

ABSTRACT

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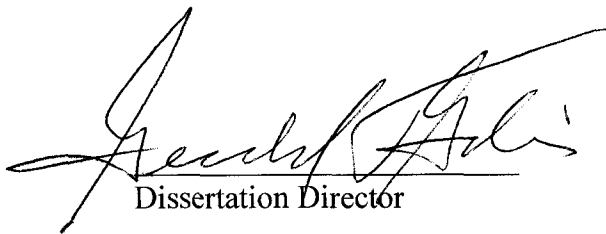
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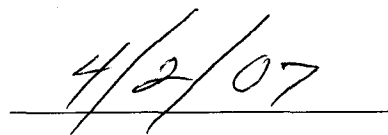
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ABSTRACT

This research focused on the development of a model that predicts improved organizational outcomes associated with higher wage rates or, more narrowly, efficiency wages. The model is premised on efficiency wage theory, namely, that higher wages will translate into improved service quality, lower turnover or quit rates, fewer employee accountability control mechanisms, and, ultimately, lower wage costs. Through an empirical analysis involving municipalities located throughout the Chicago suburban metropolitan area (SMA), the major theoretical underpinnings associated with efficiency wage theory were tested. Two separate written survey instruments were distributed to municipalities in the Chicago SMA: a salary and fringe benefits survey and a reputational service quality questionnaire. Generally speaking, the surveys provided a broad array of quantifiable data pertaining to a municipality's pay strategy, current wage levels, and perceived level of performance. In addition, a case study analysis demonstrating how an actual efficiency wage system functions in a public-sector organization was conducted.

The findings of this research indicate that efficiency wage rates are a significant predictor of increased reputational service quality. Municipal size (population) and affluence (per capita income) were also found to be associated with service quality. In addition, higher wages were found to be a significant predictor of wage costs per employee; however, this relationship was not in the expected direction. No definitive

evidence was found in support of the hypotheses regarding accountability control mechanisms.

One implication of this research is that highly regarded municipalities may be able to leverage their reputation as a tool for increasing economic development or attracting more affluent residents to the community. Municipalities may also be able to use their reputation as a vehicle for attracting and retaining employees to the organization. This research concludes with a discussion of the future of public-sector compensation and the potential for a model based on efficiency wage rates to be utilized in pursuit of improved organizational outcomes. A research agenda for following up on what has already been completed is also provided.

NORTHERN ILLINOIS UNIVERSITY

PLAYING THE EXTERNAL MARKET: EFFICIENCY WAGE AS A MEANS
FOR STRATEGIC COMPENSATION IN THE PUBLIC SECTOR

A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE RESQUIREMENTS
FOR THE DEGREE
DOCTOR OF PHILOSOPHY

DEPARTMENT OF POLITICAL SCIENCE

BY

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MAY 2007

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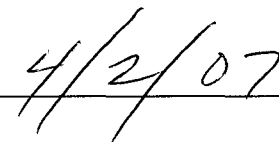
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CHAPTER I
SETTING THE FOUNDATION

Contemplating Public-Sector Compensation Practices and Reform

On average, compensation costs account for 65% to 70% of the total costs in the U.S. economy (Blinder, 1990; U.S. Bureau of Labor Statistics, 2006). Moreover, total compensation costs doubled from June 1981 to December 1997, with state and local government employees outpacing private-sector workers 121% to 98%, respectively (U.S. Department of Labor, 1998). Simply put, compensation matters. It is, thus, not surprising that the type of compensation system or philosophy utilized by an organization plays an important role in determining the overall level of efficiency and effectiveness in which it operates.

Compensation systems do not exist in a vacuum. At a very basic level, an organization's compensation system reflects a reasoned strategy on the part of organizational decision makers regarding how vigorously an organization is going to compete within a competitive and constantly shifting marketplace. In the public sector, this often involves deliberative decisions by appointed or elected policy boards, acting upon the recommendations of professional administrative staff. Over time, creative thinking by both public- and private-sector managers has created theories of

compensation that purport to increase employee motivation, job satisfaction, and, in turn, organizational performance and productivity.

In the public sector, the dominant compensation system or philosophy has generally centered on two basic concepts: the classic civil service pay system and performance-based (or merit) pay. Under the classic civil service pay system employees are classified or categorized into specific grades and steps determined in part by rank, function, and seniority. These grades and steps are then connected to specific pay scales and ranges, which are rigidly applied and rarely deviated from. Employees at the same grade and step throughout an organization, although performing substantively different jobs, should receive approximately the same pay. Thus, the classic civil service pay system strives to maximize internal equity (Wallace & Fay, 1988) while simultaneously rewarding long-tenured employees with automatic step increments. Such a system, however, does little, if anything, to enhance individual employee performance.

During the 1970s and 1980s, performance-based pay emerged as an impetus for increasing employee performance and productivity. Following on the heels of the 1978 Civil Service Reform Act (Ingraham & Ban, 1984), merit pay became a near iconic innovation in the public sector. Although Frederick Thayer's (1978) prediction that this touted reform was misguided and headed toward disaster has been vindicated by various studies at the local, state, and federal levels (Gabris & Mitchell, 1985, 1988; Kellough & Lu, 1993; Kellough & Selden, 1997; Pearce, Stevenson, & Perry, 1985; Perry, 1986), merit pay, in various guises, remains a popular tool because of its perceived ability to control and punish inept employees (Gabris, 1998). Others have argued, as well as

presented some empirical evidence, that performance pay can work under specific conditions (Gabris & Ihrke, 2000; Heneman, 1992). Even so, merit pay has lost the spotlight.

The numerous pitfalls associated with the classic civil service pay system and performance-based pay are not the intended focus of this dissertation; several notable researchers have already placed these concerns at the forefront of the compensation debate. Rather, this research attempts to redirect the debate by focusing on the payment of higher wages as a compensation strategy and the outcomes of this strategy as they relate to the primary tenets of efficiency wage theory. Specifically, this research purports to answer the question: “Does the relative placement of a public organization within an external compensation market have much effect on how successful it might be in producing desirable organizational outcomes?” Put another way, to what degree does external equity associate with employee behaviors and performance levels that public organizations would deem indicative of effectiveness and efficiency?

Although this query may appear straightforward, a review of the public administration literature over the past two decades does not produce much in the way of meaningful research about public-sector pay markets and how these markets may be associated with broad measures of organizational performance or service quality. The research that goes beyond merit pay does posit several intriguing compensation strategies, however. For instance, Thompson and LeHew (2000) make a solid case describing the benefits of skill-based pay.

Under a skill-based system, employees are rewarded horizontally through the expansion of their knowledge, skills, and abilities that facilitate their specific job

expertise. Wallace and Fay (1988), however, point out that skill-based systems often suffer from: (1) narrow pay ranges, causing employees to quickly “top out” on the pay scale; (2) an inadequate process of defining and measuring various qualification levels, transforming the pay plan into a mere credentialing scheme for employees to qualify for higher wages; and (3) greater employee training costs, making employee turnover ever more costly. Moreover, skill-based systems are in direct conflict with traditional job evaluation plans where a worker’s pay is based on the job held rather than his or her individual skill set. Ultimately, however, exactly how or whether skill-based pay systems correlate with significant organizational performance increases has yet to be the subject of extensive empirical research.

Another general compensation strategy that has received some attention involves broad "pay bands" (Naff, 2003). Pay bands, in contrast to "pay grades," create a much wider pay range for hiring employees at competitive market rates. If its pay range is too narrow, a public organization risks being unable to attract high-quality applicants or retain marketable employees who are likely to jump the fence for greener pastures in the private sector. By all estimations, broad banding makes sense because it expands the flexibility of public organizations to be more competitive in complex labor markets. Moreover, broad banding relates to the central focus of this dissertation, namely, the theory and practice of "efficiency wage."

Efficiency Wage Theory: A Brief Overview

In its simplest description, efficiency wage theory involves the notion that “paying above-market rates might help organizations realize increased effectiveness”

(Gerhart & Rynes, 2003, p. 22). An early version of this theory (Yellen, 1984) suggested that some organizations may be willing to pay above-average market wages in order to create a psychological expectation among employees that higher pay necessitates harder work. Higher rates of pay may also lead to better applicant pools and longer employee retention. For instance, Krueger (1988) found that the number of applications as well as the quality of the applicants for public-sector jobs increased as the ratio of public-to-private-sector pay increased. Holzer (1990), moreover, found that increased wages led to contracted vacancy rates, enhanced the perceived ease of hiring, and reduced the time devoted to informal training. Finally, higher pay may not only lead to better initial applicant pools but may reduce turnover or quit rates compared to organizations paying less (Ehrenberg & Smith, 1988). Building on the above ideas, an organization utilizing an efficiency wage strategy may:

1. Experience lower turnover in employees, therefore reducing the need for additional training costs.
2. Experience less need to monitor employee performance and work quality, translating into fewer supervisors.
3. Increase employee competency for multitasking and teamwork, resulting in a need for fewer overall employees.

An example of this type of compensation strategy can be seen in Henry Ford's decision in 1914 to double autoworker wages. Although Ford considered this to be a cost-saving strategy, due to such residual effects as lower employee turnover, better applicant pools, less frequent shirking, and improved productivity, Raff and Summers (1987) were unable to find complete support for this hypothesis. Regardless, this case

illuminates the basic notion behind efficiency wage theory and its potential effectiveness as a compensation strategy.

It is prudent to note that the incentives for organizations to offer above-market wages are not weighted equally. For example, organizations that confer a high degree of discretion and autonomy upon their employees are more likely to benefit from paying at the efficiency wage level. This is because, in these instances, organizational performance is intimately correlated with worker efforts and abilities. Other examples include organizations that rely on a highly skilled or technically advanced workforce or where the sheer size of the organization or geographic dispersion of its employees makes monitoring or controlling behavior difficult (Frank & Cook, 1995; Krueger & Summers, 1988; Milkovich & Newman, 1999).

Practical Advantages and Disadvantages Associated with Efficiency Wage Theory

Because efficiency wage theory sounds initially counterintuitive, it may raise political eyebrows. The idea of paying public employees more to reduce costs while also providing more services is a hard pill for some elected officials to swallow. Thus, an initial disadvantage of the theory involves the difficulty of convincing elected officials that higher wages can reduce overall costs in the long run. It is generally surmised that the majority of elected officials and even most public managers feel more comfortable paying close to the "average" market wage. As long as a community pays near an average wage for its benchmark positions, it should generate sufficient applicant pools to replace normal employee turnover with adequately competent workers.

Yet a potential advantage of efficiency wage is that it may enable an organization to substantially reduce the paperwork costs associated with employee monitoring. If employees are more motivated by higher than average market wages, they may perform better without as much close supervision or monitoring. Since the process of implementing a performance appraisal system can be very time consuming and the evidence surrounding whether these systems increase employee productivity is, at best, mixed, the prospect of eliminating this administrative burden could appeal to many public organizations.

A second practical disadvantage associated with an efficiency-wage-based compensation system involves the potential for wage compression. To borrow from Garrison Keillor, this can be referred to as the "Lake Wobegon effect" (1985). Lake Wobegon is that place in Minnesota where all of the men are strong, the women good looking, and children are above average (Keillor, 1985). As more managers strive to pay their employees above-average wages, pressure is placed on the remaining organizations to increase their own wages in order to effectively compete. This ratcheting effect will make it increasingly difficult for premium-paying organizations to remain higher paying relative to their competitors. Thus, as the relatively lower paying organizations increase their base pay levels, this will eventually narrow the gap between the highest and lowest paying organizations. This desire to be "above average" could become very costly for all organizations within the same comparable market system.

