0 \)

However, a major limitation of the traditional time series intervention model is that many data points are required for adequate model development. Hartmann et al. (1980) cited several authors who recommended collecting at least 50 to 100 data points per experimental phase before using auto-regressive integrated moving average procedures. To solve this problem, Warren Tryon presented a method of time series analysis that can be used on small data sets (as low as 8 data points for each period) to evaluate the effects of treatment.
interventions (Tryon, 1982). This approach requires calculating the C statistic and Z statistic given by the following equations:

\[ C = 1 - \frac{\sum_{i=1}^{N-1}(X_i - X_{i+1})^2}{2\sum_{i=1}^{N}(X_i - X)^2} \]

\textit{Equation 2: C statistic}

Standard error of the C statistic

\[ Sc = \sqrt{\frac{(N - 2)}{(N - 1)(N + 1)}} \]

\textit{Equation 3: Standard error of the C statistic.}

Young (1941) shown that the ratio of C to its standard error is the Z statistic which is normally distributed for time series containing 25 or more values, and the deviation from normality is not marked even for time series containing just 8 values (Tryon, 1982, p. 424).

\[ Z = \frac{C}{Sc} \]

\textit{Equation 4: Z statistic. Source: Young 1941, as quoted in (Tryon, 1982)}
Below are the critical values for testing the C statistic for selected sample sizes (N) at the 0.01 level of significance (quoted in Young (1941)). The critical value for the .05 level of significance is 1.64 for all sample sizes above.

<table>
<thead>
<tr>
<th>N</th>
<th>CV</th>
<th>N</th>
<th>CV</th>
<th>N</th>
<th>CV</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>2.17</td>
<td>14</td>
<td>2.23</td>
<td>20</td>
<td>2.26</td>
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<td>2.18</td>
<td>15</td>
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<td>21</td>
<td>2.26</td>
</tr>
<tr>
<td>10</td>
<td>2.20</td>
<td>16</td>
<td>2.24</td>
<td>22</td>
<td>2.26</td>
</tr>
<tr>
<td>11</td>
<td>2.21</td>
<td>17</td>
<td>2.25</td>
<td>23</td>
<td>2.27</td>
</tr>
<tr>
<td>12</td>
<td>2.22</td>
<td>18</td>
<td>2.25</td>
<td>24</td>
<td>2.27</td>
</tr>
<tr>
<td>13</td>
<td>2.22</td>
<td>19</td>
<td>2.26</td>
<td>25</td>
<td>2.27</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>∞</td>
<td>2.33</td>
</tr>
</tbody>
</table>

*Table 2: The critical values for testing the C statistic for selected sample sizes at 0.01 level of significance*

Due to the limited number of observations in our data source, this model is perfectly suited for analyzing whether there is evidence of changes in the quarterly numbers of contract awards present following intervention events.

**ii. Differences between the simplified model and the complete model of interrupted time series analysis**

The simplified time series intervention model requires only 8 observations or more for each period of time, while the traditional complete model requires at least 50 data points to evaluate the effects of treatment interventions.

**iii. Data Source**

The primary source of quantitative data on USPS contracting is the Commercial Business Daily (CBD) website (http://cbd.cos.com), which provides USPS’s Request for Proposals, and contract awards. Data is available from 1995 up to present. The inquiry can show individual contract records with classification number, date of publication, synopsis, contractor awarded, date awarded, and contract amount. The Federal Business Opportunities web site (FBO; http://www.eps.gov; www.FedBizOpps.gov) also provides similar data, classified by five purchasing areas: (i) Facilities Purchasing, (ii) Finance
Department, (iii) SCM Strategies, (iv) Supplies and Services Purchasing, and (v) Transportation Purchasing.

The data of 13 years (1995-2007) is divided into 52 total quarterly contract awards. This limited number of observations does not satisfy the requirements of the standard interrupted time series model, but well satisfy the simplified intervention time series.

However, data is a source of concern because they may be inaccurate, incomplete, and inconsistent (GAO-04-540, 2004, p. 2; GAO-03-230, 2003). Especially, the USPS did not collect data that showed the extent to which procurement personnel had used the added discretion permitted by new rules, nor kept track of the specific advantages and disadvantages of using increased discretionary judgment (GAO/GGD-91-103, 1991, p. 3).

4.4.2. Data Analysis

The table below contains the aggregate amounts and counts of contract awards in service in the period 1995-2007 that were retrieved from the Commercial Business Daily source in January 2008.

<table>
<thead>
<tr>
<th>Year</th>
<th>Aggregate Amount (*)</th>
<th>Amount by 1995 dollars (**)</th>
<th>Contract Count</th>
<th>Average amount per contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>$141,017</td>
<td>$141,017</td>
<td>162</td>
<td>$870</td>
</tr>
<tr>
<td>1996</td>
<td>$200,702</td>
<td>$194,947</td>
<td>104</td>
<td>$1,874</td>
</tr>
<tr>
<td>1997</td>
<td>$346,995</td>
<td>$329,484</td>
<td>66</td>
<td>$4,992</td>
</tr>
<tr>
<td>1998</td>
<td>$405,523</td>
<td>$379,152</td>
<td>60</td>
<td>$6,319</td>
</tr>
<tr>
<td>1999</td>
<td>$300,526</td>
<td>$274,911</td>
<td>61</td>
<td>$4,507</td>
</tr>
<tr>
<td>2000</td>
<td>$12,280</td>
<td>$10,868</td>
<td>2</td>
<td>$5,434</td>
</tr>
<tr>
<td>2001</td>
<td>$130,467</td>
<td>$112,271</td>
<td>40</td>
<td>$2,807</td>
</tr>
<tr>
<td>2002</td>
<td>$398,143</td>
<td>$337,283</td>
<td>103</td>
<td>$3,275</td>
</tr>
<tr>
<td>2003</td>
<td>$630,409</td>
<td>$522,144</td>
<td>227</td>
<td>$2,300</td>
</tr>
<tr>
<td>2004</td>
<td>$333,271</td>
<td>$268,875</td>
<td>151</td>
<td>$1,781</td>
</tr>
<tr>
<td>2005</td>
<td>$780,256</td>
<td>$608,864</td>
<td>146</td>
<td>$4,170</td>
</tr>
<tr>
<td>2006</td>
<td>$661,552</td>
<td>$500,103</td>
<td>152</td>
<td>$3,290</td>
</tr>
<tr>
<td>2007</td>
<td>$569,949</td>
<td>$418,922</td>
<td>118</td>
<td>$3,550</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ 4,911,090</strong></td>
<td><strong>$418,922</strong></td>
<td><strong>1392</strong></td>
<td><strong>$3,550</strong></td>
</tr>
</tbody>
</table>

Table 3: USPS’ aggregate purchasing amounts in services during the period of 1997-2007
(*) Since the data source are not complete (e.g., contracts which had values lower than thresholds were not published in CDB; many contract awards published with values missing), the aggregate amounts recapitulated in this table may not reflect the true aggregate values of total contract awards. In addition, the data is presented in yearly numbers to address the problems of seasonal fluctuations.

(**) The numbers are calculated by the CPI Inflation Calculator provided online by the Bureau of Labor Statistics at [http://www.bls.gov/data/inflation_calculator.htm](http://www.bls.gov/data/inflation_calculator.htm).

**Figure 20:** Annual service contract award numbers of service from 1995 to 2007.
As seen in the charts above, there were visibly significant surges, or drops, or changes on annual contracting levels happened in each of four periods. The long-term trend line representing the commercialization process is going up (as manifested by the straight regression line in the chart). The short-term trend line representing fluctuations resulted from value- and institutional changes show some gradual (if not abrupt) changes of contract award numbers. This line is the zig-zag line in the chart, which is calculated by 2-year-lag moving average method.

i. Contracting practices in 1997-2001

The dissertation expects this period to see rises in contracting. Indeed this period saw significantly surge in contracting amounts, though contract award numbers dropped quickly. However, while the long-term trend shows a steady increase in purchasing values, the short-term trends shows a shape of strong fluctuation in the period between 1995-2001. There are a number of explanations for fluctuations in this period.

Before the new regulation took effect in 1997, in expectation of the incoming new purchasing regulation, the contract volumes had already decreased significantly from 162 in
1995, to 104 in 1996, 66 in 1997, where it stayed at this level through 1998 and 1999. During these years, the annual purchasing values surged up and almost doubled, from the level of more than $150 million a year to well more than $300 million a year. Thus, based on 1995-dollar, the average value per contract increased to higher levels, from $1.874 million in 1996 to $4.992 and $6.319 million in 1997 and 1998.

Purchasing suffered in 2000 and 2001, after three years of growth. This may be explained in part a result of the USPS’s struggle with worsening financial outlook and the national economy difficulty after the terrorist attack 9-11 (USPS CSPO 2001). Despite the new increased postal rates which were in effect for the periods, for the first time since 1994, the USPS incurred financial deficits of around $200 million in 2000 and 2001 (see **Figure 22**, p 96). Thus, a belt-tightening program was enacted, which reduced unnecessary expenses by millions of dollars to ensure that postal rates would not increase until 2001 and to help the agency meet its financial goals. For example, total dollar amount of small purchases made locally by employees via credit cards for day-to-day operational needs shrank by approximately one-sixth in 2001 (USPS CSPO 2001).

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Debt ($ billions)</th>
<th>Interest Expense ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>6.4</td>
<td>3.2</td>
</tr>
<tr>
<td>1999</td>
<td>6.9</td>
<td>3.9</td>
</tr>
<tr>
<td>2000</td>
<td>9.3</td>
<td>4.7</td>
</tr>
<tr>
<td>2001</td>
<td>11.3</td>
<td>6.4</td>
</tr>
<tr>
<td>2002</td>
<td>11.1</td>
<td>7.7</td>
</tr>
</tbody>
</table>

**Figure 22**: Postal Service Net income outlook. *Source: GAO-01-262 U.S. Postal Service Challenges, p6.*
Another reason is the behavioral changes in purchasing practices of Supplies and Services. New policy in this period led to large consolidated contracts for many of the common items which somewhat reduced the need for these buys.

ii. Contracting practices in 2002-2005

The dissertation expects this period to see growth in contracting. Indeed, following changes to regulations and organizations, this period saw significant increases of service purchasing to higher levels in both the annual number of awards and total purchasing values (see the Table 3 in page 93). Total annual service contract awards reached their highest levels in periods under analysis, with 103, 227, and 151 contract awards for the FY 2002, 2003, and 2004 respectively. These numbers almost doubled the levels in the prior period of 1997-2001. However, the average amounts per contract show strong fluctuations. The soaring of contracting magnitudes can be attributable to many sources, mainly (i) the USPS's financial recovery after 2002 as shown in the Table 4 below, (ii) a new legislation issued in 2003 reducing USPS financial debts and duty, and (iii) aggressive reforming maneuvers of purchasing organization (i.e., Supply Management organization’s complete restructure, revised purchasing regulations). The USPS CSPO (2003 and 2004) also shows that, the USPS spending on such items as supplies, services, rent, and transportation was approximately $11.5 billion in FY 2004, an increase from $11.3 billion of FY 2003.

<table>
<thead>
<tr>
<th>Financial Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Actual</td>
</tr>
<tr>
<td>Revenue (billion)</td>
</tr>
<tr>
<td>Revenue to Plan</td>
</tr>
<tr>
<td>Net Income (billion)</td>
</tr>
</tbody>
</table>

*Table 4: Postal Service Net income outlook (Source: 2007 Annual Report)*

The uses of Commodity-Based Purchasing and National Contract may have contributed to lower numbers of contracts in some particular products. Transportation fuel purchasing,
which cost more than $700 million a year, provides the first example. The USPS negotiated a discounted fuel price with two national suppliers and directed its highway contractors to purchase their fuel from these suppliers rather than from various local and regional sources. These contracts projected $18 million in annual savings\(^{43}\). Postal equipment purchasing provides another example. Prior to its use of national contracts, the USPS purchased corrugated boxes, custodial products, labels, retail packaging, and tires from a large number of suppliers (e.g., estimates of over 1,000 suppliers for custodial products and 22 suppliers for labels). Now the USPS has negotiated contracts for these commodities with a smaller number of suppliers (2 contracts for custodial products and 6 for labels). For FY 2003, the USPS reported $71.12 million in savings and revenue through the national contracts for the five commodities above (GAO-04-540, 2004, pp. 6, 13, 19). However, according to a GAO review (GAO-03-230, 2003, pp. 1, 18; GAO-04-540, 2004), a side effect since the USPS started using the national contracts was that the number of small business suppliers has dropped dramatically as acquisition plans for most of these contracts did not address small business participation, either at the prime or subcontractor level\(^{44}\). This situation ran counter to the intent of the USPS’s supplier diversity program. This supplier base shrink might affect the competitiveness of future biddings.

### iii. Contracting practices in 2005-Present

The dissertation analysis on the interactions of values and institutions to contracting environment predicts a rise of contracting levels during this period. This is a reasonable expectation resulting from the purposes of the replacement of the prior Purchasing Manual with the new Supplying Principles and Practices, which gives significantly more discretion to purchasing officers in making decisions.

\(^{43}\) However the reported 2003 savings was only $1.1 million (GAO-04-540, 2004), because of the reluctance of transportation contractors to participate when the program did not have a measure to accurately reflect fuel price fluctuations in timely manner. Only 600 of the roughly 17,000 highway routes are involved in the program, although the USPS had expected a much greater level of participation.