Another potential disadvantage is the "free rider" effect (Olson, 1965). This refers to employees who receive an efficiency wage from their organization and, in turn, do not provide the level of output that such a system expects. In other words, some

employees may not feel compelled to work harder even though they are paid above average; their higher performing colleagues essentially carry them. Given that one of the primary cost-saving functions cited for an efficiency wage is the reduction of formal employee monitoring, free riders may become more difficult to identify. Hence, they represent a hidden cost to the system.

Supporters of efficiency wage theory, however, are inclined to argue that free riders and shirkers have the disadvantage of being disdained by their peers. In systems that pay well, higher performing workers may be less willing to carry shirkers and more inclined to put pressure on them to increase performance. Because employees generally are familiar with those in their immediate work groups, the high performers may be unwilling to risk the potential negative impact that poor individual performance may have on overall group productivity. In this way, the efficiency wage, as opposed to pay systems that rely on more formalized control mechanisms, may be a more effective way of controlling free riding through informal group peer pressure.

The practical advantage for public managers stemming from this type of pattern is clear. Public managers can eliminate some of the cumbersome formal control apparatus that they normally need to compel employees to behave and perform properly. Since many managers exhibit voluminous rating errors in the application of control mechanisms, such as performance appraisals (Latham & Wexley, 1981), the elimination of such systems should be lauded by public managers - especially if more effective alternative control mechanisms, requiring substantially less system development, can replace them.

In summary, the practical advantages associated with an efficiency-wage-based compensation system may include:

1. The elimination of the need for formal employee monitoring systems.
2. Better control of free riders or shirkers through informal group peer pressure.
3. A reduction in overall system costs due to higher employee performance by fewer employees, coupled with lower training needs and less need for quality control.

Some disadvantages associated with this type of system may include:

1. The difficulty of convincing municipal elected officials that paying employees higher than current market rates will reduce costs.
2. The Lake Wobegon effect (Keillor, 1985). As more communities strive to become above average, this will compress the distance between higher and lower paying organizations. This could result in higher overall compensation costs for organizations within the same market yet have a reduced positive effect on employee behavior and performance.
3. The potential for some employees to take advantage of higher pay scales without commensurate increases in their performance. Some employees may become free riders or shirkers and, because the higher paying municipalities may utilize fewer formal accountability controls, it may be harder to identify these poor performers.

In short, the goal of this research is to answer the question of whether employee wages are positively correlated with performance and productivity. The answer to this question has important ramifications for a number of deeply held beliefs regarding public-sector compensation, such as starting pay and performance-based incentives. Moreover, an efficiency wage strategy compels employers to rethink practices related to

employee recruitment, retention, and evaluation. Pointing out room for improvement in these areas will better help public sector managers recruit and maintain a more motivated and productive workforce, ultimately leading to a more effective, cost-efficient organization.

The Research Context

Existing research on efficiency wage theory has focused, almost exclusively, on the private sector. This study, however, represents a clear divergence away from traditional scholarship, as the public sector served as the unit of analysis. Practically speaking, there are a number of reasons why public-sector approaches to efficiency wage theory are substantially different from the private sector. These differences, in essence, highlight why it is difficult to accurate cross-sector comparisons.

First, research by Perry (1996, 1997, 2000), Perry and Wise (1990), and Rainey (1982, 2003) suggests that many individuals are attracted to the public sectors out of a sense of service; conversely, those entering the private sector are often drawn by monetary rewards. Second, organizations in the public and private sector operate under very different external markets. For all intents and purposes, the public sector is not-for-profit, whereas the private sector is for-profit. This leads to substantially different measures of organizational success, where profit serves as the primary measure in the private sector and the public sector relies on the quality of services provided. In a similar vein, public-sector organizations typically offer a larger range of products and services than organizations in the private sector. Not all of these products and services are intrinsically profitable; thus, service quality emerges as the primary yardstick by

which to assess organizational success. Third, there is an inability to develop a plausible methodology with which to make accurate cross-sector comparisons. Many private-sector organizations operate under competing markets, as they have offices or employees located in several locations throughout the country. Selecting organizations in the private sector to compare to those in the public sector while maintaining clear linkages to other variables would, at best, be arbitrary.

This research attempted to avoid such hurdles by utilizing a sample of public organizations located within a single labor market. Specifically, the type of public organization serving as the unit of analysis was municipal government, and the labor market was defined as competing municipalities within the Chicagoland region. A municipality's status as a recognized member of the International City/County Management Association served as the primary impetus determining whether it was included in this study (International City/County Management Association [ICMA], 2006). This resulted in an initial population of 166 municipalities, of which results were collected for 79, or $\approx 48\%$, of those surveyed.

Study Components

This study consisted of three major components: (1) the dissemination of written survey instruments, (2) an illustrative case study relying on interviews, and (3) the collection of sociodemographic environmental data.

Two separate written survey instruments were distributed to all ICMA-recognized municipalities within the greater Chicagoland region: a salary and fringe benefits questionnaire and reputational service quality questionnaire. The salary and

benefits questionnaire was distributed to the individual responsible for the municipality's personnel or human resources function. Respondents were asked to complete a fairly lengthy survey designed to collect salary data on a wide variety of benchmark jobs. For a complete list of the jobs surveyed, see Appendix A. Additional questions pertaining to fringe benefits were also included.

Noting the significance of wages to this study, the market wage ratio of each municipality serves as the independent variable of primary importance. This ratio was calculated by taking the average benchmark pay and dividing by the regional wage benchmark. The regional wage benchmark is a summation of the average benchmark pay across all municipalities within a given labor market. Put another way, the greater Chicagoland region comprises a single labor market; all of the municipalities falling within that area are used to calculate the regional wage benchmark. The variables used for this study are explained in greater detail in Chapter III on research methodology.

Each municipality that received a compensation survey was also sent a reputational service quality questionnaire to complete. In this survey, the respondent, or professional administrator, was asked to identify municipalities within his or her service region known for providing highly innovative, high-quality services. It was reasoned that professional administrators know each other quite well through their professional networks, making them relatively cognizant of how well each other's municipality is doing. The respondent could identify as many or as few communities as he or she wished for a variety of core service areas. For a listing of the core municipal service areas surveyed, see Appendix B. In addition, respondents were requested to note any communities known for exceptionally high-quality services overall. The logic

behind the reputational service quality questionnaire was to ascertain whether highly reputable communities would arise from the mix by receiving multiple hits from different professional administrators.

While surveys can be done fairly quickly and without transportation or formal appointments, their use suffers from an inability to capture the more subtle intervening variables that influence a municipality's compensation philosophy. For instance, the culture, tradition, innovative spirit, leadership, and political environment found in a municipality are likely important determinants of pay. As a way to begin addressing these variables, a municipality was identified to serve as a case study through a series of in-depth interviews. The case study will be discussed in the final chapter of this dissertation and is intended primarily to illustrate how an efficiency wage compensation strategy comes together successfully in a public-sector organization.

The third major component of this study was the collection and analysis of sociodemographic environmental data on each municipality and its respective population. Such collection was important inasmuch as a municipality's size, affluence, and demographics may explain more of why a city is perceived as having high-quality services than does its compensation strategy. Accordingly, any valid study on compensation must take into account the confounding effects of municipal size, affluence, number of employees, and size of budget. For a list of the sociodemographic variables collected, see Table 1.

Table 1

Sociodemographic Characteristics of Sample Municipalities

1. Municipal size (population)
 2. Municipal geographic location
 3. Municipal per capita income
 4. Municipal workforce (total number of full-time employees)
 5. Municipal general fund expenditure
-

Methodological Advantages and Hurdles

There are some important advantages to this type of design. First, limiting this study to one region allowed sample cities to share a common culture. In addition, municipalities in the same region directly compete with each other for potential pools of job applicants and, therefore, are in competitive markets that should be roughly comparable. While it is readily acknowledged that limiting this study to a single, highly defined region constrains the generalizability of the findings, it is believed that the benefits derived from a highly specific, single-region analysis outweighs this limitation. Regardless, under this condition the findings are prevented from being generalized on a national level with statistical certainty. This concern, however, was offset by the belief that municipal government and the people who make it work are similar across the country. As such, each is concerned with employee compensation and the impact that wage levels may have upon a municipality's performance. Thus,

findings should not be viewed as only applicable to the Chicagoland region but also to the population of municipalities.

A second advantage involved the utilization of a research methodology based on both quantitative and qualitative techniques. Simply put, combining surveys with elite interviews allowed for a more in-depth analysis through the eyes of multiple individuals. The case study approach added further depth and helped tether the theory of efficiency wage to practical administrative issues. A third advantage speaks to the researcher's knowledge of the general area as well as the specific cities involved, providing for a deeper sense of understanding and insight than would likely have been present in a national study.

Operationalizing efficiency wage theory poses many methodological hurdles for a researcher to overcome. First, it was necessary to identify a sufficient number of similar public organizations in order to generate an N size large enough for statistical analysis. To address this initial challenge it was decided that municipal government offered the best solution. Municipalities typically provide a similar set of core services and programs when compared to municipalities in different states. Also, forms of municipal government have become standardized (Frederickson, Johnson, & Wood, 2004) to a point where many cities have adopted similar types of professional administrative structures.

A second hurdle involved penetrating a public organization's pay system with enough depth to collect data on a wide variety of benchmark job descriptions. This necessitated that a considerable amount of time be spent recording data points where the data is highly sensitive and difficult to collect without violating privacy or

confidentiality norms. For example, each sampled municipality was requested to complete a lengthy survey instrument involving highly detailed salary data for several benchmark positions.

A third methodological hurdle involved the dependent variables. The question arose, “In what ways can one measure an outcome of wage systems that would be comparable across a wide spectrum of municipalities?”

One solution was to measure the turnover or quit rates for the surveyed communities. Turnover rate should be indicative of how much employees like their jobs in respective communities. Presumably, municipalities that have higher wages should have correspondingly lower turnover rates. Another solution involved the complexity of employee accountability mechanisms. Communities that utilize a high-wage strategy should rely less on formal accountability mechanisms, such as merit pay, performance appraisals, or skill-based pay mechanisms, due to a decreased risk of shirking. Measuring a municipality’s wage cost per employee was identified as another solution. As previously noted, the idea of paying public employees more to reduce costs while also providing more services sounds initially counterintuitive. Nevertheless, all other things being equal, a higher wage community should experience wage costs that are no greater than a lower wage community.

A final solution involved identifying overall organizational performance, service quality, and productivity. Unlike a municipality’s turnover or quit rate, number of accountability controls utilized, or per employee wage costs, capturing an organization’s performance level or service quality is a much more ambiguous process. Compounding the problem is the fact that there is no one hard measure or database that

a researcher can turn to in order to garner this information. Although a municipality's turnover rate, control mechanisms, and costs per employee are partially indicative of performance, such variables are a far from perfect measure. There are numerous reasons why an employee may decide to terminate his or her employment with a community or why a municipality may utilize control mechanisms or have extraordinarily high wage costs beyond poor performance and productivity. Given this dilemma, the development of a reputational service quality index, created via subject-matter experts, emerged as the best way to capture the effect, if any, that pay has upon service quality.

A Model for Understanding Improved Organizational Outcomes Associated with Efficiency Wage Rates

This study examines the impact, if any, that paying higher wages has upon desirable outcomes associated with efficiency wage theory. Thus, the model for understanding improved organizational outcomes depicts the potential impact that an efficiency wage rate has upon municipal performance and productivity. The model is graphically displayed in Figure 1. In this model, a municipality's decision whether to pay an efficiency wage rate is an integral determinant of perceived reputational service quality, employee turnover or quit rate, reductions in accountability control mechanisms, initial employee selection, and per employee wage costs. It is not surprising that a municipality's sociodemographic as well as cultural aspects impact the likelihood that an above-market wage will be offered.

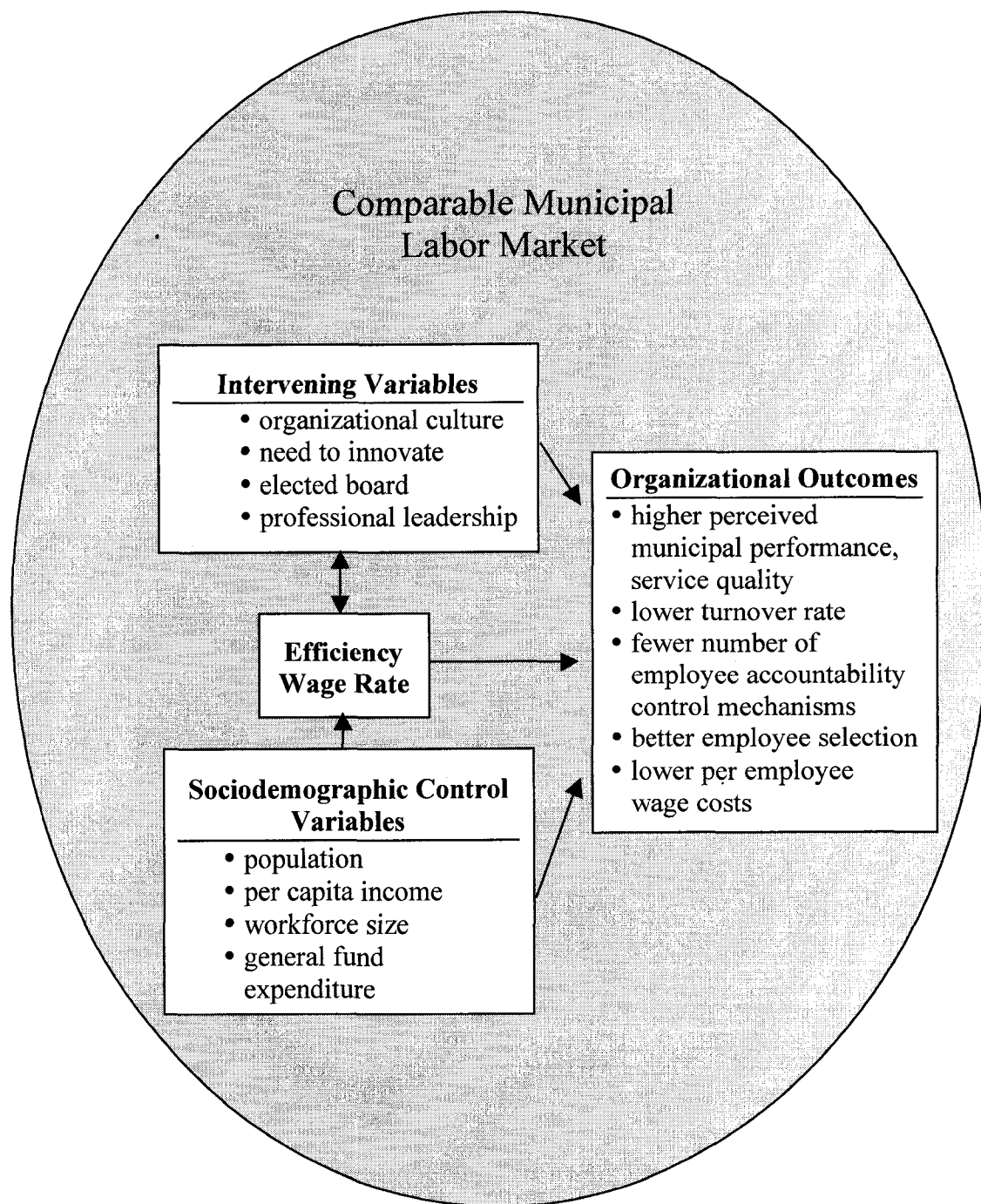


Figure 1. A model for understanding improved organizational outcomes associated with efficiency wage rates.

Presumably, efficiency wage alone does not account for all of the aforementioned variations in municipal performance and productivity. Therefore, the model controls for the effects of both sociodemographic control variables and intervening variables. For example, the size and affluence of a municipality as well as its culture, tradition, innovative spirit, professional leadership, and political environment are all contributing factors that must be taken into consideration. However, due to limitations associated with data, time, and resources, intervening variables are not examined in this study. While the case study presented in Chapter V may provide some context and insight regarding the effects of these variables, future research should undoubtedly be focused on this area.

For the purpose of clarity, and in line with other efficiency wage studies, municipal compensation will be addressed from a strictly wage perspective. In other words, the analysis will not be confounded by any "total compensation" models, which combine salary with fringe benefits. Accurately converting or placing a dollar value on fringe benefits, such as health care or paid vacation, is, at best, a nearly impossible undertaking. For example, making an across-the-board comparison of the out-of-pocket health-care costs that a municipality pays per employee would not accurately capture the *true value* of that fringe benefit. Conceivably, an employee working in a municipality where the health-care benefit being provided is \$1,000 higher than the regional average receives an additional \$1,000 worth of health care per year. However, the fact that a municipality pays more or less for its employees' health care says nothing about the range or quality of the health-care benefits being provided. The issue of fringe benefits is taken up in greater detail in Chapter III on research methodology.

Research Hypotheses

The research model leads to a number of testable hypotheses. For the purpose of introducing the reader to things to come, the hypotheses are grouped into four major categories. Each category represents a primary tenet of efficiency wage theory that, when taken together, comprise the basis for the overall model. Readers should note that no hypotheses are put forth regarding employee selection, as this aspect of efficiency wage theory is not directly being tested in this study.

The hypotheses regarding municipal service quality, employee turnover, accountability control mechanisms, and total organizational wage costs and wage costs per employee should be transparent. It is posited that municipalities offering higher wage rates will also be identified as having higher levels of perceived reputational service quality, lower turnover or quit rates, fewer accountability control mechanisms, and lower wage costs per employee. Of course, these central ideas must carefully consider alternative hypotheses. For example, factors such as municipal size, affluence, and demographics likely contribute to a municipality's perceived level of performance and productivity, turnover rate, accountability control mechanisms, and wage costs. Consequently, the confounding effects of municipal size, affluence, and budget must be considered, as it could be the case that wealthier, larger municipalities have the advantage of larger base budgets enabling them to more easily leverage higher wage systems.

Perceived Reputational Service Quality Hypothesis:

1. Higher perceived reputational service quality is associated with higher wages when controlling for municipal size, workforce, per capita income, and general fund expenditure.

Turnover Hypothesis:

2. Lower turnover or quit rate is associated with higher wages when controlling for municipal size, workforce, and overall wage costs.

Accountability Control Hypothesis:

3. Fewer accountability control mechanisms are associated with higher wages when controlling for municipal workforce, overall wage costs, and reputational service quality.

Wage Costs per Employee Hypothesis:

4. Lower wage costs per employee are associated with higher wages when controlling for municipal size and per capita income.

Organization for This Dissertation

This dissertation is comprised of five chapters, each of which will cover a topic relevant to providing the reader with a holistic view of the subject. Chapter I has introduced the basic case for utilizing higher wages as a strategy in the public sector to produce desirable organizational outcomes related to efficiency wage theory. A brief overview of efficiency wage theory has been provided in addition to a discussion of the practical advantages and disadvantages associated with this theory. In order to ground the efficiency wage theory in a broader context, a brief overview of public-sector

compensation has also been included. Finally, a model depicting the major assumptions being tested by this study is presented along with the major hypotheses that drive this research.

Chapter II has two primary functions. First, in order to better link wages to increased organizational outcomes, the important role that equity considerations and, through this, the labor market play is examined. Second, a review of the most pertinent literature concerning efficiency wage theory is explored. As previously mentioned, the overwhelming majority of this research is concentrated on the private sector; thus, the limited applicability of this research is discussed. In addition to providing an in-depth background on research already undertaken on the subject, a summation of the most pertinent theoretical efficiency wage models and empirical findings is presented.

Chapter III discusses the research methodology used to complete this study in much greater detail than in the first chapter. This discussion includes a detailed introduction to the surveys utilized and data gathered; special attention is given to identifying the strengths and weaknesses of the methodology. In addition, an explanation of the statistical as well as qualitative techniques employed in this study is provided.

Chapter IV presents the findings of quantitative analysis. Readers are also provided with an overview of certain key demographics related to the sample. In addition, emerging patterns in the survey data are addressed by pointing out illustrative examples. These examples have been culled from specific questions in the salary and fringe benefits survey that, while not appropriate for statistical analysis, help to better illustrate some key concepts.

Chapter V makes recommendations regarding the utilization of efficiency wage theory as a method for strategic compensation in the public sector. When drawing conclusions, the results of the statistical analysis, as well as the case study, are relied upon. Ways in which municipal government professionals might utilize this study's findings to guide their own compensation policies are considered. Most of these revolve around linking wages to improved organizational outcomes. Finally, this chapter provides a basis for future research and, hopefully, some ideas for others to follow up on what has already been completed.

CHAPTER II

EFFICIENCY WAGE THEORY:

LINKING WAGES TO IMPROVED ORGANZATIONAL OUTCOMES

Efficiency wage theory centers on the basic notion that organizations experience a variety of benefits, including increased productivity, higher morale, lower turnover, and decreased shirking, as a result of paying their employees higher than average or market-clearing wages. While this theory has only recently been formalized, primarily within the field of economics, the foundations of a wage-productivity link can be traced back as far as 1734 (Weiss, 1990). As previously noted, a review of the literature over the past two decades does not provide much, if anything, in the way of meaningful research on efficiency wage theory in the public sector (Gabris & Davis, 2006). Given this void, it is necessary to undertake a cautious review of the efficiency wage literature, primarily centered in the private sector, in order to analyze how this compensation strategy may benefit public-sector organizations. However, prior to addressing specific research associated with efficiency wage theory, the important role that equity considerations play within the external market should be examined first.

Equity Considerations

Equity considerations are a major concept on which modern compensation systems should be built (Belcher, 1974). At a basic level, equity invokes the concept of

fairness. For example, it is not uncommon for an employee to question whether he or she is being paid fairly in relation to: (1) the broader external market, (2) others doing the same kind of work within the organization, or (3) the individual level of performance being put forth. Perceptions of unfairness regarding pay will likely lead to negative consequences for the organization; conversely, both real and perceived fairness in pay should more fully motivate employees to support the goals of the organization.

Wallace and Fay (1988) contend that compensation systems should take three primary types of equity into consideration: internal, individual, and external. Internal equity involves the amount or value that an organization places on a position relative to other positions within the organization. The most common method for determining internal equity is through the application of some type of job evaluation instrument (Siegel, 1998). Employees, however, can easily become upset with internal equity imbalances if they perceive that their position is being undervalued or underappreciated. Such perceptions can lead to decreased satisfaction with pay (Goodman, 1974; Klein, 1973; Scholl, Cooper, & McKenna, 1987; Weiner, 1980), higher turnover rates (Dittrich & Carrell, 1979; Telly, French, & Scott, 1971), and a reduction in job performance or productivity (Scholl, Cooper, & McKenna, 1987).