\(^{44}\) Though the USPS is not subject to the Small Business Act, its leadership set forth supplier diversity program to attract and award contracts to small, minority, and women-owned businesses (GAO-04-57R Postal Service Supplier Diversity Program).
Data shows that this period did in fact experience contracting magnitudes (number of awards and amounts) were at higher levels relative to those of previous periods. However, the contracting data shows a decreasing tendency from 2007, which is very likely a result of worsening financial status of the USPS in incoming year. In this year, the USPS for the first time after 4 years incurred a financial loss of $5.1 billion (See Table 4) and expected a loss of $0.6 billion in 2008. The other causes could be the persisting resistance of the postal unions (See 4.3.4.).

iv. Results of the Intervention Time Series Analysis

In order to strengthen the visual data inspection in the previous section, I use an intervention time series analysis in contracting data. The table below presents the quarterly data of contract awards for 13 years from 1995 to 2007. The data were retrieved from the Commercial Daily Business in January 2008.

<table>
<thead>
<tr>
<th>Year</th>
<th>Quarter</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>Q1</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>Q4</td>
<td>12</td>
</tr>
<tr>
<td>1996</td>
<td>Q1</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Q4</td>
<td>4</td>
</tr>
<tr>
<td>1997</td>
<td>Q1</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>10</td>
</tr>
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<td></td>
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<td>38</td>
</tr>
<tr>
<td></td>
<td>Q4</td>
<td>5</td>
</tr>
<tr>
<td>1998</td>
<td>Q1</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Q4</td>
<td>4</td>
</tr>
<tr>
<td>1999</td>
<td>Q1</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
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<td></td>
<td>Q4</td>
<td>1</td>
</tr>
<tr>
<td>2000</td>
<td>Q1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Q4</td>
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</tr>
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<td>2001</td>
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</tr>
<tr>
<td></td>
<td>Q2</td>
<td>6</td>
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<tr>
<td></td>
<td>Q4</td>
<td>4</td>
</tr>
<tr>
<td>2002</td>
<td>Q1</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td>41</td>
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<td></td>
<td>Q4</td>
<td>18</td>
</tr>
<tr>
<td>2003</td>
<td>Q1</td>
<td>71</td>
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<td>Q2</td>
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<td>Q3</td>
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<td></td>
<td>Q4</td>
<td>86</td>
</tr>
<tr>
<td>2004</td>
<td>Q1</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td>43</td>
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<td>Q4</td>
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<td>2005</td>
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<td>Q2</td>
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<td></td>
<td>Q3</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>Q4</td>
<td>33</td>
</tr>
<tr>
<td>2006</td>
<td>Q1</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Q4</td>
<td>22</td>
</tr>
<tr>
<td>2007</td>
<td>Q1</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Q4</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1,392</td>
</tr>
</tbody>
</table>

Table 5: Quarterly total number of service contract awards. Source: Retrieved from CBD Jan 2008.
Figure 23: Trend of quarterly contract awards from 1995 to 2007. The 2-period moving-average line shows a short-term trend, which manifests fluctuations that occurred coincident with institutional interventions.

The table below presents C statistics and Z values of data for 4 individual periods (each period spans between two interventions), and the periods which combined portions before and after each intervention. The number of observations for each period is at least 8, which satisfied the minimum number required by the C-Statistic model (Tryon, 1982, p. 1; Arnau & Bono, 1998).
Table 6: Calculation of C statistic: Z values of time series of contract awards for different periods of time.

<table>
<thead>
<tr>
<th>Series</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
<th>Phase</th>
<th>Phase</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1995Q1-1996Q4</td>
<td>1997Q1-2001Q4</td>
<td>2002Q1-2005Q2</td>
<td>2005Q3-present</td>
<td>1+ 2</td>
<td>2+ 3</td>
<td>3+ 4</td>
</tr>
<tr>
<td>Number of observations</td>
<td>8</td>
<td>20</td>
<td>14</td>
<td>8</td>
<td>28</td>
<td>34</td>
<td>22</td>
</tr>
<tr>
<td>C statistic</td>
<td>(0.141)</td>
<td>0.052</td>
<td>(0.284)</td>
<td>(0.057)</td>
<td>0.159</td>
<td>0.410</td>
<td>0.565</td>
</tr>
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<td>(0.457)</td>
<td>0.243</td>
<td>(1.143)</td>
<td>(0.186)</td>
<td>0.874</td>
<td>2.462*</td>
<td>2.779**</td>
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Note: (*) and (**) are statistically significant at p<0.01.

The baseline is Phase 1, from 1995 Q1 to 1996 Q4. The Phase-1’s Z value of -0.457 is not statistically significant, indicating the absence of any substantial trend in the Phase 1 baseline, which is good for statistical purposes. It is also the case with all other phases.

The second phase, from 1997 Q1 to 2001 Q4, involved data after first intervention: the introduction of new Purchasing regulations in 1997. The data for this phase of the intervention were appended to the baseline data (Phase 1 data) and tested for a trend. The resulting Z= 0.874 is not statistically significant at p < 0.01, meaning that there was no significant shift in the trend of the time series, which matches the visual inspection of the graph.

The third phase, from 2002 Q1 to 2005 Q 2, contained data after the second intervention, which includes the complete restructuring of Supply Management together with the revised issue of Purchasing regulations. The data for this phase were appended to the data of the second phase to test if the trend of line changed during the time span from 1991 Q1 to 2005 Q2. The Z score of 2.462 is statistically significant (p <0.01), confirming the visual inspection of a shift in the trend of the time series, meaning that the intervention did have an impact on the contracting magnitude of the phase 3. In addition, the Phase 3 Z value of -1.143 is not statistically significant, suggesting that this portion of the series may be stable, which does not match the visual inspection however. This is consistent with the observation
that data analysis based on visual inspection and time-series analysis can disagree substantially (Tryon, 1982, p. 428; Gottmand & Glass, 1978).

The fourth phase, from 2005 Q3 to 2007 Q4, involved data after the third intervention: the replacement of Interim Purchasing Guidelines with the Purchasing Manual. The data of this period is appended to the data of Phase 3 to test if there was trend change. The calculated Z value of 2.779 is statistically significant (p <0.01) meaning that there was a shift in the trend of the time series, or that the intervention did impact the result.

In conclusion, the statistical calculations in here have links with the data inspection in the prior section. It supplements analytical evidence that support the dissertation’s overall proposition that interventions have directly impacted the contracting magnitudes of the USPS.

4.4.3. Links between data findings and propositions

The section above shows that there were changes in aggregate contracting magnitudes which concurred with the events where sets of factor changed (shifting in stakeholders’ value preference and changes made to institutions). This is evidence that supports the general proposition that three categories of factor frame the contracting environment and changes in each category will affect the magnitude of contracting.

Regarding the proposition P2 – Changes in contracting organizational arrangement alter the magnitude of contracting, the data in the Table 7 shows that, from 2002 (the year of the issue of the Purchasing Regulations in 2002 and the complete restructure of the Supply Chain Management in 2002) certain services which had not been purchased before now started being purchased. They are service D (Information Technology Services), J (Maintenance, Repair, and Rebuilding of Equipment), K (Modification of Equipment), and T (Photographic, Mapping, Printing, and Pub. Services). Other services like B and X got higher contracting levels. This matches with proposition.
### Service Codes

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<td>B</td>
<td>Special Studies and Analyses - Not R&amp;D</td>
<td>R Professional, Admin., Management Support Services</td>
</tr>
<tr>
<td>C</td>
<td>Architect and Engineering Services - Construction</td>
<td>S Utilities and Housekeeping Services</td>
</tr>
<tr>
<td>D</td>
<td>Information Technology Services, incl. Telecomm Services</td>
<td>T Photographic, Mapping, Printing, and Pub. Services</td>
</tr>
<tr>
<td>G</td>
<td>Social Services</td>
<td>V Transportation, Travel and Relocation Services</td>
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<td>H</td>
<td>Quality Control, Testing and Inspection Services</td>
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</tr>
<tr>
<td>J</td>
<td>Maintenance, Repair, and Rebuilding of Equip.</td>
<td>X Lease or Rental of Facilities</td>
</tr>
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<td>K</td>
<td>Modification of Equip.</td>
<td>Y Construction of Structures and Facilities</td>
</tr>
<tr>
<td>M</td>
<td>Operation of Government-Owned Facilities</td>
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</tr>
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<td>949,686,667</td>
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**Table 7**: USPS’s purchases by service (Source: Retrieved from CBD on Jan 2008)

Turning to the propositions $P_3$ – changes in rules governing purchases in a particular purchasing portfolio alter the contracting magnitude of this portfolio, the case of air transportation contracting provides an excellent support. After the terrorist attacks on September 11, 2001, the Federal
Aviation Authority and Congress issued a new law placing restrictions on larger mail pieces which prohibited the USPS from using commercial air carriers. The USPS was forced to move virtually all Priority Mail to FedEx and surface networks. As a result, volumes flown on commercial airlines became dramatically lower, reducing decreased demand of air transportation purchasing. To comply with new institutional constraint, since 2003, the USPS replaced the previous air transportation system (ASYS) with the commercial air transportation system (CAIR-03). CAIR-03 contracts were competitively bid rates as opposed to negotiated set rates in ASYS, and were solicited and awarded by the Air Category Management. Importantly, the best value criterion (in terms of low cost and best performance) was used to assign mail. Scanning technology was used for the first time to track the performance of the carriers. In addition, the postal air transportation system was reconfigured to consolidate routes and improve efficiencies. The number of transportation suppliers decreased from over 77 airlines in 1994, down to 50 in 2002 and further to 18 in 2003, because many fell short of pre-qualification (USPS Comprehensive Statement, 2003, p. 35). However, this might have mixed effect effects on the competitiveness of the postal air transportation market since fewer suppliers want to risk investments to take shares of the highly demanding market. USPS claimed in CSPO 2003 that these CAIR-03 contracts would allow it to enhance its competitive position by using performance data to manage mail flows, realize a savings of $2.6 million over the previous ASYS contracts for 2003 alone, and expect to achieve an additional savings of $4.2 million for 2004. The USPS continued to pursue the deregulation of air transportation rates for the transportation of international and military mail and the conveyance of the authority to competitively contract for such transportation in the open market. Reconfiguration of the postal air transportation system resulted in consolidation of routes and improved efficiencies and a savings of $200 million while supporting record service performance. The CAIR-06 replaced the CAIR-03 in 2006. The CAIR-06 consists of seven individual contracts with FedEx (7 years) and commercial airliners (5 years). This is a reduction from 17 suppliers of the CAIR-03 contract, because only these 7 performed at acceptable levels and were deemed eligible to participate in CAIR-06 (see Table 8). In a departure from past practice, in order to compete for an award, air carriers were required to prequalify before submitting bids (USPS, CSPO, 2006).
### Table 8: USPS’s air transportation procurement (Retrieved from the USPS CSPO 2001-2006).

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<th>Year</th>
<th>Amount</th>
<th>Growth</th>
<th>Number of Suppliers or Contracts</th>
</tr>
</thead>
<tbody>
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<td>2001</td>
<td>$1,900</td>
<td>N/A</td>
<td>55 suppliers</td>
</tr>
<tr>
<td>2002</td>
<td>$1,900</td>
<td>3.6%</td>
<td>50 suppliers</td>
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<tr>
<td>2003</td>
<td>1,800</td>
<td>-3.4%</td>
<td>18 suppliers</td>
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<td>2004</td>
<td>1,700</td>
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<td>5-year contracts</td>
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<td>2005</td>
<td>2,400</td>
<td>11.9%</td>
<td>18 contracts</td>
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<td>2006</td>
<td>2,800</td>
<td>13%</td>
<td>8 suppliers</td>
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In conclusion, the legislative intervention to the transportation purchasing portfolio has changed the contracting constraints, leading to changes in the purchasing volumes and supplier base.

#### 4.5. Conclusion

During the period between 1995 and 2007, several institutional changes in terms of organizational structure, purchasing regulations, as well as Congressional legislation appear to have altered the ways the USPS ran its business. These institutional changes reflect the stakeholders’ changing values concerning the USPS core mission, as well as market challenges that the USPS is facing. These three dimensions have impacted the aggregate levels of contracting during this time period. The general trend in aggregate contracting level is going up, despite certain Congressional and postal union resistance, since the foundation guideline – the postal program value – has changed from “serving the public” effectively at any price to serving the economy as a whole efficiently. Such a commercialization orientation will continue offering more opportunities for private participation in the system to deliver performance with lower costs.

This chapter has discussed the impacts of values and institutions on the USPS’s contracting practices at a macro level. The next Chapter will discuss another source of influence – the market factors – to the USPS outsourcing policy at a more micro level. This discussion will center on important transaction-cost drivers of the contractual exchange between the USPS and its suppliers.
CHAPTER 5

COMPARATIVE ANALYSIS OF CONTRACTING ACROSS AREAS

5.1. INTRODUCTION

Chapter 4 has analyzed the impacts of two sets of factors – value and institution – to aggregate postal contracting at macro levels. This chapter is dedicated to comparing contracting levels at the more micro level among operational areas of the USPS.

In the context of the postal sector, in which all functions have almost the same conditions of value and institution (most favor in-house production but encourage to outsource a certain portion of system), it is the market factors that best help explain in the most part why one function sees more contracting than others. The following sections will discuss how changes in the VIM conditions had impacts on the contracting levels within service overtime and across services, with special focus on the market-related factors.