Another type of equity involves individual merit. Individual equity varies considerably from internal and external equity inasmuch that less focus is placed on the job relative to the merits of the individual filling that job (Wallace & Fay, 1988). It is of no surprise that some employees are more productive than their counterparts, thus justifying some form of pay differential. According to J. Stacy Adams's (1965) perspective on "exchange theory," employees compare their inputs (pay) and outputs

(work) to one another. Perceived inequity occurs when an employee determines that his or her actual pay level is below what he/she ought to be paid. In order to balance this psychological equation, prudent organizations reward harder-working employees with more than those who do not work as hard.

There remains one more underlying equity reality: namely, that compensation systems must be linked to the external market. For the great majority of public organizations, all other forms of equity pay great deference to the external market. This is because the external market and, hence, external equity are the building blocks around which almost all compensation systems are constructed. A point of caution surrounding this type of thinking, however, is warranted. Scholl, Cooper, and McKenna (1987) contend that pay systems are often designed around the external market to the point of ignoring other types of equity altogether. In order to avoid problems associated with employee absenteeism, productivity and performance, and retention, all three equity constructs need to be taken into consideration (Wallace & Fay, 1988). Regardless, in order to fully understand the theory and benefits connected with efficiency wage, one should think in terms of the "external market."

The External Market

From the standpoint of economists, classic market theory can become quite abstract and multifaceted (see Becker, 1975; Carter, 1999; Dunlop, 1957; Hicks, 1934; Reynolds, 1946; Smith, 1776, for example). In reality, markets must be practically defined and readily measurable. For most public organizations, defining the external market provides the necessary boundaries from which external equity comparisons are

made. It is not uncommon for municipalities within a geographic region to develop a list of comparable communities based on criteria, such as size, affluence, number of employees, proximity, culture, service expectations, and tradition. The list of comparables is normally short (i.e., 10 to 20 municipalities), where the data is collected through various types of salary survey instruments. It is fundamental that public organizations, in order to remain competitive, develop a keen sense of the labor market in which they operate. While some positions within a municipality may involve a broader or even national market (i.e., city manager and a few specialized department heads), the great majority of municipal employees are recruited regionally. Thus, when one considers the idea of efficiency wage, it should be understood as a wage level higher than average within the regional market of municipal comparables.

For this study, the greater Chicagoland region served as the regional market area. Given the highly urbanized nature of this area, where it is commonplace for municipalities to share borders and for citizens to routinely live, work, and shop in multiple communities, it is an ideal location in which to study compensation philosophy through the lens of efficiency wage theory. Moreover, many of the municipalities in this region are roughly comparable in terms of size, affluence, number of employees, culture, service expectations, and tradition. They are also subject to the same state statutory authority, which adds to the strength, validity, and generalizability of the empirical findings.

Overview of Efficiency Wage Models and Empirical Findings

Proponents of efficiency wage theory contend that organizations benefit from paying their employees wage rates that are above market-clearing (i.e., at efficiency wage) levels. In general, the benefits derived from the payment of an efficiency wage occur in one of two ways: (1) by an incentive effect, whereby a job incumbent is compelled to produce more, or (2) by a sorting effect, whereby higher quality applicants are attracted to the organization initially (Gerhart & Rynes, 2003). The incentives for organizations to offer above-market-clearing wages, however, are not necessarily equal. For example, organizations that confer a high degree of discretion and autonomy upon their employees are more likely to benefit from paying an efficiency wage (Arai, 1994). This is because, in these instances, organizational performance is intimately correlated with worker efforts and abilities. Other examples include organizations that rely on a highly skilled or technically advanced workforce or where the sheer size of the organization or geographic dispersion of its employees makes monitoring or controlling behavior exceedingly difficult and likely cost prohibitive (Frank & Cook, 1995; Krueger & Summers, 1988; Milkovich & Newman, 1999).

Efficiency wage theory is also related to implicit contract theory (Gordon, 1974; Rosen, 1985). The phrase “implicit contract” drives at the notion of “a fair day's pay for a fair day's work.” Under this incentive arrangement, higher pay results in a psychological expectation among employees that more is demanded from them. This, in turn, may reduce shirking and lead to less initial dissatisfaction with pay (Herzberg,

1966). One problem with implicit contract theory is the assumption that performance can be measured and adjusted to balance with pay expectations (Heneman, 1992). By encouraging employees to perform to their maximum (Salop & Salop, 1976) they are less inclined to perform at their minimum, which, according to Nalbantian and Schotter (1997), many are otherwise inclined to do.

In the municipal realm, communities may be able to use higher wages in order to leverage more work from incumbent employees as well as a tool for increasing the size and quality of its applicant pools. Moreover, in most instances, larger municipalities will need to pay their professional administrator more than smaller municipalities. It is likely that an administrator working in a larger community has more responsibility and, therefore, requires greater skill in addressing complex issues where the risk of failure can lead to very serious consequences (Frank & Cook, 1995; Henderson & Frederickson, 1996). Under such circumstances, hiring the best available, even if it means paying more, would be cost effective. What follows is a discussion of the primary theoretical models that comprise the basic foundation upon which efficiency wage theory rests. Following this, pertinent results from studies dealing with varying aspects of these models are presented.

Efficiency Wage Models

To date, a number of theoretical models have been developed in order to test the broad assumptions associated with efficiency wage theory. These models include:

- The Shirking Model
- The Labor Turnover Model

- The Adverse Selection Model
- The Wage-Productivity Model

The *shirking model* posits that organizations can utilize above-market-clearing wages in dealing with problems associated with monitoring and measuring employee performance and productivity. Since organizations in both the public and private sectors have only imperfect or fragmented information concerning job performance, some workers are able to shirk their job duties without penalty (Yellen, 1984). For example, Lazear (1979) contends that the absence of an appropriate payment system provides employees an “incentive to cheat, shirk, and engage in malfeasant behavior” (p. 1266). Some organizations may attempt to sidestep these problems by instituting a piece rate or commission-based compensation system; however, the costs associated with maintaining these systems are usually high (Katz, 1986). Moreover, Katz (1986) notes that when an employee is found to be shirking some aspect of his or her job, the punishments available to the organization are “typically limited by legal constraints and social customs” (p. 8).

The shirking model is closely connected to principal-agent theory. Similar to efficiency wage theory, principal-agent theory is grounded in the field of economics and is often used to link together the administrative and political elements of government (Wood & Waterman, 1994). Under this relationship, elected officials serve as “principals” who attempt to persuade the bureaucracy, or “agents,” to follow through with their policy preferences. While the principal-agent relationship is, in essence, governed by a contract specifying the responsibilities of each party involved, Perrow (1986) noted that this relationship is fraught with problems, such as cheating or

imperfect information. Therefore, similar to the shirking model, principals are faced with a limited range of options regarding how to deal with an agent who is choosing to shirk his or her responsibilities.

Under these circumstances, organizations attempt to seek out mechanisms to elicit adequate effort from their employees. Yellen (1984) proposes that one way to discourage shirking is to set wage levels above what a worker could readily obtain elsewhere. By increasing wages, employers essentially turn the tables on their employees, making the threat of termination an important antishirking mechanism (Katz, 1986). Similar to Yellen, Stoft's (1982) "cheat-threat" theory contends that the threat of being fired creates a strong incentive not to shirk. Gerhart and Rynes (2003) point out that this view is consistent with the neoclassicists' model regarding the choice between labor and leisure. Under this model, individuals are assumed to prefer leisure but work in order to support their need for various goods and services. Thus, from the neoclassicists' viewpoint, the work itself does not elicit motivation; rather, the focus is on extrinsic rewards.

Employees choosing to shirk and who ultimately lose their jobs face a limited set of alternatives. For instance, an employee may: (1) attempt to find another high wage job, which is likely to be in very limited supply; (2) accept a lower paying job; or (3) enter unemployment (Yellen, 1984). Employees, thus, choose not to shirk due to the higher wage as well as the risks associated with losing that wage. Of course, employees weigh the consequences associated with job loss differently. Yellen (1984) cites the unemployment rate as a likely consideration, as higher unemployment implies

that the pool of available replacement workers is greater. In this sense, “unemployment plays a socially valuable role in creating work incentives” (Yellen, 1984, p. 202).

Organizations may also offer wages in excess of market-clearing rates in order to reduce the costs associated with turnover. The premise of the *labor turnover model* is identical to the shirking model inasmuch that high wages reduce turnover by making the high-paying job more attractive to current employees than alternative employment opportunities (Katz, 1986; Taylor, 2003; Yellen, 1984). Reducing turnover is most beneficial to organizations where the cost of replacing an employee is high – to the point of exceeding the relative costs associated with paying above market-clearing wages. Put another way, the model predicts that high wages will be present where hiring or training costs are formidable. At the municipal level, jobs in law enforcement, fire protection, city planning, engineering, and information technology often require more extensive costs associated with hiring or training.

A theoretical objection to the labor turnover model commonly noted by economists (see Salop, 1979; Stiglitz, 1984, 1985, for example) centers on the need for organizations to distinguish, in terms of wages, between inexperienced and experienced workers. This is because the same wage is unable to clear the market or be above average for both new hires and trained workers (Salop, 1979). Yellen (1984) suggests that less experienced workers be paid a wage “equal to the difference between their marginal product and their training costs” (p. 203). In order to achieve this, a wage system based on seniority or some type of employment fee structure could be implemented. The risk of moral hazard, where an organization compels an employee to quit or otherwise leave an organization once the initial wage exceeds the market, is

avoided, as it is in the best interest of the organization to maintain its trained workforce. Katz (1986), however, points out that many employees are risk averse; thus, it is unrealistic to assume that organizations can completely eliminate the costs associated with turnover.

According to the *adverse selection model*, organizations that subscribe to a high wage philosophy are more apt to attract a higher quality pool of job applicants, whereas low wage rates attract predominantly low-ability applicants. Among organizations where job performance is directly correlated with worker ability, knowing this is particularly advantageous. Although the model is not directly tested in this study, many residual aspects of adverse selection are present. For example, organizations with a strong, positively correlated wage-productivity link are likely to attract a higher quality pool of applicants initially. Moreover, less shirking, decreased turnover, or reduced absenteeism is likely, at least in part, due to the quality of the applicants being drawn to the organization. Optimally, an efficiency wage organization will be in a position to turn away individual applicants willing to work for less than the going wage. A willingness to work for less, according to Yellen (1984), places an “upper bound on his [or her] ability, raising the firm’s estimate that he [or she] is a lemon” (p. 203).

It should be cautioned that there is a high degree of complexity associated with the idea of linking pay to initial employee quality. Nonetheless, efficiency wage theory makes the assumption that there is a high probability such a linkage exists. From a research standpoint, there are numerous errors associated with measuring initial employee quality. For example, assessments of employee quality are susceptible to rater error, oftentimes rendering such measures spurious. Moreover, there are very few

pre-existing measures of employee quality that one can easily tap into. Some professions, such as law enforcement, utilize large-scale pretest exams. Obtaining this data, however, is extremely complex and sensitive.

Since most organizations are able to collect only imperfect information regarding an applicant's true ability, "random hiring" must be utilized (Katz, 1986, p. 19). This cuts at the heart of the basic theoretical objection to adverse selection; namely, organizations will eventually discover an employee's true ability regardless of the initial wage level offered. Put another way, an organization may offer a starting wage that exceeds the market-clearing rate and still end up hiring a low-ability employee. In this sense, organizations may be better off hiring at the mean and rewarding high performers via some type of performance-based wage system. Nonetheless, it is plausible to hypothesize that a higher starting wage increases the "expected ability" of an employee hired randomly from the applicant pool.

From a sociological standpoint, a high-paying organization may induce greater work effort by winning the loyalty and goodwill of its employees (Taylor, 2003). The *wage-productivity model* attempts to explain this behavior based on principles of appropriate social behavior. This model diverges from the aforementioned efficiency wage models inasmuch that the neoclassical or individualistic maximization assumption is assumed away (Yellen, 1984). For example, Akerlof's (1982, 1984) partial gift exchange theory asserts that worker effort is largely dependent upon group work norms. By encouraging employees to perform to their maximum they are less likely to perform at their minimum (Salop & Salop, 1976). Akerlof argues that high wages serve as one type of encouragement. Essentially, high wages are a "gift" that

employees take in exchange for the “gift” of improved work norms and increased individual performance and productivity.

According to Akerlof (1984), the assertion that wages enhance job satisfaction and in turn increase employee performance brings up a basic empirical question: “All things being equal, do workers with greater pay produce greater output?” Akerlof offers Adams’s (1965) work on overreward inequity as empirical support for this question; however, he acknowledges, “Not all studies reproduce the result that ‘overpaid’ workers will produce more” (p. 82). Thus, the wage-productivity model may help alleviate questions deemed counter to neoclassical thought, such as: Why do organizations not always fire less productive employees? Why are piece rates not used, even when their use would be quite feasible?

One objection to the wage-productivity link is that not all employees will view above-market-clearing wages as gifts or above average but as merely fair. In this sense, employees are less inclined to accept high wages in exchange for increased effort. In turn, this forces organizations to accept above-average wage costs without any of the added performance gains. Akerlof and Yellen (1990), in response to this criticism, propose the fair wage-effort hypothesis. Under this hypothesis, which is premised largely upon equity theory, workers perceive a “fair” wage and compare it to their “actual” wage. If the actual wage is conspicuously lower than what they perceive to be fair, a drop in performance is likely to occur. Depending on the “wage-effort elasticity” and the cost associated with shirking, turnover, or decreased performance, the fair wage may form a key part of the wage bargain (Akerlof & Yellen, 1990).

Empirical Findings

According to Leonard (1987), there is a “long tradition” of differences in wages paid for the same occupations across organizations (p. 139). This is true even of those organizations drawing from the same general labor market. For example, Dunlop (1957) noted that in Boston in 1951 the industry with the highest pay for truck drivers paid 1.88 times as much as the lowest paying industry. In another example, Slichter (1950) observed that the hiring rates among 85 Cleveland-based firms ranged from \$.50 to \$1.09 an hour in February 1947. Such variations are commonly referred to as an industry-wage differential.

One would assume that, over time, the market would fluctuate to such a degree that industries would take turns being the wage leader; however, industry-wage differentials appear to be highly stable and persistent. Wage differentials provide an empirical challenge to alternative labor market models inasmuch as it makes accounting for differences in labor quality difficult. A standard competitive labor market model depicting industry-wage differentials requires differences in either labor quality or so-called “non-wage dimensions” (Katz, 1986, p. 25).

In the aforementioned example, Slichter found that the differential remained constant even though the Cleveland Chamber of Commerce had been compiling and distributing wage rates to area businesses for over twenty years. Other scholars, such as Cullen (1956), Reder (1962), Bell and Freeman (1985), and Krueger and Summers (1987), have presented evidence of persistent industry-wage differentials, which,

according to Leonard (1987), has created a “century of persistent and largely unexplained industry-wage effects” (p. 139).

A review of the industry-wage effect literature, however, reveals two regularities that are likely responsible for systematic differences in pay within occupations across organizations. First, higher wages are generally associated with higher profits. This “ability-to-pay” hypothesis is most notably supported by Dickens and Katz (1987) and Krueger and Summers (1987). In the context of the public sector, it would stand to reason that more affluent municipalities have larger tax bases, higher revenues and, hence, are in a better position to offer higher wages. Second, there is a strong relationship between wages and organizational size (see Brown & Medoff, 1985, for example). Larger municipalities, as determined by the number of full-time employees, are likely to generate more revenues and, thus, offer higher wages than their smaller counterparts. In addition, larger municipalities may need to increase wages in order to more vigorously compete with the private sector for personnel. Writing in support of the shirking model, Leonard (1987) noted, “Assuming that direct supervision is more difficult in larger [organizations], [size] can be taken as direct evidence in favor of the efficiency wage hypothesis” (p. 139).

What is much less obvious is *why* an organization would decide to share its extra revenues with its employees. Unobserved quality differences in workers, leading to both increased wages and profits, offer one explanation (Cain, 1976). The morale-productivity aspect of efficiency wage theory offers another. A basic implication of the theory is that, if the conditions necessitating the payment of above-market wages vary across industries, then the optimal wage being offered within an industry will likely

differ (Katz, 1986). This helps explain why employees with varying organizational affiliations but otherwise identical productive characteristics may be paid differently. Each model associated with efficiency wage theory attempts to identify organizational characteristics, such as high monitoring or training costs that best predict wage premiums.

To elaborate, the shirking model predicts that wages will be high where monitoring costs are large, allowing increased wages to serve as a surrogate to intensive monitoring activities. This, however, is in direct conflict with the theory of “compensating wage differentials.” This theory predicts that the relationship between autonomy and wages is negatively correlated insomuch that, in order to recruit an adequate labor supply to fill low-autonomy jobs, organizations must offer higher wages (Arai, 1994). The labor turnover model predicts that above-market-clearing wages will arise where recruitment and training costs are high. In instances where labor quality is not readily observable or measurable, higher wages, as implied by the model of adverse selection, will prevail. The wage-productivity model suggests that higher wages are most likely present where interpersonal relations, such as teamwork, are important (Katz, 1986). The primary point is that these models view wage differentials not only as a function of industry type but also with regards to the subtler differences present within the industry.

Despite the claims of efficiency wage theory, there is surprisingly little direct evidence that higher paying organizations reap benefits greater than otherwise similar organizations. Put another way, while the theoretical benefits associated with the use of an efficiency wage are well documented, empirically the evidence is relatively sparse.

Regardless, a review of the available empirical evidence is warranted. Pertinent results from studies, overwhelmingly conducted within the confines of the private sector, are provided below.

The shirking model is predicated on the notion that above-market-clearing wages create incentives for better job performance, as substandard performance may lead to the loss of the higher wage. Shapiro and Stiglitz (1984) have found support for the use of wages as a form of control. However, based on interviews with over 300 U.S. business leaders, Bewley (1998) refuted this finding, stating, “Managers did not believe that higher pay brings greater work effort” (p. 486). In fact, almost universally, these managers stated that negative incentives and threats were actually harmful, as they “invited revenge” (Bewley, 1998, p. 486). Creating interest in one’s work, providing sufficient training, cultivating interpersonal relationships between management and employees, and recognizing employee achievements were the most common ways cited in which to elicit increased effort.

There is no question that monitoring individual performance is not always easy and it can be cost prohibitive. From a practical perspective, effort is more readily measurable in instances where employees are working on a piece rate or commission basis; however, even this type of measurement is fraught with error. For instance, Brown and Medoff (1989) estimated that the existence of piece rates in an organization would translate into fewer costs associated with employee monitoring, as effort is readily measured via output. However, contrary to their prediction, the authors found that piece-rate employees working in large organizations earned higher wages than those working for piece rates in smaller organizations (Brown & Medoff, 1989). The

authors determined that organizational size, as opposed to the performance measurement system being utilized, was a better predictor of wages. Consistent with Brown and Medoff, Kruse (1992) found that a rise of one standard deviation in organizational size resulted in an approximately 6.8% increase in wages, after controlling for personal characteristics, occupation, and industry.

Calculating the supervisor-to-employee ratio is another possible measurement. According to Kruse (1992), the relationship between supervisor intensity and wages is defined by five theoretical predictions:

1. A negative relationship will exist when employees of equal ability, working in similar jobs, are being compared.
2. In general, managers choose to supervise high-ability or high-performing employees less closely. Given that individual ability is difficult to capture and, thus, rarely measured, much of the effect is lost in empirical studies.
3. Some employees hold occupations that, for whatever reason, pay more and require less supervision. Similar to individual ability, occupational differences are rarely captured.
4. In some instances, higher wages may be necessary to attract individuals into a particular profession.
5. Some organizations are acutely concerned with individual work quality and, thus, may systematically choose to pay an efficiency wage and closely supervise employees.

For example, Groshen and Krueger (1990) utilized data from 300 U.S. hospitals to determine whether those hospitals with a greater ratio of supervisors to employees

tended to pay lower wages. Consistent with the shirking model, Groshen and Krueger found that increased supervision resulted in lower wages; however, they cautioned that their results might also be due to individual ability differences, as the only measure of labor quality was “occupation” (pp. 138-144). In another study, Leonard (1987) found little evidence in support of the shirking model when the ratio of supervisors to employees is the primary indicator of monitoring intensity. Similar to Groshen and Krueger, Leonard did not control for individual ability differences, which would likely influence his findings.

In a study examining full-time and part-time nonagricultural employees, Arai (1994) questioned whether the efficiency wage argument had any empirical validity in Sweden. Although the Swedish labor market operates under a central wage-based system, Arai pointed out that wage increases are determined by way of “firm-level negotiations” (p. 251). In this sense, organizations negotiate an optimal wage level based on a unique set of characteristics, which, in turn, creates the potential for a substantial wage differential. Arai hypothesized, in line with the shirking model, that increases in monitoring difficulty or monitoring cost will lead to increased wages being paid. Rather than focusing solely upon monitoring intensity, Arai reasoned that monitoring difficulty might more accurately portray an organization’s decision to pay an efficiency wage. Put another way, when an employee is more readily able to vary his or her effort, known as effort variation, the likelihood that an organization will offer an above-market wage increases. Effort variation is a measure of job autonomy; thus, higher levels of autonomy should be coupled with increased pay.

Arai examined this relationship separately for public- and private-sector employees. In sum, the relationship between autonomy and pay was positive and significant for private-sector employees, whereas the relationship was negative and significant for public-sector employees. Specifically, private-sector employees whose jobs afford a high degree of autonomy, coupled with monitoring difficulty, were found to earn approximately eight percent more than nonautonomous, more easily monitored employees; nonautonomous employees in the public sector were found to earn roughly three percent more than their autonomous counterparts. Arai noted that it is unlikely that these findings were due to individual ability differences, as such a finding would not account for why the two sectors would be influenced differently.

Practically speaking, differences in the relationship between autonomy and wages in the private and public sectors may be explained by the difference between the organizations' incentives to pay high wages. The role of wages is two-pronged in that they: (1) are offered at a high-enough level to attract potential employees to an organization initially and (2) may influence employee performance and productivity. In the private sector, an organization's output is expressed by the size of profit, whereas such evaluation is much more ambiguous or simply irrelevant in the public sector (Arai, 1994). Moreover, public employees' personal wealth is not influenced to any large extent by organizational output (i.e., stock options). Finally, public organizations are more restricted in the way that wages can be used to create work-effort-related incentives. It can therefore be argued that the private sector has greater flexibility in using wages to reward or punish an employee who shirks, compared to the public

sector, and that any observed differences in autonomy and wages between these sectors are likely attributable, at least in part, to such factors.