As reviewed in Chapter 3, the contracting decisions are shaped mostly by the market factors, namely transaction costs and risks inherent in each product purchased. The TCE contends that service characteristics like asset specificity, measurability, and marketability are sources of transaction costs. The higher the service is asset specific, the more the buyer and vendors are locked in the transaction, therefore constraining future competition. The more difficult it is to measure quality or quantity of the services contracted, the more the transactors risk failing to detail the contract provisions in advance and incur high monitoring costs for service delivery performance. The government is thus safer if delivery for them is internally. The frequency of the exchanges that occur in the contract also affects the transaction costs –
higher frequency gives incentives to bilateral cooperation and makes the cost of deviance for a transactor high. Thus, TCE suggests that: products being more asset-specific, difficult to measure in quality or quantity, or involve high degrees of uncertainty, would see lower contracting levels, and vice versa. Other characteristics like nature and demand profile of the products purchased also affect transactions, as discussed in more detail in sections following.

Second, service marketplace conditions like competitiveness and information asymmetry also affect the contracting decisions. Effective markets with large numbers of buyers and sellers provide managers with important information about prices and service quality across vendors, and facilitate disciplining vendors who fail to meet contract standards (Hart and Moore, 1999; Niskanen, 1971). Participants are well informed about products and each others’ preferences; and actors must be able to enter and exit the market and exchange resources at low costs. Non effective markets with limited numbers of sellers, high transaction costs, limited information, and high uncertainty about the future will not provide a safe environment for public managers to engage in (Coase 1937; Williamson 1981, 1991, 1996).

The theory discussion above leads to the proposition P4 that

\[ P_4: \text{Across services, services having more competitive markets enjoy larger contracting magnitude than other services having less competitive markets. Services being more asset specific, difficult to measure in quality and quantity, or involves higher degree of uncertainty have lower aggregate contracting levels.} \]

In the following sections, the dissertation first analyzes the changing VIM circumstances within each area, then compares how VIM environments make differences across areas, and reaches a conclusion.

5.2. Core Areas

For the USPS, the core functions are accepting, processing, transporting, and delivering the mail (USPS Inspector General, 2007, p. 12). This section first analyzes contracting conditions of different functions and predicts their individual expected contracting levels. Next, it finds if data matches with the theoretical explanation. Finally, it looks across
functions along 3 dimensions of VIM and offers an explanation of why there were differences in functions’ contracting magnitudes. In this section, the market-related set of factors will be given special care.

5.2.1. VIM conditions of core functions

i. Mail Acceptance

The Mail Acceptance function possesses a local acceptance network built up from nearly 40,000 local post offices, stations, branches and contract postal units (CPUs) providing community access to the network and to delivery points.

Contract Postal Units (CPUs) include (i) units located inside private sector retail establishments and are operated by each retailer’s employees (non-postal employees), and (ii) Community Post Offices located in small communities, functioning as main post offices (GAO-08-41, 2008, p. 9; USPS, 2008, p. 4). CPUs provide staffed counter services, typically in supermarkets, card stores, drug stores and other busy retail outlets. CPUs provide postal products and services to communities that are remotely located, where populations fluctuate substantially on a seasonal basis, and where traditional post offices are either not available or the nearest ones are overburdened. By creating alternate access points for customers, the CPU program helps the USPS to retain and/or increase its market share for certain products, reduce operational costs, and improve customer satisfaction (USPS, 2008, pp. 42-43). CPUs are the third highest alternate access revenue channel, having generated $688 million in FY 2007 (USPS CSPO, 2006, p. 42; USPS, CSPO 2007, p. 37).

The number of CPUs is expected to be medium but will rise because of a number of institutional and market factors.

First, in terms of preference, in its plan to expand retail access in both underserved and growing areas, the USPS progressively favors CPUs over building its owned postal-operated facilities (USPS, 2008, pp. 42-43), because with CPUs the USPS does not incur construction or operating costs. Without CPUs, hundreds of counties nationwide would have had fewer

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45 Because it might take the USPS years, in some instances, to build new post offices or lease retail space, the service wants to expand its effort to open small postal outlets in existing area businesses (Jenise L. Hale, retail
retail facilities than the average for counties of comparable population, land area, and degree of urbanization. For example, Butler County, Ohio used to have seven fewer USPS retail facilities than the average for comparable counties; The USPS then signed seven contracted facilities there to bring the total number of retail postal facilities in the county to 23, which was the average for comparable counties (GAO-08-41, 2008, p. 32). The Government also shares the preference. The 2003 President's Commission on the Postal Service recommended to outsource functions, and urged the Congress scale back its restrictions on closing post offices so that the USPS could be more creative and proactive in working with communities on this issue.

Second, regarding institutional constraints, CPU is increasingly favored by recent revised purchasing regulations. Under the Postal Act of 1970, the USPS is prohibited from closing a small post office based solely on economic factors. The closures of such post offices were not that easy due to their political sensitivity to the needs of the communities they served. In most of the cases where the USPS attempted to close a post office, the local government and residents opposed and lobbied political powers to intervene to stop the decisions. The Postal Act 2006, however, permits the USPS to operate and conduct business in a commercial fashion that it was denied before, insists on rationalizing investments in the infrastructure and realigning resources to improve the efficiencies (USPS Guiding Principles for Implementation of the Postal Act of 200646). With new authority granted, the USPS has been able to close post offices which have proven to be low-utilized and unprofitable, or have high operating costs relative to their revenue, and replace them by CPUs (GAO-08-41, 2008, p. 36); this solution permits low-cost service presence and avoids opposition.

Third, regarding marketability, the Mail Acceptance service is supposed to be very marketable and thus very favored for contracting. The market for Mail Acceptance is very efficient with many potential vendors. Any retail outlets like supermarkets, card stores, drug stores and other busy retail outlets can provide the postal service along with their traditional products to make use of retail space. They have more advantages than the USPS station in

specialist for the USPS Kentuckiana District). "It might take three to six months to get a building built, but it might be 10 years before they decide to build it", Hale said.

46 http://www.usps.com/postallaw/
that most feature evening, weekend, and holiday hours of operation, thus extending access time. In addition, those retail outlets can enjoy economies of scale and of scope when selling multiple products. The customers may get more convenience as they can come to a single station to buy multiple things at a time rather than driving to two or more places far apart. In addition, the collection service incurs low asset specificity and low sunk costs (Panzar, 1994, pp. 4-5), largely because provision of postal service requires few specialized facilities, and vendors can share-use current facilities and need only marginal startup investments.

According to a USPS retail specialist for the USPS Kentuckiana District, the start-up investment is relatively low while the return is high. Startup costs incurred by operators typically are $5,000 or less. The USPS picks up letters and packages daily at each location. It also supplies the winning bidder with the necessary counter, scales, computer equipment, training, advertising and signage. That leaves the operator to pay for any installation costs. The operator must supply employees to run the service counter. The USPS projects that new contract postal units will yield about $100,000 in annual revenue; but some have had sales of about $450,000. However, site-specificity sometimes is important – in certain cases, the USPS did not receive any bids, mostly because of the site for outsourcing request was not convenient (Postal Partners: USPS looks to deliver expanded service in a hurry with customer postal units. February 1, 200847).

The Acceptance is easy to be measured for performance. A USPS monitor can physically count, weigh, and check the status of mail items received by a CPU and passed to a USPS system. The risk of fraud is low.

However, regarding service marketplaces, there would be differences between urban and rural or remote areas. An urban CPU would see attractive profit margin as the example provided above. In rural and remote areas, the potential profits are predicted low in comparison with costs and efforts to maintain the CPU; In addition, a CPU may have to perform both acceptance and delivery of mails, leading to shrinking profit margin. These make the service potentially less attractive to most vendors to provide. As most demands of CPU come from rural and remote areas (GAO-08-41, 2008; USPS, 2008), the USPS therefore would find very few potential vendors.

47 http://www.bizjournals.com/louisville/stories/2008/02/04/story1.html?page=1
In short, recent preference and regulation revisions favor contracting part of Mail Acceptance. The function itself is marketable and easy to be measured, but as its marketplace is not very efficient, the Acceptance function would see low to medium contracting levels, but in rise.

![Diagram of Mail Acceptance function in values-markets-risks coordination.]

**Figure 24**: Mapping the core Mail Acceptance function in values-markets-risks coordination.

Note: Most of Mail Acceptance is still operated internally. Only a small portion is contracted as a manner to expand the retail access.

**ii. Mail Processing**

**Mail Processing** function possesses a network of Air Mail Centers (AMCs), Processing and Distribution Centers (PDCs), Bulk Mail Centers (BMCs\(^48\)), and other logistic facilities, and

\(^48\) Bulk Mail Centers (BMC) are highly mechanized mail processing plants that are part of the National Bulk Mail System. These facilities distribute Parcel Post, Media Mail, Standard Mail, and Periodicals in bulk form.
over 180,000 employees (USPS Inspector General, 2007, p. 12). As of 2007, there were 79 AMCs for the purpose of expediting mail transfer to and from commercial air carriers, and 21 BMCs for the purpose of sorting ground postal items. The estimated labor cost associated with Mail Processing was $4.86 billion for FY 2005 (Postal Regulatory Commission, Docket 2006-1).

The numbers of the contract processing facilities are expected to be low because of several reasons.

Mail Processing has been preferred to be conducted in-house by USPS owned resources. The logistics of the mail-processing system demand that it be coordinated into a national network – which only a public service is willing and able to provide. These were to avoid any uncertainty to the security and the destination of mail items. In addition, the controlled consolidations of mails to a limited number of aligned processing facilities were assumed to improve productivity as the size of processing facilities increased. This also smoothed out the inputs to increase the utilization of facilities and transportation networks during the day. Prior institutions did not favor private participations in mail processing as well. The USPS operates as a statutory monopoly and it is regulated in law that no private firm will operate in the areas where the USPS is operating.

Currently, many developments have changed the characteristics of the Mail Processing function. First, the market condition has changed. Major changes include (i) the overall market decline – mail volumes declined for 4 consecutive years 2001-2004 (USPS CSPO 2004), (ii) the shifts in how customers use the mail, (iii) changes in the role of the mailers, and (iv) the shifts in national demographics. These changes have created excess capacity in the USPS’s processing network and have contributed to variations in productivity across USPS processing plants that impede efficiency gains. Consequently to new market situations,

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Each BMC or ASF serves as the trafficking hub for all ground shipments either originating or destinating at one of the hundreds of Post Office locations within its service area, and each facility is linked via ground transportation to its key service area facilities as well as the other BMC plants (http://www.usps.com/bulkmailcenters/).

The processing facilities are assumed to obtain more productivity by standardization and applications of automated processing equipments.
the USPS, GAO, the USPS Inspector General, the President’s Commission on the Postal Service (PCPS), and the Postal Regulatory Commission (PRC) have all contended that the USPS’s processing network needs to be realigned (GAO-07-1083T, 2007, pp. 2-3). Most key stakeholders now increasingly advocate a smaller but more efficient network than the traditional larger-for-effectiveness network. For example, the PCPS 2003 reported that the USPS had more facilities than needed, many of which contributed poorly to the mission of universal services, and should be closed or outsourced. Consequently, the PCPS recommended optimizing the facilities network, and called openly for the closure of some of USPS’ 446 bulk mail, processing and distribution centers. In addition, the PCPS recommended the Congress scale back its restrictions on closing post offices and facilities, and urged the USPS to be more creative and proactive in working with communities on such politically sensitive issues.

Second, changes in market situations in part led to two institutional developments affecting the USPS network policy. The Postal Act 2006 contained the requirement that the USPS have a strategy for rationalizing the facilities network and remove excessive processing capacity and space from the network. Thus, considered for termination are facilities which have proven to not be fully utilized, in poor condition, ineffective, or costly to operate relative to their value, or contribute little to the USPS’s mission of providing universal services, (GAO-08-41, 2008, p. 36). In fact, from 2002 through the end of 2006, the USPS closed 795 facilities after placing them on emergency suspension (GAO-08-41, 2008, p. 36). Additionally, the Federal Aviation Administration imposed security restrictions after September 11, 2001, resulting in the USPS no longer using commercial passenger aircrafts for Priority Mail. Consequently, there were significant decreases in the volumes of mail tendered to commercial passenger carriers and consolidation of air contractors. Air transportation volumes dropped from approximately 837 million pounds of mail in FY 2004 to approximately 368 million pounds of mail in FY 2007. Such declines, together with increased worksharing by direct mailers and the national economic slowdown, have been making many AMCs and BMCs have excess capacity (USPS, 2007 (Jul 1), p. 2).

50 “In 2007, 52 percent of Parcel Post was dropped at the delivery unit and 45 percent of Standard Mail was dropped at the destination SCF, thus completely bypassing BMC processing. The results of changes in
Third, new markets and institutions led to changes in the USPS’s preference on how to conduct mail processing. To address the mounting network problems, the USPS is explicitly leaning toward an outsourcing solution. The USPS has deployed the “Evolutionary Network Development” (END) plan to consolidate the system. According to the USPS network plan (USPS, 2008, p. 31):

USPS is considering the pursuit of an outsourcing solution for some of the existing BMC workload. Outsourcing may provide the USPS with the best opportunity to improve distribution and transportation efficiencies, and to add superior product visibility without major capital investments. This potential solution would move the distribution and transportation of this mail volume into a contractor’s transportation and processing network before it is ultimately delivered by the USPS, thus freeing up the BMCs for other postal operations. Outsourcing may also provide an opportunity to realize significant cost avoidances in support of future FSS deployments by permitting existing BMC facilities to house this new equipment. It also is anticipated that outsourcing may result in a more consistent and predictable postal mail processing cost environment.

However, any consolidation plan as usual encounter strong political oppositions from the National Postal Mail Handlers Union (NPMHU), APWU and certain politicians, whose preference is firmly in-house mail-processing. They doubt outcomes of the program. Concerns stated include (i) diverting a share of volume to private systems would increase unit costs of postal mail processing equipment and would not be used to capacity, and (ii) by encouraging the growth of the private-sector network, the USPS is creating redundancy rather than eliminating it. However, it is believed that the major driving concern behind opposition is that (iii) the USPS network plan would adversely affect postal workers. Under that political pressure, the USPS sometimes had to stop the plan, or even reverse the customer mailing patterns are excess distribution capacity and shrinking workload in the BMCS” (USPS, 2007 (Jul 1), p. 2)
decision. The Postal Regulatory Commission also provided some doubts on the consolidation plan.\footnote{See the September/October 2007 issue of The American Postal Worker magazine, or http://www.apwu.org/news/webart/2006/webart-0643-consolnewlistt-060731.htm and http://www.apwu.org/issues-consolidation/consolidation-magart0907_2.htm. The RC contended that the plan lacks of performance indicators and consequently lack a long vision. It would be a challenge for the USPS to maintain delivery performance and control transportation costs as consolidations expand the distance between processing plants and delivery locations (John Waller, Testimony on behalf of the Postal Regulatory Commission before the House of Representatives, 2008, pp. 5, 6).}

\textbf{Regarding its nature and its marketplace}, mail processing is not a service favored for contracting for several reasons. \textit{First}, mail processing involves very high asset specificity, including (i) site asset-specificity as the processing plants must be located optimally in the busiest intersections of multiple transportation lines, and (ii) physical asset specificity as mail handling equipment must be specifically designed and are very expensive for a postal budget to build. These require large specialized investments in physical infrastructures and technologies that mostly cannot be used for or are not easy to be converted for other purposes. In the case of third World countries, most processing plants manually handle the mails, and asset specificity manifests in the form of human asset specificity as expertise is gained from on-the-job training. In the case of wealthy developed countries like the US, the capital investments for mechanization and automation replace the human resources, but they are costly and very politically sensitive, because it often entails labor decreases and rate increases to cover costs (Treworgy \& Waddell, Postal Service and Less Developed Countries, 1991, p. 258; World Bank and UPU (Kumar Ranganathan, Rohini Dey), 1998).\footnote{The investments of postal mechanization and automation cannot be justified economically by low demands and universal uses, as they are very expensive in comparison with revenues generated by universal services and may take decades to recover the capital investments. That explains most of low income countries do not have mechanized mail processing plants.} \textit{Second}, processing has traditionally been viewed as an activity in which increasing returns to scale are exhausted at small scales of operation. Recent advances in sorting technology may lead to more mechanization and larger minimum efficient scales for processing centers (Panzar, 1994, p. 3; Tabor, 1991, p. 35). These potentially inhibit new vendors to venture in this
market as what they could get would only be a small share of volume. Third, high risks of locked-in circumstances and weakened internal production capacity resulting from high asset-specificity make public managers reluctant to outsource mail processing. The first ever attempt of contract mail processing – a $1.7 billion mail handling contract with Emery Worldwide – turned out to be a total disaster. It was concluded by the Inspector General’s office audit that it cost 23 percent more than mail processed by the USPS mail handlers, that the contractor was not meeting overall delivery goals, and that Emery had failed to perform the security screenings required by the contract. But it was difficult to switch the vendor, because there were no other vendors at that time, and the USPS did not have capacity in proximity areas. The Emery even took advantage by attempting to charge 40 percent more than the USPS had been expecting to pay. Eventually, the USPS had no ways but to terminate the contract; which cost the USPS $66 million in termination fees and $235 million to settle Emery’s claims of underpayment. Another bold example of failure is the contract Priority Mail Processing Centers program (PMPC) which failed to deliver performance. USPS claimed PMPCs "bold business decision designed to improve service and control prices" (USPS Press Release No. 36, April 24, 1997). However, discovery during the rate case revealed that the PMPC contract resulted in large increases in the mail processing and transportation costs attributed to Priority Mail. Specifically, Priority Mail air transportation costs increased by $18 million due to the PMPCs, and ground transportation costs increased by $100 million, according to the USPS's proposal. These increases occurred despite the fact that the contract only affects a fraction of Priority Mail volume (approximately 30 percent of Priority Mail volume is scheduled to be handled by PMPCs before the middle of 1998)\(^{53}\).

In short, the traditional preference to conduct the mail processing fully in-house has changed to a public-private provision arrangement; and new institutions alleviate prior restrictions on private participations in service provision and push the USPS to reorganize. These developments make it better to externalize the function. However, mainly due to its characteristics and its marketplace, USPS at the current time does not favor contracting; and its Mail Processing would see little change in contracting magnitude.

\(^{53}\) http://www.apmu.org/news/n97fall.html
iii. Mail Transportation

Transportation is classified as a core and standard service central to USPS operations (USPS, 2006, pp. 23, 126). It creates value for the “end” Client and may require leading-edge market solutions that do not need to be customized exclusively to the business (USPS, 2006, pp. 23, 126). Transportation and logistics cost the USPS about $8.1 billion annually (USPS Inspector General, 2007, p. 14). The USPS awards contracts with airline, railroad, and highway transportation service providers (USPS, Publication 33 - USPS mail transportation guide54, 2004).

Transportation is a core function that is mostly performed by internal workforce in virtually all NPOs worldwide. However, in case of the United States, contracting for transportation has been a major preference from the earliest days of the USPS. According to the USPS,

54 http://www.usps.com/cpim/ftp/pubs/pub33/pub33int.html
Contractors have transported mail between postal facilities since at least 1792 and delivered mail to homes since 1900 (Kosar, 2008, p. 1). The USPS has been outsourcing most long-haul mail transportation to the commercial airlines, package shippers, and trucking companies. Contract transportation is generally purchased competitively through the use of a request for proposal (RFP). The USPS-owned fleet is predominantly used to provide transportation for the “first and last miles” of its delivery network, primarily in urban and suburban locations (USPS Vice Chairman Alan Kessler, 2007; Panzar, 1994; USPS Inspector General Williams David, 2007). For example, in Columbus Ohio, the Main Post Office (COMPO) does not own the trailers, as if it did, it would have to service the trucks with much expense. The postmasters signed long-term Highway Contracts with trailer companies to hire big trucks moving among big cities or to hub stations to load down the mail to smaller vehicles like vans. There are also contracts with small vans that move around small offices. The contractors can be an individual owning his vehicle, paying his own gas. The COMPO also moves a part of its volume via airlines and pays a fee for that. There are two problems here. Columbus is a large distribution center with large volumes of mail, while the mail volume transported in a commercial airplane is constrained to a certain level by the law for security, thus the capacity of the commercial airlines is not there to serve such a huge volume. Second, USPS has no control on the mail movement between airports. It takes mail bags to airports for Delta, America, US Airways to load on their airplanes, and then it is up to the guys who load the mail to the airplane and the airplane staffs. To solve the problem, the USPS and FedEx formed an alliance to move the mail. With FedEx, USPS has more involvement on the transportation. USPS takes the mail out every night, and allows FedEx to move long distance. FedEx transports every night, and the volumes transported are increased significantly (Joe, 2006).

Though being a core activity, transportation service appears being perceived rather as a standard commercial function performed by public employees (see more on USPS Supplying Principles and Practices, pp. 20, 187). Thus, contracting transportation appears to be confronting low political opposition.

The nature of transportation service and its marketplace are favoring contracting. Transportation service in general is very marketable, fairly uniform in their makeup, involving low asset specificity as investments in transportation (i.e., vehicles, mechanics,
GPS, communications) can have various functions, can be used for multiple purposes, are therefore useful both internally and externally, and if forced to exit the industry a transportation vendor would be able to dispose of most of its vehicles without serious loss. For example, these items can be remarketed, donated, recycled, reallocated, or resold (USPS, 2006, pp. 126, 403). However, while long-distance transportation is generally considered to be a function having essentially constant returns to scale, short-haul transportation (typically between post offices and mail processing centers) may exhibit some scale economies resulting from scheduling constraints and the need to operate some less-than-truckload movements (Panzar, 1994, p. 4). This would entail higher marketability for long-distance transportation and lower marketability for short-distance transportation.

Turning to the transportation marketplace, it is potentially efficient in that there are many sellers and buyers. Transportation market has many sources and provides the USPS with many options in terms of supplier selection. The transportation market has been in rapid evolution. According to a GAO report:

“Over the last few decades, changes have occurred in the domestic and international mail and air transportation markets that have greatly altered the environment in which these services are provided. These changes include deregulation of the airline industry, deregulation of some domestic and international mail transportation rates, increased competition from foreign air carriers, expansion of the global postal marketplace, and changes in the air transportation marketplace” (GAO-05-529R, 2005, pp. 2, 7-11).

There are several potential implications of these market changes on the current postal services. First, if it did not outsource Mail Transportation, the USPS might have been paying excessive rates for services that it did not need, or its customers might have been incurring higher costs than necessary (GAO-05-529R, 2005, pp. 3, 12-14). Second, market changes represent opportunities for the USPS benefiting from potential cost saving opportunities. Road and Air networks and management techniques are being developed, providing not only more economical or more efficient solutions, but also more flexible solutions than in the past, mostly through deregulation, but also as a result of the larger presence of service providers (World Bank and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. xiii). The entailed competition helps the USPS to get the lowest price available in the market, especially when it actually allows bidders to see each other’s prices to adjust their offers, as
well as encounter minimal uncertainty. However, price is not the only criteria. The USPS keeps tracks of vendor performance and will continue with top performing vendors only. Monitoring vendor performance is with ease thanks to new GPS and communication technologies. If vendors fail to deliver performance, the USPS can easily switch to other service providers with low costs. The high frequency of transaction is also a characteristic that helps limit the risks of vendor opportunism, thereby reducing transaction costs of monitoring. The only impediments are (i) the restriction of the 2003 Federal Aviation Authority (FAA) on using commercial air carriers which forced the USPS to move most of mails by FedEx and decreased the supplier base down to 18 in 2003 from 55 the year before, and (ii) the 2005 withdrawal of Amtrak, a railroad which has the largest national-coverage and which took the largest share of railroad mail transportation\(^55\), from its $60 million contract with the USPS (USPS, CSPO, 2005). These impediments are the source of “small number bargaining” problems\(^56\).

The USPS’s latest contracting principles encourages contracting teams to maximize commercial advantage (e.g., aggressively pursue lower prices and award contracts to suppliers with successful past performance and on-time deliveries), look for opportunities to centralize and concentrate purchasing and realize savings through leveraging spending, and regularly reassess the market and maintain flexibility (e.g., be willing to switch suppliers frequently, although the products/services remain the same). Performance-based contracts are appropriate; for example, a supplier may be held to performance standards of on-time delivery, accuracy, and quality (USPS, 2006, pp. 23, 196).

In sum, mail transportation is highly commercial and involves minimum risk. The USPS has been contracting for transportation as a preference and the postal institutions do not inhibit

\(^{55}\) Amtrak transported Second- and Third-Class bulk and drop shipments, handled in boxcars and Road-Railers. Amtrak cited interference with its core business of operating passenger trains, and profits that are decreasing and inadequate the reasons of discontinuing mail hauling for the USPS. Amtrak itself was fighting for its very existence as well.

\(^{56}\) Indeed, the Inspector General reported that in the FY 2005 and 2006, the USPS’s Pacific Area incurred approximately $17.8 million in unnecessary costs by the use of “expensive FedEx transportation to move mail that could have been moved on low-priced surface transportation or on less costly passenger airlines” (Office of Inspector General, Report NL-AR-08-002, p 7).
this. All three VIM dimensions of the transportation service favor contracting. Thus, the function is located in the Contract Production Frontier, and would see being contracted at very high levels (see Figure 26).

**Figure 26:** Mapping mail transportation service in values-institutions-markets coordination.

iv. **Mail Delivery**

Delivery is the USPS's largest operations function, accounting for approximately 45 percent of salary expenses (USPS CSPO 2007), and sharing approximately 700,000 people with Mail Acceptance (USPS Inspector General, 2007, p. 16).

Regarding preference, philosophically and historically, it has been long-established and accepted that the Mail Delivery is an inherently governmental function with strong consensus of public benefits around public provision. The public perception of the USPS is Delivery (as well as the Mail Collection). The Delivery and Collection are the “face” of the USPS. Successive Congresses have reconfirmed this fact (National Association of Postmasters of the United States, 2007, pp. 2-3; Donnie Pitts (NRLCA), 2007). Previously,
even though there was a market for urban delivery and this service had low asset specificity, the USPS was unwilling to get it done by contractors, fearing that that would undermine the performance and coordination integrity of the whole system. Recently, supported by the government, the USPS turned to more reliance on contracting out for rural and suburban routes, especially for high growth areas. The bright side of this policy is, according to the USPS, it is one of a very few ways to keep costs down. The dark side is, according to National Association of Letter Carriers (NALC) and APWU and some House and Congressional figures, “outsourcing this function is contrary to the mission of the agency ... jeopardizes the security, sanctity and service of the USPS” (John Hegarty (NPMHU), 2007). Many labor unions have long expressed concerns about the contracting out of delivery, leading to several Congressional hearings to examine the USPS's plans in this area. The NRLCA blamed that the USPS continues to ignore all concerns and agreements and continues to contract out routes (Donnie Pitts (NRLCA), 2007).