In regards to the shirking model, a relative irony among public-sector organizations is that elected officials oftentimes place such a strong emphasis on employee accountability that the value associated with a reduction in supervision may not be viewed as beneficial. It is, however, fair to question: “What kind of accountability is most important?” For instance, if citizens perceive that their municipality is providing high-quality services overall, a strong case can be made for making individual employees less accountable to more formalized types of control. Put another way, if efficiency wage organizations are shown, as this research hypothesizes, to provide a higher level of service quality overall, then perhaps the often cumbersome, error prone, and sometimes cost-prohibitive measures of individual accountability can be dropped.

The labor turnover model, specific to efficiency wage theory, argues that offering above-market-clearing wages is actually a cost saving strategy. In this sense, the higher expense associated with the payment of above-average wages is less costly than the expense associated with the recruitment and training of new personnel. There is a relatively large body of literature exploring the effect of wages on turnover or quit rates. In essence, this literature puts forth the notion that voluntary turnover should decline when an organization offers wages that are higher than those being offered by its competitors. This relationship is supported both theoretically (Salop, 1973) and empirically (Parsons, 1977; Smith, 1977). Somewhat surprisingly, however, there is

relatively little direct evidence that higher wage rates are, in fact, associated with lower turnover or quit rates.

In the aforementioned study, Leonard (1987) found a significant, yet small, effect of wages on turnover. Leonard examined the total number of separations among nonexempt employees in 200 high-technology organizations for a period of six months. The average six-month turnover rate for all organizations included in the sample was 25%. After controlling for wages, total employment, occupational composition, industry, and area, the wage effect reduced turnover by approximately four percent. Thus, on the surface, it appears that the basic prediction of the labor turnover model is borne out: higher wages are correlated with lower turnover.

Leonard, however, questioned whether the association between wages and turnover is: (1) strong enough to adequately explain wage variation across organizations and (2) actually a cost saving strategy. In the first case, he noted that the variation between turnover and wages is considerable, with the former not being highly correlated enough with the latter to account for this variation. The second question was addressed by calculating the marginal cost of turnover and then comparing it to the added cost of wages. Leonard found that, on average, turnover costs would need to exceed roughly \$58,000 per employee in order to be profitable. Given an average yearly per employee salary of \$15,500, there is little reason to assume that turnover costs would approach anywhere near this estimate. Therefore, while Leonard was able to show that higher wages were associated with lower rates of turnover, the potential savings associated with this reduction did not exceed the costs associated with the payment of higher wages.

Using data from 52 metalworking and engineering firms in the U.K. during the early 1980s, Wilson and Peel (1991) found no significant relationship between wages and turnover. Rather, according to Wilson and Peel, union representation and the presence of financial incentives, such as profit sharing or overtime pay, resulted in the most significant decreases in turnover. This finding has been supported theoretically by Florkowski (1987) and empirically by Rhodes and Steers (1981) and Hammer, Landau, and Stern (1988). However, Allen (1984) cautions, “[T]he effects of wages on absence rates cannot be unambiguously predicated. It will depend on whether the substitution effect of higher wages (lowering absences) dominates the income effect (raising absences)” (p. 34). For example, the availability of overtime pay (i.e., the substitution effect) has been shown to actually increase absenteeism and, thus, turnover (Martin, 1971). However, in instances where pay and attendance have been overtly tied together, absenteeism decreased (Lawler, 1971).

Using data on 205 childcare establishments, employing 3,746 teaching staff, Powell, Montgomery, and Cosgrove (1994) examined the impact of wages and fringe benefits on turnover or quit rates. In order to control for differences in employee skill levels, Powell et al. differentiated between teachers and teacher aides. Moreover, the authors noted that few respondents were able to provide specific data related to their organization’s fringe benefits package; thus, respondents were asked to indicate whether one of 17 predefined benefits, such as health and life insurance, paid vacation, sick leave, planning time, and pension benefits, were offered (Powell et al., 1994).

Using data from the U.S. Chamber of Commerce, Powell et al. estimated that offering all 17 fringes would comprise roughly 18% of the average childcare center’s

total compensation bill. The authors found an association between wages and turnover; specifically, a one-dollar increase in wages amounted to an approximate three percent decrease in turnover among teachers and one percent decrease among teacher aides. Interestingly, other than the presence of a “significant” employee pension, fringe benefits were not shown to have any statistically significant impact on turnover among either skill group (Powell et al., 1994, p. 242).

Similar to Leonard (1987), Powell et al. (1994) questioned whether the amount saved through reductions in turnover outweighed the costs associated with higher wages. In this instance, the average cost per turnover would need to exceed more than \$81,000 to be profitable. Their analysis, thus, coincided with Leonard’s findings insomuch as the effect of wages, when compared to turnover costs, is fairly small. Of course, it is possible to argue that higher wages do more than reduce turnover. Henry Ford (1926, p. 155) once stated, “[P]aying a high wage has the same effect as throwing a stone in a still pond.” Put another way, decreases in the turnover or quit rate is but one premise of efficiency wage theory. For instance, the effects of high wages are likely felt through other means, such as increased ease in filling vacancies, reduction in day-to-day absenteeism rates, and increased effort. Undoubtedly, the presence of any one of these effects would increase – in some instances substantially – the costs associated with turnover. Neither Leonard nor Powell et al. take these effects into consideration, thus, rendering their findings somewhat misleading.

In one of the few studies looking at the effectiveness of efficiency wage theory in the public sector, Kim (1999) examined turnover among the State of California’s Civil Service. Using data collected by the U.S. Bureau of Labor Statistics, Kim

analyzed wage and turnover data for approximately 40 of California's 4,000 occupations. While proportionately only a few occupations were examined, a fact that is also acknowledged by Kim, it should be pointed out that the occupations were selected based on their sensitivity to external market forces. Put another way, these occupations are commonplace in the broader labor market and, thus, are "most likely to be influenced by labor market competition" (Kim, 1999, p. 589). In general, Kim found that wages have little or no effect on the turnover or quit rate among the California Civil Service. In line with the aforementioned studies by Leonard (1987) and Powell et al. (1994), Kim noted that any reductions in turnover attributable to the payment of higher wages would not be substantial enough to offset the increased wage costs.

Interestingly, but not necessarily surprising, the unemployment rate emerged as the best predictor of turnover. Moreover, Kim found evidence that employees, while not necessarily concerned with their wage relative to other organizations, are concerned with their absolute wage and recent wage changes. In other words, an employee's knowledge of whether their job is simply paid low, coupled with his or her level of satisfaction concerning recent wage increases, is more important than the wage being paid relative to what other organizations pay.

Kim's finding is supported, at least theoretically, by Campbell (1994), who put forth a model depicting an employee's decision to quit as most dependent upon the perceived level of satisfaction with his or her average wage increase. From this, it is not difficult to infer the potential implication of this model, as well as Kim's finding, for efficiency wage theory. In general, organizations would no longer have an incentive to offer a higher wage initially; rather, the focus would be shifted toward employee

retention via more pronounced wage increases. This, however, runs directly counter to the adverse selection model.

The model of adverse selection is premised on the notion that higher wages increase both the breadth and quality of an organization's applicant pool. Kaufman (1984), utilizing interview data with managers from 26 organizations in the U.K. with a median employee size of seven, questioned whether "qualified personnel" could be found "at less than current wages" (pp. 101-102). The most common response indicated that competitive wages were necessary to attract qualified personnel; however, a few managers expressed a belief that above-market wages could be used to attract a more qualified applicant pool overall.

In another study, Krueger (1988) found that the application rate and applicant quality for public-sector jobs increased as the ratio of public-to-private-sector pay increased. Moreover, Holzer (1990) found that increased wages led to contracted vacancy rates, enhanced the perceived ease of hiring, and reduced the time devoted to informal training. This finding would seem to substantiate Lester Thurow's (1975) queue theory, stating that potential job applicants form a queue competing for positions as they become available. Finally, according to Ehrenberg and Smith (1988), higher pay may not only lead to better initial applicant pools but may also reduce turnover or quit rates compared to organizations paying less.

In general, much more empirical work is needed to uncover a sufficient amount of direct evidence associated with adverse selection. Moreover, as previously noted, the adverse selection model is not directly being tested in this research. This is primarily due to the substantial difficulty involved in the data collection process. In order to test

this model directly, an organization would not only need to be willing to share its wage data, but would also need to provide information regarding the number of applicants as well as some measure of applicant quality. This is assuming, of course, that organizations compile this kind of statistical data in the first place.

The wage-productivity model is most commonly addressed from a sociological viewpoint; namely, by winning the loyalty and goodwill of its employees, high-paying organizations may experience measurable gains in performance and productivity. However, it should be noted that, similar to the adverse selection model, the empirical evidence surrounding the wage-productivity model is sparse. In order to better illuminate the basic tenets of this model, three studies are discussed below. The first study examines Henry Ford's decision in 1914 to double autoworker wages and the impact this decision had on plant productivity levels. The second study looks at the morale levels for employees at the municipal water utility, a leading proponent of efficiency wages, in Denver, Colorado. The third study examines the relationship between team payroll and team performance in Major League Baseball from 1985 to 2002. Although these studies are highly varied in topic, taken together they provide a basis for the wage-productivity model, as well as a foundation from which this research can build.

In 1914, Henry Ford decided to double the rate of pay for autoworkers to five dollars per day. As mentioned in the previous chapter, Ford considered this to be a cost saving strategy due to such residual effects as lower employee turnover, better applicant pools, less frequent shirking, and improved productivity. While Raff and Summers (1987) were unable to find direct support for this hypothesis, there is evidence – albeit

anecdotal – that the increased wage rate positively impacted productivity. For example, Klann, a production foreman at that time, noted the company’s desire to increase productivity, stating, “[They] called us in and said that since the workers were getting twice the wages, [the management] wanted twice as much work. On the assembly lines, we just simply turned up the speed of the lines” (Klann, n.d., p. 84, quoted in Raff & Summers, 1987, p. 81). The data available from 1912-1918 indicate substantial productivity gains of approximately 55%; however, whether this strategy truly motivated employees to increase productivity or simply prodded them to perform at a quicker pace is not known (Raff & Summers, 1987).

Leavitt (1996) examined the morale levels of employees working for the municipal water utility in Denver, Colorado. The municipal water utility is a non-union organization with more than 1,000 employees. It directs its own civil service system, whose responsibilities include setting and maintaining wage rates. In terms of wages, the utility is known as a community leader, having positioned itself at approximately the 75th percentile of market pay rates for several years. Testing a number of basic assumptions associated with efficiency wage theory, Leavitt found that the utility had very low turnover or quit rates as well as a large pool of job applications vying for positions. However, he also found a number of unexpected negative consequences concerning this pay strategy. For example, employees expressed a high degree of dissatisfaction when discussing their chances for advancement within the organization and believed that the number of qualified people deserving advancement far exceeded the number of opportunities available. Moreover, a significant percentage of the employees indicated they would seek outside employment when asked, “Would you

accept a job at another company, doing the same job as you do here, with the same pay and benefits?" (pp. 335-336). Whether the employees in this organization were any more or less productive than their lesser paid counterparts was not specifically addressed. However, it stands to reason that dissatisfied employees are also less productive employees.