Regarding institutions, the USPS did certain organizational and institutional changes to facilitate contract delivery growth. There have been a number of different policies already in place with the USPS to limit what can and cannot be contracted out. Previously, the postal law 1970 mandated that the USPS is a statutory monopoly; no private firm can compete with the USPS in areas where it is operating. The USPS may invite private participations but needs to get approvals from the postal unions as required by the collective bargaining mandate. The USPS-NRLCA National Agreement, as well as the USPS's P-5 Handbook, contains an article which addresses subcontracting, setting the standards and policies under which routes can be subcontracted. For example, the USPS regulated that a route that serves less than one family per mile may be converted to CDS.

Starting from 2003, the USPS owned purchasing regulations have been loosened in the last decade in favor of contract delivery. The USPS silently revised Purchasing Manual 2003 and Mail Transportation Contract Guide, adding Contract Delivery Service (CDS) as one of the three delivery types (GAO-04-803 USPS Delivery and Retail Services, p.14). CDS is a contractual

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57 In the past, HCRs were contract transportation service restricted to sparsely populated areas with a density of less than one customer per mile driven. In 2003, the USPS revised its policies, added box delivery to HCRs and extended HCRs coverage as “delivery routes similar to rural delivery services, providing home or business delivery of mail” (see Postal Bulletin 22110 (9-4-03), section 532.1). Three delivery types include city carriers,
agreement between the USPS and an independent contractor (individual or company) for the delivery and collection of mail on specific routes. The service provided by CDS is equal to that provided by postal delivery carriers. Contracted letter carriers would have no benefits, no leave, retirement or medical coverage under the USPS plan. CDS and rural routes are similar, but historically, USPS has been able to provide CDS at a lesser cost per delivery per day (USPS CSPO 2007, Chapter 4), saving roughly $0.15 per delivery point (John Hegarty (NPMHU), 2007). Organization arrangement was modified to help get the most out of CDS and handle new growth. Establishing new delivery points was moved from the Postmaster level to the District levels, and a growth management coordinator was identified for each district. A team from Rural Delivery and Surface Transportation was created to develop guidelines to facilitate the policy. The guidelines call for considering all services – city, rural and CDS – when establishing delivery for new delivery points. The guidance also includes cost evaluation tools to help team members evaluate different scenarios for final decisions (USPS Inspector General, 2007, p. 16).

However, the USPS saw major setbacks in its delivery contracting policy when it was forced to agree that existing city routes would no longer be contracted out in the new national collective bargaining agreement with the NLRCA (2006). As a result, many contracts have been cancelled and are now being divided among the existing city letter carriers. The political interventions may also inhibit further contracting. As of July 2008, there were 222 out of all 435 Representatives as bipartisan co-sponsors of House Resolution 282, a resolution “expressing the sense of the House of Representatives that the USPS should discontinue the practice of contracting out mail delivery services” (Donnie Pitts (NRLCA), 2007).

rural carriers, and contract carriers. In the FY 2004, 67% of all routes were city routes. Rural routes accounted for 29% but cumulatively had grown at a much greater rate than city routes.


59 http://www.postalemployeeenetwork.com/contracting-mail-delivery.htm

60 See http://www.usps.com/strategicplanning/cs07/chpt4_012.htm. The total annual cost avoidance by using CDS instead of rural delivery for 58,131 new delivery points in FY 2005 was $3,234,702. The total contract savings for the four-year period was nearly $13 million (http://www.postalemployeeenetwork.com/contracting-mail-delivery.htm).
Turning to service characteristics and marketplace, intuitively, delivery service in general is marketable. It is popular in our daily life. Delivery is low asset specific because the investments involved are small (Panzar, 1994, p. 5). Every individual having a means of transport can do the delivery without special training, since the mails given to them from Mail Processing outlets were already sorted by path and sequence of delivery. However, in particular case of postal sector, certain features of the service hinder contracting. First, it is not easy to assess the quantity and quality of delivery. That may explain the fact that “the USPS does not measure the delivery performance of most types of mail, which limits transparency” (GAO-06-733, 2006, p. 4). While it is easy to count the number of mails accepted in a contract retail office (e.g., physical counting), there is no way to ensure absolutely a contract delivery vendor did deliver at the right time all of mails it was assigned to, or if the vendor committed no violation to household privacy. This makes the USPS vulnerable to vendors who may opportunistically exploit their information advantage by lowering service quality and quantity. This compromises public security as “the contract delivery would put households at risk by allowing low-bidder, unscreened, and untrained people coming to their doors every day, instead of trained, professional and unionized letter carriers” (John Hegarty (NPMHU), 2007).

Second, the postal delivery market may not be efficient in the rural areas. If unbundled into urban delivery and rural delivery tasks, the Mail Delivery function may enjoy different levels of marketability that largely vary with economies of scale associated with each of them (Panzar, 1994, pp. 3, 5; World Bank and UPU (Kumar Ranganathan, Rohini Dey), 1998, p. 45). While the frequency and volumes of delivery in densely populated urban areas are high, those of countryside are low and very low. A letter delivery man may have only a few mails per week to deliver to a sparsely farming area where houses are several miles apart in several routes, and each route has only a few houses. This infrequency of delivery entails low productivity, consequently leading to revenue cannot recover high costs. Thus, while there are potentially plenty of service providers for the former, there are assumed to be market failures for the latter, which is the source of postal natural monopoly. In addition, the most important threat to the USPS (as well as to any NPO worldwide) is that if government

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opened delivery market to competitors, the competitors would cream-skim the market, breaking the incumbent’s economies of scale in the urban areas62 (Panzar, 1994, p. 16; Crew & Kleindorfer, 1992).

Third, a network with the participations of several local small-business delivery providers63 would be fragmented, implying extra efforts and costs for the USPS to connect individual service providers and compel contractors to comply with overall standards. The risk is not ignorable as private-contractor employees are not sworn under the law to protect the mail, and they lack the training and experience necessary to protect the mail and the public from biohazards, explosives, and other dangers. “Allowing contractors to certify that their employees meet USPS security requirements could expose USPS employees, customers, the mail, and critical assets to unnecessary risk” and “make the mail stream more vulnerable”64.

In short, there are several characteristics which prevent higher levels of outsourcing. Traditional preference and institution considered the Delivery a core and inherently governmental function, and thus must be produce in-house. Recent policy sees the preference still considers Delivery a core function, but the USPS itself is in favor of contracting and the internal regulations were revised to encourage the postal managers contracting for new delivery routes wherever it is advantageous to do so. However, the characteristics of the service make it difficult to measure service delivery performance, thus unfavorable to contracting. In addition, the rural delivery market may find few potential

62 Cream skimming is a term used to refer to the perceived business practice of a company providing a product or a service to only provide it to the high-value or low-cost customers of that product or service. The idea behind the concept of cream skimming in business is that the “cream” - high value or low-cost customers, who are more profitable to serve - would be captured by some suppliers (typically by charging less than the previous higher prices, but still making a profit), leaving the more expensive or harder to service customers without the desired product or service at all or “dumping” them on some default provider, who is left with less of the higher value customers whom, in some cases, would have provided extra revenue to subsidize or reduce the cost to service the higher-cost customers, and the loss of the higher value customers might actually require the default provider to have to raise prices to cover the lost revenue, thus making things worse (wikipedia.org). An analysis of this particular factor is given in Michael A. Crew and Paul R. Kleindorfer Emerging Competition in Postal and Delivery Services, in Chapter 10, "An Analysis of the Potential of Cream Skimming in the United States Residential Delivery Market" by Robert H. Cohen, William W. Ferguson, John D. Walker and Spyros X. Xenakis.

63 About 99 percent of USPS contract delivery services are performed by small, minority- or women-owned businesses (Postmaster General John Potter, 07/19/2007).

64 OIG Feb. 12 report, as quoted in the May/June 2008 issue of The American Postal Worker magazine.
contractors than the urban market does, further discouraging contracting. Moreover, postal unions and congressional concerns have led to potential political interventions. Such context prevents higher levels of contracting. The Mail Delivery function, thus, would see limited to low-medium but rising levels of contracting (See Figure 27).

![Figure 27](image-url)

**Figure 27:** Mapping the core Mail Delivery function in values-markets-risks coordination.

*Map notes:* For the USPS itself, the overall Delivery is a core function staying in the core internal production frontier. The contract urban CDS is marketable and institutionally favorable for contracting, thus it locates in the left-front-upper frontier where it is better to externalize it. The rural CDS is not marketable and thus locates at left-front-lower cube.

### 5.2.2. Contracting levels of core functions

This section collects documentary data to verify theoretical explanations provided in the earlier section.
i. Mail Acceptance

The theoretical analysis predicts that the USPS should see low to medium and increasing levels of contracting in the Mail Acceptance function. There are approximately 4,000 CPU and CPO across the country with performance-based contracts making up 27.8% of this total. The following data is compiled from USPS Annual Reports.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Offices</td>
<td>27,276</td>
<td>27,318</td>
<td>27,385</td>
<td>27,505</td>
<td>27,556</td>
<td>27,791</td>
<td>27,876</td>
<td>27,876</td>
<td>27,893</td>
</tr>
<tr>
<td>Classified Stations, Branches</td>
<td>5,419</td>
<td>5,557</td>
<td>5,622</td>
<td>5,623</td>
<td>5,796</td>
<td>5,900</td>
<td>5,835</td>
<td>5,802</td>
<td>5,788</td>
</tr>
<tr>
<td>Contract Postal Units CPU</td>
<td>3,131</td>
<td>3,014</td>
<td>3,116</td>
<td>2,889</td>
<td>2,777</td>
<td>2,500</td>
<td>2,876</td>
<td>2,833</td>
<td>2,903</td>
</tr>
<tr>
<td>Community Post Offices CPO</td>
<td>895</td>
<td>937</td>
<td>1,019</td>
<td>1,142</td>
<td>1,450</td>
<td>1,492</td>
<td>1,536</td>
<td>1,549</td>
<td>1,585</td>
</tr>
<tr>
<td>Total offices</td>
<td>36,721</td>
<td>36,826</td>
<td>37,142</td>
<td>37,159</td>
<td>37,579</td>
<td>37,683</td>
<td>38,123</td>
<td>38,060</td>
<td>38,169</td>
</tr>
<tr>
<td>Percentage of CPU</td>
<td>8.53%</td>
<td>8.18%</td>
<td>8.39%</td>
<td>7.77%</td>
<td>7.39%</td>
<td>6.63%</td>
<td>7.54%</td>
<td>7.44%</td>
<td>7.61%</td>
</tr>
<tr>
<td>Percentage of CPU+CPO</td>
<td>10.40%</td>
<td>10.17%</td>
<td>10.56%</td>
<td>10.29%</td>
<td>10.68%</td>
<td>10.06%</td>
<td>11.00%</td>
<td>10.94%</td>
<td>11.17%</td>
</tr>
</tbody>
</table>

*Table 9: Percentage of the Contact Postal Units over time (Source: compiled from the USPS Annual Reports from 2003 to 2007).*

The data shows low contracting levels with a mixed trend of rise and fall over the last eight years. Surprisingly, compared with the contracting level of 20 years ago when the business model was not yet facilitating for outsourcing, the recent contracting levels of mail acceptance are not significantly higher as theoretically expected.
### Facility types

<table>
<thead>
<tr>
<th>Facility types</th>
<th>FY 1980</th>
<th></th>
<th>FY 2007</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Counts</td>
<td>%</td>
<td>Count</td>
<td>%</td>
</tr>
<tr>
<td>Post offices</td>
<td>30,326</td>
<td>77%</td>
<td>27,276</td>
<td>74%</td>
</tr>
<tr>
<td>Classified branches and stations</td>
<td>4,109</td>
<td>10%</td>
<td>5,419</td>
<td>15%</td>
</tr>
<tr>
<td>Contract branches and stations</td>
<td>3,346</td>
<td>8%</td>
<td>3,131</td>
<td>9%</td>
</tr>
<tr>
<td>Community Post offices</td>
<td>1,705</td>
<td>4%</td>
<td>895</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>39,486</td>
<td></td>
<td>36,721</td>
<td></td>
</tr>
</tbody>
</table>

*Table 10: Comparison between FY 1980 and FY 2007 (Retrieved from the GAO-04-803 - USPS Delivery and Retail Services (p 24), and the USPS Annual Reports 2007).*

However, the Acceptance saw increases in contracting during the last five years. This concurs with the introduction of revised Purchasing Manual which favors more contracting. The contracting levels were somewhat low, about more than 10% if counting both CPU and CPO, which matches with theoretical prediction.

### ii. Mail Processing

The theoretical discussion predicts contracting levels in this function would be low, but on the rise. The documentary analysis shows a data match with this prediction.

The very first attempt of contracting out a mail processing center was in 1997. This ended up in a total disaster and early termination (see the Emery case described above). After that, 7 more AMCs were subcontracted in 2005 and 2006 (APWU News Bulletin #07-2006, July 10, 2006[^65]). In 2006, the USPS continued study plans to consolidate the system, putting 139 facilities as “potential candidates”[^66]. Nationwide, 11 studies were ongoing, while 34 consolidation-feasibility surveys had been terminated, placed on hold, or reversed since the

first of 57 consolidations and AMP studies were announced on Oct. 19, 2005\textsuperscript{67}, contrary to the model’s prediction.