Wiseman and Chatterjee (2003) examined the relationship between team payroll and team performance in Major League Baseball (MLB) from 1985 to 2002. They noted that, from 1985 to 1990, there was very little variability in salary levels among MLB teams. However, from 1991 to 1997, a period during which two work stoppages (i.e., 1994 and 1995) occurred, substantially more variability in MLB team salaries began to emerge. Since 1997, this variability has increased virtually unfettered, with the median MLB team salary rising every year except in 2002. The growing disparity between the highest paying teams and lowest paying teams has, in essence, created a wage system premised on efficiency wage theory.

Specifically, Wiseman and Chatterjee undertook a test of the wage-productivity model by examining whether there is a relationship between team performance and average team salary. Generally speaking, they found a strong relationship between on-the-field team performance and team salary. From 1998 to 2002, the average difference in the number of games won between teams whose salary was among the top 25% and teams with salaries in the bottom 25% was 14.7 games. This differential was 10.7 games in the period from 1991 to 1997 and just 5.5 games from 1985 to 1990. Consistent with the wage-productivity model, higher paying teams experienced a higher level of performance and productivity, defined in terms of the average number of games

won. It should be noted that Wiseman and Chatterjee did not examine whether productivity increased on a player-by-player basis. This, however, should not offset their basic finding that productivity, at least collectively, was improved among teams with the highest average salaries.

Conclusion

The preceding discussion was aimed at giving the reader a deeper understanding of the broad assumptions, theoretical models, and empirical data associated with efficiency wage theory. Although steeped in theoretical rigor, the shirking model, labor turnover model, adverse selection model, and wage-productivity model are supported to a lesser degree empirically. Some of the trends associated with the empirical findings are summarized as follows:

- There is a long history of differences in wages paid, known as industry-wage differentials, for the same or similar occupations across organizations.
- Generally speaking, higher wages are strongly correlated with higher profits and organizational size.
- The use of wages in order to control employee behavior or curtail shirking is empirically supported. Consistent with the shirking model, increased supervision and decreased autonomy are associated with lower paying jobs.
- The correlation between higher wages and lower turnover or quit rates is mixed.

While there appears to be some evidence that higher wages reduce turnover, most studies indicate that the average savings earned via reductions in turnover do not exceed the increased cost of wages. These studies, however, fail to take into

account a number of potentially cost-saving mechanisms associated with reduced turnover, such as an increased ease in filling vacancies, reduction in day-to-day absenteeism rates, and increased effort.

- There is limited evidence that higher wages lead to larger, more qualified applicant pools.
- Higher wages are positively correlated with improved levels of performance and productivity. However, similar to the adverse selection model, much more empirical analysis is needed in order to fully explore this relationship.

In Chapter III, the methodology used in completing this study is discussed in much greater detail than in the first chapter. This discussion includes a detailed introduction to the surveys utilized and data gathered; special attention is given to identifying the strengths and weaknesses of the methodology. In addition, an explanation of the statistical as well as the qualitative techniques employed in this study is provided.

CHAPTER III

DEVELOPING THE RESEARCH METHODOLOGY

Study Design and Method of Research

To date, different methodologies have been utilized in studies dealing directly with efficiency wage theory. The studies detailed in the preceding chapter demonstrate the potential success or failure of this compensation strategy; however, these studies, with the exception of Kim (1999) and Leavitt (1996), examined only private-sector organizations. It should also be noted that the vast majority of these studies utilized either surveys exclusively or mixtures of surveys and elite interviews. Kaufman (1984) and Leavitt (1996), however, successfully used a strictly qualitative methodology to test efficiency wage hypotheses. In essence, the design and method for this research was laid out in order to improve upon the methodologies used by previous studies. Moreover, by focusing exclusively on the public sector, this research creates a foundation upon which future studies may build.

Obtaining an accurate portrait of municipal compensation across a large metropolitan area is a difficult and complex task. To this end, this study relied upon the collection of original survey data as well as an illustrative case study employing a qualitative methodology. Generally speaking, the surveys provided a broad array of quantifiable data pertaining to a municipality's pay strategy, current wage levels, and

perceived level of performance. The case study was undertaken in an effort to garner information on the political environment, atmosphere, and other less tangible variables necessary for the successful implementation of an efficiency wage strategy. A small selection of elite interviews was conducted for the case study. While the interviews serve as an important source of data, they most notably provide context to the more abstract qualities of efficiency wage theory.

By approaching the study of efficiency wage theory from multiple angles, it is hoped that a high degree of validity pertaining to the theory's effectiveness in the public sector will be achieved. What follows is a discussion of the research design, justification for choosing the design, and a synopsis of the process of carrying out the design. The specific research variables utilized are included, followed by a brief description of how these variables were measured. In addition, the research hypotheses outlined in Chapter I are restated and, when applicable, linked to existing efficiency wage literature.

Selection of the Sample

This research utilizes a sample of municipalities from the Chicago metropolitan area. This area is defined as the Chicago suburban metropolitan area (SMA), stretching from the Indiana border on the south to the Wisconsin border on the north to the DeKalb County border on the west. Confining this study to a single region makes sense from the standpoint that all of the municipalities located in this area are potentially part of the same labor market. It is conceivable that individuals can travel between these communities with relative ease, thus creating region-wide employment

opportunities. A municipality's status as a recognized member of the International City/County Management Association (ICMA) served as the primary impetus for determining whether it was included in this study (ICMA, 2006). Such recognition ensured that the municipality employed a professional administrator, typically under the council-manager or council-administrator form of government. This resulted in an initial population of 166 municipalities, from which results were collected for 79, or $\approx 48\%$, of those surveyed. For a numerical breakdown of the municipalities by county, see Table 2.

Table 2

Number of Municipal Locations by County

Cook County	26
DeKalb County	1
DuPage County	14
Grundy County	1
Kane County	6
Kankakee County	1
Kendall County	2
Lake County	12
McHenry County	9
Will County	6

N = 79

In general, municipalities are dispersed throughout the Chicago SMA; however, the largest concentrations are found in the western and northwestern suburbs. Responding municipalities, organized by county, are depicted graphically in Figure 2 and listed alphabetically in Appendix C.

Survey Questionnaires

Survey questionnaires formed the primary component of the data collection process. Two separate written survey instruments were distributed to all ICMA-recognized municipalities in the Chicago SMA: a salary and fringe benefits survey and reputational service quality questionnaire. Much of the data was collected from an earlier project conducted by the author, in conjunction with Dr. Gerald T. Gabris, that examined the broad impact of wages on municipalities located throughout Illinois, Missouri, and Wisconsin. For this study, however, a concerted effort was made to increase the sample size, which included two additional mailings and follow-up telephone calls to the intended respondent. In all, responses were collected from 79, or $\approx 48\%$, of the 166 ICMA-recognized municipalities in the Chicago SMA. For both studies, data was collected during fall 2005 and spring 2006. The salary figures reported are for FY 2006.

As a rule, individual responses were kept confidential. The municipality that the response came from was identified on the returned surveys. Information was used both in the aggregate and as it pertained to individual municipalities. Also, responding municipalities were provided with a summary of the results. The results provided only aggregate data and did not identify individual communities.

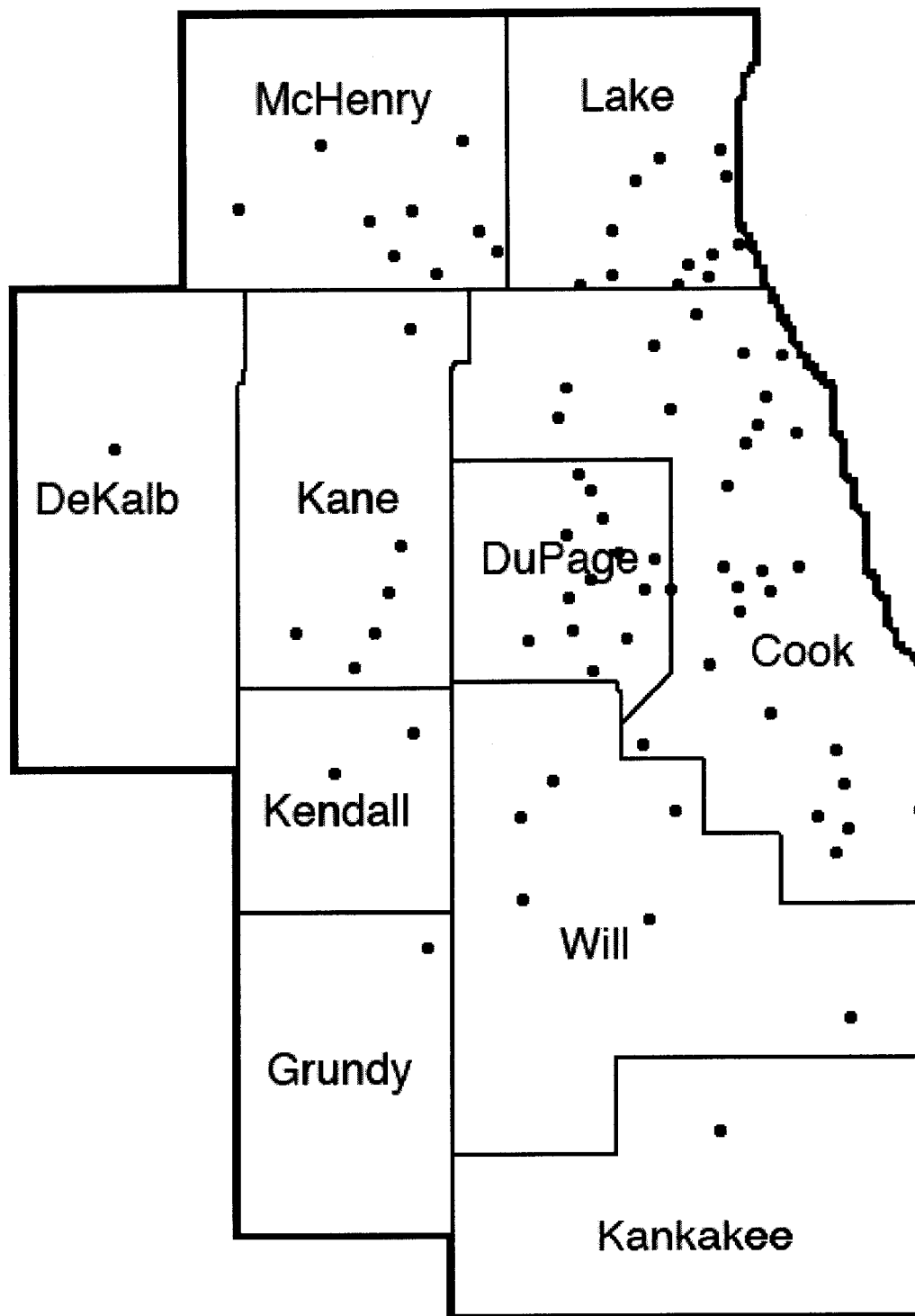


Figure 2. Chicago SMA responding municipalities.

Salary and Fringe Benefits Survey

Respondents were asked to complete a fairly lengthy survey designed to collect salary data on a wide variety of benchmark jobs. Additional questions pertaining to fringe benefits were also included. The salary and fringe benefits survey was distributed to the individual responsible for the municipality's personnel or human resources function. In some instances, this individual was the human resources manager. In other instances, the assistant city administrator or city administrator carried out the human resources function. Municipal size or population and the number of full-time employees appear to be the primary factors in determining whether the municipality has a dedicated human resources manager. Therefore, as a rule, the salary and fringe benefits survey was directed to the individual responsible for overseeing the municipality's human resources function. For a copy of the salary and fringe benefits survey, see Appendix D.