<table>
<thead>
<tr>
<th>Status of AMP consolidation</th>
<th>2005</th>
<th>2006</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved for implementation</td>
<td>10</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Implemented</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Implementation pending</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Decision not to implement</td>
<td>1</td>
<td>33</td>
<td>34</td>
</tr>
<tr>
<td>Decision still pending</td>
<td>NA</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Total AMPs considered</td>
<td>11</td>
<td>46</td>
<td>57</td>
</tr>
</tbody>
</table>


*Note: 12 AMP approved for consolidation implementation would be candidates for subcontracting or not, or were already be subcontracted.*

USPS began standardizing processing its network by returning non-core AMC operations to PDC and BMC, closing some facilities, and **outsourcing core AMC operations to contractors**. In July 2008, the USPS posted to FedBizOps.gov a 72-page request for proposal (RFP) for a Time Definite Surface Network (TDSN), the next step in a process following 2007 RFI on the same subject, in which it announced its consideration of outsourcing BMCs across the country. As of July 2008, the USPS was considering subcontracting some of the duties performed by 43 AMC\textsuperscript{68} and unknown number of 21 BMCs (USPS, 2007 (Jul 1), p. 7; USPS, 2008, pp. 20, 30)\textsuperscript{69}. Unfortunately, the current **exact contracting level of processing facilities is unknown**. The GAO identified in the post-

\textsuperscript{67} APWU magazine September/October 2007 issue, or http://www.apwu.org/issues-consolidation/consolidation-magart0907_2.htm

\textsuperscript{68} The USPS notified the union in a **July 3 letter** that it is “considering subcontracting the tender and receipt of mail” at 43 AMCs. http://www.apwu.org/news/webart/2007/webart-0722-amcs-070323.htm

\textsuperscript{69} http://www.apwu.org/news/webart/2008/webart-0807-bmc-080122.htm
implementation USPS’s Review of Network Consolidations data consistency problems, concluding that “USPS did not track and could not quantify the results of its outsourcing activities” (GAO-08-1022T, 2008, pp. 6-7; GAO-07-1083T, 2007, p. 2).

In conclusion, as far as the information available, as of 2008, only 7 out of 380 processing facilities\(^70\) are subcontracted, or 1.84%. However, the contract level is likely to rise – if the USPS consolidation plan is fully implemented. This attempt would result in contract processing accounts for up to 16.84% of total processing facilities (43 out of 380). This is a match with theoretical prediction.

iii. Mail Transportation

The theoretical analysis predicts that the Mail Transportation service would have very high levels of contracting. In fact, the USPS does buy most of its transportation (USPS Postmaster General John Potter, 2007 (April 17), p. 8; USPS Vice Chairman Alan Kessler, 2007). The table below recapitulates data provided by the USPS CSPO which covers from t 2002 Supply Chain Management restructuring to 2007.

**Table 12: Contract Transportation shares in 2002-2007**

| Source: Retrieved from the USPS CSPO 2002-2007 |
|---|---|---|---|---|---|---|---|
|  | 2,007 | 2,006 | 2,005 | 2,004 | 2,003 | 2,002 |
|  | Values | Δ*** | Values | Δ | Values | Δ | Values | Δ | Values | Δ |
| Air* | 3,000.0 | 7.9% | 2,800.0 | 13% | 2,400.0 | 11.9% | 1,700.0 | -3% | 1,800.0 | -3.4% | 1,900.0 | 3.6% |
| Highway* | 3,100.0 | 5.8% | 3,000.0 | 12% | 2,700.0 | 9.7% | 2,400.0 | 1.3% | 2,400.0 | -0.1% | 2,400.0 | 2.7% |
| Rail* | 126.6 | 0.5% | 127.1 | 5.4% | 120.6 | -28.8% | 169.5 | -8% | 185.0 | -18.9% | 228.0 | -4.9% |
| Postal-owned ** | 1,159.1 | 1,108.1 | 1,012.2 | 940.0 | 886.8 | 863 |
| Contract share | 84.31% | 84.25% | 83.76% | 81.96% | 83.18% | 83.99% |

This includes 269 Processing & Distribution Centers, 21 Bulk Mail Centers, 11 Logistics & Distribution Centers, and 79 Airport Mail Centers.
This data shows that the USPS does enjoy very high contracting levels of transportations, stabilized at approximately 84% of total expense. That is a perfect match with theoretical analysis. In addition, the difference in marketability between long-distance and short-distance transportation is reflected by the fact that much short-haul transportation is undertaken by the USPS itself, while most long-haul transportation is contracted out (Panzar, 1994, p. 4).

The data, however, shows that in some points of time, the values of contract Rail transportation went down. This was because many railway vendors saw transporting mails a non-profitable business and even disturbing their core operations. This was also the main reason that Amtrak cancelled the contract with the USPS in 2005. Thus, it is not easy to find vendors in this market.

The data also shows declines of contract air transportation of mails in 2003 and 2004 after Congressional intervention to restrict transportation of mail in commercial airlines. This consequently limited the USPS’s air supplier base. The USPS had to redirect most of mail volumes which used to be air-transported to FedEx and to other responsive ground transportation units (USPS, CSPO, 2002, 2006).

iv. Mail Delivery

The theoretical analysis predicts that contract Mail Delivery would see low but rising levels of contracting. Below is the Mail Delivery data retrieved from USPS CSPOs and USPS’s Annual Reports from 2000 to 2007.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>86,882</td>
<td>86,292</td>
<td>85,805</td>
<td>85,152</td>
<td>84,699</td>
<td>84,212</td>
<td>83,762</td>
<td>83,329</td>
<td>82,752</td>
</tr>
<tr>
<td>Rural</td>
<td>38,383</td>
<td>37,366</td>
<td>36,190</td>
<td>34,990</td>
<td>34,517</td>
<td>33,274</td>
<td>32,076</td>
<td>30,929</td>
<td>29,710</td>
</tr>
<tr>
<td>PO Box</td>
<td>20,184</td>
<td>20,106</td>
<td>20,027</td>
<td>19,956</td>
<td>19,934</td>
<td>19,839</td>
<td>19,788</td>
<td>19,701</td>
<td>19,687</td>
</tr>
<tr>
<td>Contract</td>
<td>2,543</td>
<td>2,410</td>
<td>2,305</td>
<td>2,221</td>
<td>2,211</td>
<td>2,129</td>
<td>2,057</td>
<td>1,988</td>
<td>1,904</td>
</tr>
<tr>
<td>Total</td>
<td>147,993</td>
<td>146,174</td>
<td>144,326</td>
<td>142,320</td>
<td>141,361</td>
<td>139,452</td>
<td>137,682</td>
<td>135,946</td>
<td>134,053</td>
</tr>
<tr>
<td>Percentage of contract</td>
<td>1.72%</td>
<td>1.65%</td>
<td>1.60%</td>
<td>1.56%</td>
<td>1.56%</td>
<td>1.53%</td>
<td>1.49%</td>
<td>1.46%</td>
<td>1.42%</td>
</tr>
</tbody>
</table>

Table 13: Growing percentage of delivery points served by contract delivery service (Unit: thousands)
Table 14: Information of selected route types in FY 2003 (Source: GAO-04-803 USPS Delivery and Retail Services, p13)

The table below also contains CDS data, but this source was provided by the USPS to a Congressional analysis – The USPS’s Use of Contractors to Deliver Mail ((Kevin Kosar (Analyst in American National Government and Finance Division), February 20, 2008).

<table>
<thead>
<tr>
<th>Type of carrier route</th>
<th>Possible deliveries (millions)</th>
<th>Routes</th>
<th>Average deliveries per route</th>
<th>Carriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>84.7</td>
<td>164,975</td>
<td>513</td>
<td>229,404 (USPS employees)</td>
</tr>
<tr>
<td>Rural</td>
<td>34.5</td>
<td>72,743</td>
<td>474</td>
<td>Full-time: 61,611 (USPS employees) Part-time: 56,451</td>
</tr>
<tr>
<td>Highway contract</td>
<td>2.2</td>
<td>10,065</td>
<td>220</td>
<td>5,864 (route is served by a contract employee)</td>
</tr>
</tbody>
</table>

Source: USPS.

Table 15: The percentage of delivery routes and points served by each type of delivery

This data source shows inconsistencies with the data provided in the USPS Annual reports (See Table 13, p. 131). However, both sources of data show the tendency of increasing
contracting levels in the Delivery function in the last decade. “Between 1998 and 2007, the number of carrier routes served by CDS carriers rose from 5,424 to 6,531, or 20.4%” (Kosar, 2008, p. 4). This is very likely tied to the commercializing transformation of the USPS.

Data shows that contracting was at very low levels: only less than 2% of delivery points are served by contractors. This is because the political interventions (see section 5.2.1. iv, p. 121) in many cases depressed contracting decisions despite the service market conditions favoring them. Though the new policy of the USPS strongly favors outsourcing delivery routes, institutional restriction under the collective bargaining agreements with labor unions was a major reason for low percentage of CDS: about 92% of all new deliveries in 2007 continued to be assigned to USPS employees represented by unions (USPS Vice Chairman Alan Kessler, 2007). In addition, regarding market factors alone, theoretically, being more marketable, the urban delivery is expected to get higher contracting levels than rural delivery. However, the actual documentary analysis shows that rural routes saw higher contracting levels and higher rate of growth (USPS, CSPO, 2002-2007). This was because though preferred to outsource delivery routes if it was advantageous to do so, the USPS was impeded by the collective bargaining contract 2006 with the NALC. For example, only new postal routes would be considered for outsourcing and established routes would be given to postal employees. Exiting city routes would no longer be contracted out (Danny Davis, 2007). However, the internal regulation and organizational changes did make the percentage of annual growth of new delivery points for CDS increase from 1% to 4%\footnote{http://www.postalemployeenetwork.com/contracting-mail-delivery.htm}. This is a match with theoretical prediction.

5.2.3. Cross-function comparison in the core areas

In the earlier section, the dissertation contends that within a service, changes in the VIM conditions had impacts on the contracting levels of this service. This section discusses the case across services.

\footnote{In contradiction, according to Priest (Priest, 1994, p. 50), as of 1994, rural delivery was almost uniformly contracted out. Virtually all long-distance transport was contracted out as well.}
i. **Transportation versus Delivery**

The differences in contracting magnitudes of Transportation and Delivery show the difference between contracting-out commercial activities and contracting for inherently governmental functions. *This supports the overall proposition that changes in VIM conditions have impacts on contracting levels and the proposition P₄ on market factors that service having more competitive conditions would get larger contracting magnitude.*

There are several sources explaining differences. First, primarily due to historical preference and developments, though both are core parts of production chain, institution has dictated that the Delivery be performed by internal resources while Transportation be mostly purchased. This has been the preference of the Government and Congress since the very beginning of the US Post Office.

Second, the market-related factors favor contracting Transportation but not Delivery. The discussions in the sections 5.2.1. and 5.2.2. show that the two services involve different transaction cost levels. In the context of postal sector, while both services have low physical asset-specificity, the Transportation enjoys better market conditions and lower uncertainty. Transporting mail does not require additional special cares or equipments than transporting other ordinary commodities. Transportation service is very marketable with plenty of service providers. The transportation market is transparent and very competitive in terms of price and quality. It is easy to monitor the performance of service providers, as managers only need to check the mail bags in and out by number and status. If a service provider fails to deliver performance required, the USPS can easily switch to another provider without fear of extra costs or post-contractual dependency. In contrast, overall postal Delivery is not easily marketable for three main reasons. *First*, the potential low revenues resulting from low demands in sparsely populated areas would not justify the cost of providing delivery service. There would be very few private firms willing to provide “affordable” delivery service in rural, remote and mountainous areas, leading to a non-efficient market. *Second*, it is very difficult to measure performance of the contractors, as even a measurement system for the performance of the internal workforce has not existed yet. This entails unnecessary risk and makes the mails stream more vulnerable. *Third*, in public utilities sectors, it is not economically efficient to have two or more delivery systems operating at the same location.
(Stiglitz, Public Sector Economics, 2000). Thus, there are characteristics of natural monopoly and market failure in postal Delivery markets which prevent higher levels of outsourcing.

In fact, Transportation sees purchasing up to 84% of its total expenditure, whereas the Delivery sees contracting as low as under 2% of total delivery points. This allows one to conclude that comparing across these two core functions, the function with a contract-favoring VIM set sees much higher purchasing levels than the function whose VIM set does not favor contracting.

ii. Comparison across four core functions

The table below recapitulates evaluation of the relativity of transaction costs among four core functions which was discussed in the first part of the Chapter.

<table>
<thead>
<tr>
<th></th>
<th>Acceptance</th>
<th>Processing</th>
<th>Transportation</th>
<th>Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- preference of production</td>
<td>inherently governmental in-house</td>
<td>inherently governmental in-house</td>
<td>commercial contract</td>
<td>inherently governmental in-house</td>
</tr>
<tr>
<td><strong>Market</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- market status</td>
<td>competitive</td>
<td>non-efficient</td>
<td>competitive</td>
<td>non-efficient</td>
</tr>
<tr>
<td>- asset specificity</td>
<td>low</td>
<td>very high</td>
<td>low</td>
<td>low</td>
</tr>
<tr>
<td>- measurability</td>
<td>easy</td>
<td>difficult</td>
<td>Easy</td>
<td>Difficult</td>
</tr>
<tr>
<td>- marketability</td>
<td>high</td>
<td>Low</td>
<td>high</td>
<td>high in urban low in rural areas</td>
</tr>
<tr>
<td><strong>Expected level of contracting</strong></td>
<td>medium</td>
<td>very low</td>
<td>very high</td>
<td>low</td>
</tr>
<tr>
<td><strong>Actual degree of contracting</strong></td>
<td>~ 10% of total offices</td>
<td>~2% of total facilities</td>
<td>~80% in terms of total expenditure</td>
<td>~2% of total delivery points</td>
</tr>
</tbody>
</table>

*Table 16: Cross-function comparison of market-related factors and expected degree of contracting*

Reading this table, we observe that:

- Functions having more competitive markets enjoy larger contracting magnitude than other services having less competitive markets: Transportation and Acceptance see more contracts than Processing and Delivery.
- Functions being more asset-specific have lower aggregate contracting levels: Processing sees the lowest contracting level.

- Functions being more difficult to measure in quality and quantity have lower contracting level: Delivery and Processing see lower contracting levels than Acceptance and Transportation.

This finding supports proposition \( P_4 \).

5.3. NON-CORE AREA ANALYSIS

5.3.1. Overview

Services and Supplies-Equipments-Materials (SEM) are non-core areas. Their purchasing accounted for important parts of the USPS’s contract value commitments, totaling over $26 billion annually for its goods, transportation, and facilities related services (USPS Inspector General, 2007, p. 20). The table below recapitulates expenditures on supplies and services purchasing over the period of 2000-2007 provided in the USPS’s Annual Reports and Comprehensive Statements on Postal Operations from 2000-2007.

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Value ($ million)</td>
<td>2,594</td>
<td>2,643</td>
<td>2,557</td>
<td>2,419</td>
<td>2,413</td>
<td>2,614</td>
<td>3,207</td>
<td>2,982</td>
</tr>
<tr>
<td>Variation</td>
<td>-1.85%</td>
<td>3.36%</td>
<td>5.70%</td>
<td>0.25%</td>
<td>-7.69%</td>
<td>-18.49%</td>
<td>7.55%</td>
<td></td>
</tr>
</tbody>
</table>

Table 17: Supplies and Services purchasing values over the period of 2000-2007

Non-core areas provide most opportunities for cost saving through outsourcing. For example, according to Morris Joe, Financial Specialist of Columbus Ohio’s Main Post Office (COMPO), outsourcing maintenance is one of the major activities to reduce costs. Due to COMPO’s large service territory, the costs of sending out staff from the center to do different kinds of maintenance work at various local post offices would be very expensive. Therefore, if the distance is too great, it is cheaper to contract with a vendor that is close to
where work happens, meaning that the contract partners should be selected with reference to their relative geographic locations to the cluster of local post offices that they are going to serve. Thus, nowadays, COMPO outsources all vehicle repairs, vehicle washing, engine work, vehicle painting, record service; it only does limited vehicle inspection. (e.g., COMPO has a contract to have a contractor to go on site at postal locations to wash the vehicle in place on Saturday nights or Sunday morning). Regarding facility work, COMPO rents the building, but is not in charge of repairs for the building (painting, roof repair, parking lot). Nowadays, COMPO no longer has people to send out to do that. It contracts in advance with specialized private firms; if the situation arrives, managers will call contractors to send people out to solve. COMPO has contracts with vendors specialized in air conditioning, forest, roof repair, laptop, painting building, parking; and vendors are selected geographically (Joe, 2006).

One of the major SEM purchases of the USPS, according to the USPS CSPO from 2002 to 2007, is Mail Transportation Equipment (MTE). MTE is critically important for routine operations of its network. Since 1998, the USPS transferred some Clerk, Maintenance, and Mail Handler Craft work to a centrally managed, contractor-operated network of Mail Transport Equipment Service Centers. These centers supply processing facilities with mailbags, trays, sleeves, pallets, hampers, carts, and large rolling containers. Currently, MTE is an outsourced, production-oriented, volume-driven integrated network with 22 MTE processing facilities in operation. However, outsourcing this production area produces performance uncertainties – including fraud, shirking, overpaying, and low quality. According to Inspector General’s audits of the project in 2001, it is reported that the new network was plagued with difficulties such as “returning usable equipment to service centers for processing and reissue; boarding equipment at user facilities because the network was not reliable; trucks moving empty because the network was sub-optimized”, and “10-year cost projections for the system exceeded the in-house operation it replaced by more than $1.1 billion”. The report also quoted findings from earlier audits showing that equipment was invoiced as processed when work was not performed, containers were reported as repaired when no repairs were made, and serviceable equipment was improperly condemned and discarded” (USPS IG’s Report TR-AR-01-003 Mail Transport Equipment Service Center Decision Analysis, and report CA-AR-01-001 Contracting Practices for the Procurement of Mail Transport Equipment Services, 2001).
One of the major Service purchases is Trucking. In 2000, the USPS entered into a six-year contract with Transportation International Pool to lease 4,475 trailers to replace part of the USPS' aging fleet of 17,000. The lease included a service agreement for preventive maintenance duties, rather than continuing to have that work performed in-house by bargaining unit employees. According to the USPS Inspector General’s report, the auditors found that in their outsourcing proposal, the cost of maintaining the trailers in-house was wildly overstated, and as a result, the decision to lease rather than purchase the trailers “will cost the Postal Service an additional $85 million over a 12-year period” (See USPS IG’s audit TD-AR-02-002 Trailer Lease Justification). The APWU claimed that their unionized employees used to perform the maintenance work better and at a lower cost. The two major purchase examples above suggest that a production task if critical to the routine system operations should not be totally outsourced.

5.3.2. Comparative Analysis across services and SEM purchasing

As discussed in Chapter 3, operational services can be performed either by in-house or by external resources. Regarding the system level, internal services that are more critical to the continuity of the USPS’s production process and routine operations should be largely produced in-house to mitigate uncertainty (e.g., trucking services). Regarding the operating level, for the purposes of cost-saving and downsizing, services that are non-core and peripheral should be considered to be outsourced to external low-cost provision sources (e.g., building services).

For a make versus buy decision, value factors are critical. Yet in the context of supply chain, three factors including uncertainty, frequency, and asset-specificity are of particular importance. Services having lower degrees of uncertainty surrounding the transaction; higher frequency of the transactions, and lower degree of asset specificity would see higher contracting.

Construction and Maintenance of Real Property are two services typical for this group. Such services can be purchased through 'contracting transactions' or accessed through a subcontractor, which implies the flow of products over extended periods where business trust is important (Webster, 2002, p. 358; Webster 1998; Domberger 1998, p. 94). In terms
of value\textsuperscript{73}, they are not of very high-value to the USPS. They are important to the operations but not that critical to the business, since they do not provide direct value to the “end” Client, but contribute significantly to the supporting capability function (USPS, 2006, p. 89). In terms of uncertainty\textsuperscript{74}, they involve low risk surrounding their transactions, as they have large numbers of suppliers and availability of qualified sources, and involve low complexity of specifications. They also do not require the use of new technologies or untested processes (Winch, 2002, p. 124; USPS, 2006, p. 18). Those services involve operations which are standard, simple, routine and predictable. In addition, information-asymmetry problems are limited, as in competitive markets information is a well available commodity (Winch, 2002, p. 125). In terms of frequency, these services expect high frequent transaction demand profile as with the great number of post offices, facilities, and equipments the USPS posses. The USPS encourages contracting officers to develop competition and as many contract renewals as possible with the suppliers for such non-core services (USPS, 2006, p. 23). By repeatedly working with fewer suppliers, the USPS might expect lower transaction costs in purchasing these services through promoted cooperation by the establishment of a direct business connection, in which both USPS and suppliers gain from a lower price and more stable quality performance for higher volume of exchange.

Asset specificity conditions for these services favor contracting. For example, investments on equipments and technologies for the Construction companies can often have various functions, have lasting life, and can be reallocated for multiple projects.

For the reasons above, these two services – Construction of facilities and Maintenance of real property – expect higher contracting levels than other services and SEM.

* * *

\textsuperscript{73} The USPS defines value of a product/service as the relative importance of it to the USPS. Factors in assessing value include: (i) Criticality to business operations; Importance to profitability; Importance of product or service quality; Spent amount; Percentage of total spend; and Relationship to strategic goals (USPS, 2006, p. 18).

\textsuperscript{74} Risk is the degree of supply challenge. Factors in assessing risk include: Number of suppliers; Availability of qualified sources; Availability of alternate or substitute products; Complexity of specifications; Use of new technologies or untested processes; Pricing scenarios (assignment of probabilities to possible outcomes)
The case for the *Maintenance and Repair of Equipment* service, however, is different. Compared with the service of Maintenance and Repair of Real Property, the service of Maintenance and Repair of Equipment has very similar conditions in frequency and uncertainty surrounding transactions. However, it is of higher strategic value to the USPS. The service involves products which are core and essential to the business operations of the USPS and create direct value for the end client (such as *Delivery and Industrial Equipment*, *Material Handling*, *Mail Transportation Equipment*, *Spare Parts*, and *Stamp Printing*). According to the USPS, these products have restricted sources because they are highly unique and specialized. External suppliers may face challenges in meeting quality specifications on a consistent basis. This makes providing the item in-house would seem to assure quality and lower risk. This service therefore would see low contracting levels because of its nature of high values and high asset specificity. However, strategic concerns and resource limitations may justify buying from established and innovative suppliers (USPS, 2006, p. 127). The USPS has outsourced all the 22 MTE processing facilities in operation very possibly for this reason. Thus, further cost/benefit analysis is necessary to finalize the make versus buy decision for products and services of this nature.

Indeed, Table 18 shows that data matches with the predictions above. The services of *Architect and Engineering Services-Construction*, *Construction of Structures and Facilities*, and *Maintenance, and Repair or Alteration of Real Property* are three services having highest transaction frequency. Their total contract awards for 1995-2007 reached 313, 732, and 202 respectively, or 22.5%, 52.5%, and 14.5% of the total contract awards of the entire period, significantly higher than the levels of the remained services. The service of *Maintenance, Repair, and Rebuilding of Equipment* totaled to 6, significantly smaller than services above.

Regarding other services and SME purchasing, they are of low value, they may not necessitate bidding competitions as they are not easily differentiated through price and quality, and there are plenty of suppliers. Thus, uncertainties associated with contracts are limited. Such products can be purchased in spot markets instead of through long-term contracts (i.e. catalogue procurements by credit cards), eliminating risks of post-contractual dependency. **Those services would see low contracting levels.** Data recapitulated in Table 19 matches with this prediction. During the period between 1995 and 2007, the total number of SEM contract awards accounted for only 0.07% of the total contract awards (110 contracts in the total of 1504 contracts of two categories).
<table>
<thead>
<tr>
<th>Supplies-equipments-materials contracts</th>
<th>Total</th>
<th>Supplies-equipments-materials contracts</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Fire Control Equip.</td>
<td>1</td>
<td>59 Electrical and Electronic Equip.</td>
<td>9</td>
</tr>
<tr>
<td>23 Ground Effect Vehic., Motor Vehic., Trailers, Cycles</td>
<td>5</td>
<td>60 Fiber Optic Mater., Compn., Assemblies, Accessor.</td>
<td>1</td>
</tr>
<tr>
<td>24 Tractors</td>
<td>2</td>
<td>61 Electric Wire, and Power and Distribution Equip.</td>
<td>3</td>
</tr>
<tr>
<td>30 Mechanical Power Transmission Equip.</td>
<td>5</td>
<td>63 Alarm and Signal, and Security Detection Systems</td>
<td>6</td>
</tr>
<tr>
<td>35 Service and Trade Equip.</td>
<td>2</td>
<td>68 Chemicals and Chemical Products</td>
<td>4</td>
</tr>
<tr>
<td>36 Special Industry Machinery</td>
<td>4</td>
<td>70 General Purpose Information Technology Equipment</td>
<td>8</td>
</tr>
<tr>
<td>38 Constr., Mining, Excavat., Highway Maint. Equip.</td>
<td>1</td>
<td>71 Furniture</td>
<td>3</td>
</tr>
<tr>
<td>39 Materials Handling Equip.</td>
<td>10</td>
<td>74 Office Mach., Text Process., Vis. Record Equip.</td>
<td>2</td>
</tr>
<tr>
<td>40 Rope, Cable, Chain, and Fittings</td>
<td>2</td>
<td>79 Cleaning Equip. and Supplies</td>
<td>2</td>
</tr>
<tr>
<td>41 Refrig., Air Condition., Air Circulating Equip.</td>
<td>10</td>
<td>81 Containers, Packaging, and Packing Supplies</td>
<td>3</td>
</tr>
<tr>
<td>45 Plumbing, Heating and Sanitation Equip.</td>
<td>3</td>
<td>83 Textiles, Leather, Furs, Apparel, Shoe, Tents, Flags</td>
<td>1</td>
</tr>
<tr>
<td>47 Pipe, Tubing, Hose, and Fittings</td>
<td>1</td>
<td>93 Nonmetallic Fabricated Materials</td>
<td>1</td>
</tr>
<tr>
<td>56 Construction and Building Materials</td>
<td>4</td>
<td>99 Miscellaneous</td>
<td>17</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>110</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


In addition, some services see low levels of contracting (e.g., housekeeping services) because for them simple agreements are more relevant than a formal contract. The difference between agreement and contract relates to the money and the work amount involved, and the importance of the outsourced works as well. An agreement is more informal (i.e., no bidding is required though encouraged, agreement can be in paper-less verbal form) and in short-term; a contract is definitely formal and in long-term (i.e., requiring negotiation and binding processes to define in detail provisions of services to be provided, performance promised, payments and penalties, monitor of performance). For example, in the Main Post Offices of Columbus, OH, the managers can hire outsiders to do internal services through an agreement or a contract. Cleaning work is usually subcontracted out because of the number of the buildings the Columbus Main Post Office has. If a cleaning work requires
more than 3 hours but less than 40 hours a week, the postmaster can have an agreement with a private firm to have individuals come during the day or once a week, doing cleaning with the presence of supervisors. If that cleaning volume requires more than 40 hours, the station has to have a full-time staff to do the work and it has to hire new employees. That type of work generally requires an agreement. If an individual does not show up at the time or does a poor job, in case the relationship is based in a flexible agreement, the postmaster can say “well, today is your last day” and call others to replace. But in case the relationship is under a long-term contract, the contract officer sends him a letter notifying his discrepancy, giving him a chance to improve or to be fired. This is a very slow process, at least 30 days (Joe, 2006).

In summary, the findings in this across-area comparative analysis match with the dissertation’s proposition that changes in value, institution and markets factors have impacts on the purchasing levels of services.

5.4. Conclusion

The analyses in this chapter show that contracting levels of a functional service are closely linked to its transaction-costs-related features, particularly the marketability and marketplace.

However, political forces also play an important role in shaping the marketplace as their pressures and interventions have resulted in several changes in institutions regulating contracting decisions and management processes. In some particular cases, political forces could even depress the market concerns to enforce a solution which runs counter to economic efficiency. This is the case of contract delivery where the postal unions successfully reach an agreement with the USPS not to outsource new delivery points in urban routes, and the case of mail processing where several USPS plans to consolidate processing facilities were stopped or even reserved.

In conclusion, the three sets of factors have impacted the aggregate levels of contracting during this time period 1995-2007, though with mixed effects. The general trend is aggregate contracting levels are going up in every service area – core or non-core, despite certain Congressional and postal union resistance, since commercialization orientation is prevailing value. This supports the dissertation propositions on market factors.
CHAPTER 6

CONCLUSION

6.1. SUMMARY OF QUESTIONS AND FINDINGS

This dissertation studies the contracting policies and practices taking place in the USPS during the last 12 years. The dissertation uses the VIM framework to explain why and when a public organization contracts out, with a focus on the special case of the USPS, the only public monopoly in the United States. The guiding question of this dissertation is why the USPS performs some activities (i.e., doing a function, making a product) internally by its own resources and buys other activities from outside vendors.

In finding the answers for this question, the dissertation examines the USPS’s activities in an overarching perspective which helps identify the differences across them along three major dimensions: value, institution, and market. Drawing on a nationally representative data from the USPS annual reports which provide overall contracting levels of core services, as well as from the Commercial Business Daily which provides the numbers of contract and contract awards of noncore services from 1995 to date, the dissertation provides two major overarching findings.

First, at the macro level, the main question is what caused the overall aggregate contracting levels to fluctuate over certain periods of time. The major proposition contends that values and institutions factors frame the contracting environment, and changes in each of these categories would lead to changes in overall contracting levels. The documentary analysis reveals that the overall balance of postal stakeholders’ opinions is shifting in favor of extending contracting in the expectation of potential improvements in cost and
performance, leading to major institutional changes that de-restrict contracting programs and practices. Specifically, the postal policy has shifted from a pure system-approach preference that views the postal system as a whole (i.e., one that includes inputs, technology, outputs and environment), stresses the continuity of the whole production process, and the importance of each elements to the whole to one that mixes with the transaction-cost-economic preference that unbundles the postal system into discrete and identifiable tasks and stresses economizing on costs by outsourcing those activities that can be done more efficiently by the private sector.

Initially, at its establishment as a governmental agency under the name of the US Post Office, this postal service provider was defined as the single public organization providing postal services for the social mission of connecting Americans by an affordable and reliable means of communication. Major targeted beneficiaries were households and governmental offices nationwide. This made the Post Office strongly affected by political authorities, especially when its budget was funded by the Government conditioned on the approval of Congress. The preference of the time was a large integrated production system operated by public employees which is ideal for secured production continuity and service delivery by direct government controls and provisions. The Postal Law 1970 transformed the Post Office into a government-owned corporation named USPS which operates in a business-like manner when it is advantageous to do so. This event commercializes the USPS, reducing significantly the political influences placed upon the USPS. This also reflects that the balance of value preference of major postal stakeholders has changed from one that stressed political responsibility to one that is more commercial. During the periods between 1970-2007, the Government, Congress, and the USPS all increasingly recognized and expressed explicitly the advantages of concentrating resources in core competencies and the benefits of outsourcing activities that can be performed more efficiently and at lower cost by suppliers. Because the USPS’s purchasing were reportedly more costly than the private sector equivalents as it was subject to several statutes that affect public contracting and public sector practices, the postal law and regulations were progressively revised in 1997, 2002, 2005 and 2006 to remove fundamental defectiveness and unnecessary barriers to contracting processes and practices for the USPS’s contracting to thrive. Those revisions offer more opportunities for private participation in the system to deliver performance with lower costs. This appears to have impacts on the ways the USPS ran its operations. With general postal
values favoring contracting and institutions facilitating contracting, the overall aggregate levels of contracting rose through these periods. Some areas which had never contracted before now began to adopt contracting. Areas having contracted before now contract for larger amounts. However, persistent labor union resistance, worsening USPS’s financial debts, and the difficulty of the national economy in late 1990s and early 2000s may have had adverse impacts on contracting practices, leading to some downturns of contracting levels in these years.

Second, in the micro level, the question is what differentiate the various levels of contracting across areas, or put in another way, why some activities see higher contracting levels than the others. The major proposition is that, in essence, it is the differences in the market factors (namely transaction costs and risks inherent in each transaction) across activities that explain for the most part their comparative variations of contracting levels. The comparative analyses reveal that the degrees the USPS relies on external productions differ from one area to another. The activities involving low asset-specificity, easy measurement of quality or quantity, and lower uncertainty surrounding transactions see higher and rising levels of contracting. Examples include Mail Acceptance, Transportation, and Construction and Maintenance of Real Property. Conversely, activities characterized as being highly asset-specific and difficult to measure quality or quantity, or involving high degree of uncertainty see limited contracting levels. Examples include the Mail Delivery and Mail Processing tasks. The Mail Processing task which is extremely asset-specific and difficult to measure is merely in the initial stages of contracting exploration. In addition, functions which are more politically sensitive or crucially important to the continuity of the USPS operations see less contracting levels. This explains the case where the service Maintenance of Equipments sees much less contracting than the service Maintenance of Real Property.

6.2. Implications

There are several implications from the findings of this dissertation. First, the contracting would see increased magnitudes in coming years as the USPS leaders continue to search for ways to battle severe annual deficits. In addition, the introduction of the new purchasing policy – the Purchasing Principle and Practices – which aims at providing contracting officers with much more authority and discretion on making decisions would further reduce any
barrier to contracting. The most promising areas to explore the benefits of private participation are non-core tasks because the market conditions are favorable and the political resistance is virtually absent. Except for the Transportation activity which already sees very high levels of contracting, other core areas would see moderate contracting increases. Mail processing would see uncertain developments due to its unique characteristics and strong union resistances; many programs have been suspended, terminated or even reversed as a result of these factors.

Second, as long as the postmasters still believe in the inherent postal values of Mail Acceptance and Delivery, as stated in the statement of the National Association of Postmasters of the United States to the Congressional Hearing July 19, the growth of contract parts in these two functional areas would not be significant because it is the postmasters themselves who exercise the contracting practices at the local post offices. As a matter of strategic leadership, the USPS may need to promote or place more new contracting-favoring individuals on postmaster positions, so as to consolidate and strengthen overall management determination on expanding contracting policy and programs.

Third, it is necessary for the USPS leaders to communicate clearly with postal unions and their Congressional supporters on how the new policy would be implemented in ways that rationally and fairly consider the pros and cons of a contracting decision, safeguard agreed upon social values of postal programs, not incur undue lay-offs or sacrifice public security. The concerns of those opponents need to be addressed in order for the contracting programs to go smoothly with minimal political oppositions. In particular, the research found that a tendency of increasing private participations in the core areas of the USPS gives rise to a growing fear that this tendency may eventually end up with the full privatization of the USPS, a consequence that a GAO study found most households strongly opposed.

Finally, the research realizes that the USPS must fundamentally improve its management information systems. Several GAO reports criticized the USPS for not tracking and thus not quantifying the results of its outsourcing activities (GAO-08-1022T, 2008, pp. 6-7; GAO-07-1083T, 2007, p. 2). This made many proposals run without firm foundations.

In summary, the findings of this dissertation can help target contracting more efficiently. Knowing factors that most inhibit the postal contracting would help contracting officers to
overcome existing challenges to make use of an important instrument to deliver high performance.

**6.3. CONTRIBUTIONS TO THEORY**

It is important to accumulate evidence on major policy matters, because rarely will any one study provide all the information needed to guide policy or practice in particular areas. The information needed to make well-informed decisions most often comes from multiple studies that examine issues in varied contexts and with different target populations (Journal of Policy Analysis and Management, Spring 2006). The postal contracting is such a case. Contracting in the public sector has been studied in many circumstances of government agencies, but it is the rare case where public managers have to take on and mitigate conflicting political and commercial challenges simultaneously. The findings of studies on general public contracting, thus, may not be valid or applicable in the case of the USPS – a government-owned organization operating as a business with statutory monopoly exempted from most of federal laws, especially the laws regulating public acquisitions. This dissertation specifically addresses this problem. The principal contribution is that by studying with a multidimensional lens the contracting practices taking place in the unique circumstance of the USPS the dissertation successfully identifies the dynamic links and contrasts between values, institutions, and market factors in shaping and driving contracting policy and practices. Thus, the empirical findings of this dissertation fit nicely into the missing part of the public contracting literature.

**6.4. LIMITATIONS**

The dissertation cannot avoid certain limitations which are essentially rooted in the data. First, the data could have been improved. Postal data is sometimes inaccurate, often incomplete and inconsistent (GAO-03-230, 2003). The only data source of CBD seems to provide only a fraction of complete data. Thus, there may have been a vast difference between the published data, on which the dissertation’s arguments are based, and the actual
service levels. Consequently, the documented finding may reflect only a part of the truth (Mary Rouvelas\textsuperscript{75}, 2003), reducing the validity of some research conclusions.

Second, the dissertation cannot quantitatively measure transaction costs associated with contracting transactions in each activity in the comparative analyses. Thus, the dissertation has to rely on documentary analyses to estimate the comparative transaction cost levels of one activity relative to others. Thus, the estimation may suffer certain degree of subjective bias.

Third, though the CBD data contain both the numbers of contracts and contract awards, it often does not include the length of contract and the level of activity performed under these contracts. That may give a distorted view on comparative contracting levels across certain services. For example, while most Utilities and Housekeeping Services contracts would last two years, most Maintenance, Repair or Alteration of Real Property contracts would last five years. Suppose that we have the total contract number of Utilities and Housekeeping Services in a period of five years higher than that of Maintenance, Repair or Alteration of Real Property, this would not mean that the former is outsourced more than the latter. In addition, a two-year contract may well have been extended multiple times if the vendor performed well, but this would not increase the total number of contracts of the period, therefore giving impression that the aggregate contracting level did not change.

Finally, since pre- and post-reform data are not easy to collect, it lacks empirical studies on purchasing reforms, especially the cross-countries or cross-region studies to get a comparative overview. Thus, the theoretical story of contracting in the USPS that I address in this dissertation should be used with caution when applied externally. Still, the strength of this dissertation lies in its cross-contract-portfolio analysis thereby increasing the internal validity of the conclusions.

\textsuperscript{75} Vice President of Alliance of Nonprofit Mailers commented to the Presidential Commission on the Postal Service in February 20, 2003.
6.5. DIRECTIONS OF FUTURE RESEARCHES

Future researches would address limitations identified above, but to fully address these limitations may require significant effort, resources, and most especially time. To address the first limitation, I would submit a FOIA request to the USPS to get a better and more complete data source. The second limitation could be solved by sending a survey to a large number of contracting officers. This survey would be designed to get contracting officers to rate the total transaction cost relating to the transactions of each particular contracting/purchasing area by the scale of 1-5 (1 being very low, 5 being very high). The average of the rates given by responding contracting officers would give the closest estimation of transaction cost, strengthening the empirical results.

As stated in the introduction of the dissertation, given the importance of an efficient and effective national postal service as the economic backbone of the country, and the potential for the USPS to contract for billions of dollars in services, both the USPS’s policy to outsource selective activities and how it manages its supply chain are important public policy questions. This dissertation studies the former in terms of how the VIM environment frames the contracting practices. Potential future research logically sequential to this dissertation could address the latter, which involves two important questions of postal contract design and contract-management. Once a government agency has decided to rely on external sources for product provision, it has to manage contracts efficiently and effectively. The contract design – the terms of exchange specified in the contract – is a central means to attain high performance (See more Kelman, 2002; Kettl, 2002; Kettl, 1993). So, how the contracts specify both parties’ responsibilities, design co-ordination, create motivation, as well as specify how contracts can be monitored or revised in the future are the key tasks for successful managing an indirect program, because such contract design contents greatly influence not only transaction costs incurred by the economic exchanges but also certainty surrounding the transactions (Bogetoft & Olesen, 2002, p. 189; Kettl, 2002). This study could also address the third limitation by gathering actual contract design of contracts through FOIA request. However, as it is not possible and in fact not necessary to gather contract design information of all contracts, the future research would be limited to some representative contracts at each function area. This could be done by randomly picking some contracts from each area’s sample of contracts.
Finally, another potential research project could be a comparative study with the US and other postal services, such as the EU. This would discuss the world trend in general, but not be a formal comparison, because countries likely will be different one to another in many ways, such as geographic, labor distribution, income, and national priorities.

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