For the purpose of clarity, and in line with existing efficiency wage studies, compensation is addressed from a strictly wage perspective. In other words, the analysis has not been confounded by any "total compensation" models, which combine salary with fringe benefits. As noted in Chapter I, accurately converting or placing a dollar value on fringe benefits, such as health care or paid vacation, is an extremely difficult undertaking. For example, making an across-the-board comparison of the out-of-pocket health-care costs that a municipality pays per employee would not accurately capture the true value of that fringe benefit. It could be that the higher paying

municipality has only a few employees and, therefore, must likely pay more for health care than a very large community.

In addition, one might surmise that the value of a municipality's pension plan would be included in a study addressing compensation. While it is true that the value added by a pension plan contributes to an employee's overall compensation package, in reality there is very little difference in the value added, as most municipalities participate in the same system: the Illinois Municipal Retirement Fund. It is, thus, conceivable that employees are content knowing that a pension plan is available and are willing to forgo knowing the actual dollar value added.

This brings up another fundamental point regarding fringe benefits; namely, the dollar value added by a fringe benefit is oftentimes difficult for an organization to calculate and relay effectively. A cursory glance through current municipal job postings will typically provide the wage being offered and a summary of the benefits provided. Prospective employees, thus, are easily able to compare differences in wages for similar jobs between communities as well as make note of the type of fringe benefits offered, which are likely comparable.

A review of the benefits literature does not provide any guidelines or best practices for ascertaining the true value of a municipality's fringe benefit package. Moreover, there are no recent databases or sources of fringe benefits that may be accessed. Of the data that does exist, the results are typically aggregated between public, private, and nonprofit organizations, or else they focus on private employers exclusively. For instance, the U.S. Department of Labor conducted national state and local government fringe benefit surveys in both 1994 and 1998; however, those surveys

combined state and local employees together and failed to provide data on the percentage of municipal governments providing specific benefit types (Roberts, 2004). Other local government benefit surveys focused only on a single category of benefits, such as health care (Daley, 1993; Perry & Cayer, 1997; Strieb, 1995, 1996), while other studies employed metro area or “convenience samples” to assess a broader, aggregated array of benefits (Fredericksen & Soden, 1998).

The salary data collected serve two primary purposes. First, the data were used to calculate an overall average wage rate for each municipality. This calculation was completed by summing the average reported salary for each benchmark position surveyed divided by the total number of jobs reported. Where a municipality employed more than one individual in a given job, respondents were asked to report the average combined wage. Put another way, a municipality employing two or more patrol officers, all of whom earn varying wage rates, reported the average salary for all officers. This resulted in a single wage point that could then be used to determine the overall average municipal wage rate. This particular technique was utilized because municipalities commonly employ a similar standard, typically via salary surveys, when setting wage rates.

Having determined the average wage rate paid by each municipality in the sample, the salary data were used to calculate an average wage rate for the entire Chicago SMA. This calculation was completed by summing each municipality’s average wage rate divided by the total number of municipalities in the sample. This calculation resulted in a single wage point, which for this study is referred to as the regional wage benchmark. The regional wage benchmark is a summation of the

average municipal wage rates paid within a given region. Put another way, the Chicago SMA comprises a single region; all of the municipalities falling within this region were used to calculate the regional wage benchmark.

In order to effectively compare wage levels across a large region, a ratio was calculated for each municipality. This ratio is referred to as the market wage ratio and serves as the independent variable of primary importance. The market wage ratio was calculated by dividing a municipality's average wage rate by the regional wage benchmark. Municipalities paying above this benchmark and, hence, with a wage ratio greater than 1.00 pay an efficiency wage; those that pay below this benchmark or with a ratio less than 1.00 are not considered to be an efficiency wage community.

The regional wage benchmark and number of Chicago SMA municipalities falling above and below this benchmark are reported in Table 3.

Table 3

Chicago SMA Regional Wage Benchmark and Wage Ratio

Regional Wage Benchmark	\$71,088 or 1.00 wage ratio
Municipalities with Ratio > 1.00	35
Municipalities with Ratio < 1.00	44
N = 79	

As indicated by the data, the number of municipalities paying above the regional wage benchmark versus those paying below is roughly similar. It should be noted, however, that slightly over half (N = 40) of the municipalities cluster within .10 above or below the regional benchmark. Put another way, 40 out of 79 municipalities have a market wage ratio ranging from .90 to 1.09. Only 18 municipalities have a ratio greater than 1.10. This suggests that most municipalities pay near the mean, which is consistent with traditional scholarship, indicating that municipal officials are most comfortable paying an average market rate. In fact, when asked the question, "Which of the following compensation philosophies best describes your community?" the majority of survey respondents (N = 49 of 75) indicated, "We strive to pay at the mean/average rate." Only 15 responded, "We strive to pay at a higher overall rate than other comparable municipalities in the region." Thus, the actual number of communities paying a wage that is noticeably higher than the regional average and the number of respondents indicating that their community strives to pay an efficiency wage are largely consistent.

Reputational Service Quality Questionnaire

Each municipality that received a salary and fringe benefit survey was also sent a reputational service quality questionnaire to complete. For a copy of the reputational service quality questionnaire, as well as other supporting documentation, see Appendix E. In this survey, the respondent, or professional administrator, was asked to identify municipalities within his or her service region known for providing highly innovative, high-quality services. It was reasoned that professional administrators know each other

quite well through their professional networks, making them relatively cognizant of how well each other's municipality is doing. The respondent could identify as many or as few communities as he or she wished for a variety of core service areas.

Respondents were also given the option to designate municipalities as offering high-quality services overall. This designation was based on the 11 core service areas listed in Appendix B and noted on the questionnaire. The logic behind the reputational service quality questionnaire was to ascertain whether highly reputable communities would arise from the mix by receiving multiple hits from different professional administrators.

Municipalities were assigned a reputational service quality (RSQ) score based on the number of mentions received; mentions for the "all services" category were weighted to account for each of the 11 service areas considered. Scores ranged from 0 to 127, with an average score of ≈ 20 . Addressing the impact of wages on service quality via a reputational analysis adds a new dimension to the efficiency wage literature. Previous studies have typically attempted to measure service quality through some measure of productivity, such as the impact that Henry Ford's decision to double autoworker wages had on production or Wiseman and Chatterjee's (2003) research pertaining to the impact of wages on Major League Baseball.

Measuring service quality within the realm of the public sector is a relatively tenebrous process. Similar to private-sector manufacturing, municipalities produce many tangible outputs, such as new roads and police protection. Municipal outputs, however, differ greatly in that it is often difficult to gauge their true value. For example, quantifying the value of a new road or increased police protection is a less

than straightforward process. While one could measure the miles of new road added or compare yearly crime rates, such measures do not take into account variations in service quality. In other words, knowing whether a public works department is highly productive does not mean it produces a higher quality of product. It is possible that some municipalities decide to repair damaged roads, either out of preference or necessity, while others prefer to simply replace such roads with brand-new roads. In a similar vein, crime rates do little to explain why one municipality experiences a reduction in crime while another sees an uptick. Policies, ordinances, and laws vary from community to community; it may be the case that a violation in one community is perfectly legal in another.

Simply put, this form of measurement is akin to comparing apples to oranges. Assessing perceived service quality, however, provides a uniform basis for comparison across a large regional area. It is readily acknowledged that this type of measurement is imperfect, as it cuts at only a single dimension of service quality. Put another way, *perceived* service quality does not definitively prove *actual* service quality. However, it is the view of the author that the reputational analysis employed in this study is a more reliable indicator of service quality than the other readily available methods.

Sociodemographic Information

Sociodemographic environmental data were gathered on each municipality and its respective population included in this study. As mentioned previously, the collection of this data was important insomuch as a municipality's size, affluence, and demographics may explain more of why a city is perceived as having high-quality

services than does its compensation strategy. Accordingly, any valid study on compensation must take into account the confounding effects of municipal size, affluence, number of employees, and budget.

Research Variables, Hypotheses, and Statistical Models

The data collected via the survey instruments, as well as the literature reviewed in the preceding chapter, guided the selection of the research variables, hypotheses, and statistical models used in this study. What follows is a discussion of the dependent and independent variables as well as a brief description of how they were measured. The research hypotheses from Chapter I are also restated and linked to the literature, followed by a description of the statistical models used to test these hypotheses.

Research Variables

The following independent variables were utilized for this study:

- Market Wage Ratio
- Efficiency Wage Rate
- Municipal Size (population)
- Municipal Workforce (total number of full-time employees per 1,000 population)
- General Fund Expenditure (per 1,000 population)
- Per Capita Income
- Overall Municipal Wage Costs (per 1,000 population)
- Reputational Service Quality (RSQ) Score

The market wage ratio, as outlined earlier in this chapter, was calculated by dividing a municipality's average wage rate by the regional wage benchmark. For this study, the regional wage benchmark represents the average wage rate paid by all municipalities in the Chicago SMA region. The efficiency wage rate represents the number of municipalities offering an above-market-clearing wage. The efficiency wage rate is coded as a dummy variable, where municipalities with a wage ratio above the regional wage benchmark are coded 1 and 0 otherwise. Municipal size represents a municipality's total population based on 2004 U.S. Census Bureau data estimates. Municipal workforce represents the total number of full-time employees working in a municipality during 2005 per 1,000 population. The general fund expenditure represents the total budget expenditure less capital improvement expenditures for FY 2005 per 1,000 population. Per capita income represents 2000 U.S. Census Bureau data estimates. Overall municipal wage costs represent a municipality's total wage costs for FY 2005 per 1,000 population. RSQ score served primarily as a dependent variable and, thus, is discussed below.

The following dependent variables were utilized for this study:

- Reputational Service Quality (RSQ) Score
- Turnover or Quit Rate
- Accountability Control Mechanisms
- Wage Costs per Employee

The RSQ score reflects the total number of mentions, weighted for the "all services" category, a municipality received from professional administrators regarding service quality. The computation for turnover or quit rate was achieved by taking the

number of employees who quit or otherwise left their position during 2005 divided by the total number of full-time employees during this same period. The number of accountability control mechanisms was calculated by summing the total number of control, or antishirking, mechanisms used in a given community. For example, whether a municipality conducts formal performance appraisals, has a merit-based compensation system, utilizes skill-based pay, or offers other nonmonetary incentives was ascertained. Finally, wage costs per employee represent the overall municipal wage costs during FY 2005 per 100 full-time employees.

Research Hypotheses

The research hypotheses tested in this study are divided into four primary categories: (1) Municipal Performance, Service Quality, and Productivity; (2) Employee Turnover; (3) Accountability Control Mechanisms; and (4) Wage Costs per Employee. Readers should note that each category corresponds with a major tenet or model of efficiency wage theory. Moreover, the specific hypothesis being tested may be linked to existing literature on this topic as well as to the model for improved organizational outcomes depicted in Chapter I.

The hypothesis being tested for perceived reputational service quality is most closely aligned with the shirking model and wage-productivity model of efficiency wage theory:

- Higher perceived reputational service quality is associated with higher wages when controlling for municipal size, workforce, per capita income, and general fund expenditure.

The shirking model is predicated on the notion that efficiency wage creates incentives for high performance, as substandard performance may lead to unpleasant consequences for the employee. Adams (1965), Yellen (1984), and Stoft (1982) have offered support for this model. Calvo (1979, 1985), Eaton and White (1983), Foster and Wan (1984), and Shapiro and Stiglitz (1984) have also found a correlation between higher wages, reduced shirking, and increased productivity.

The empirical evidence surrounding the wage-productivity model is relatively sparse. Henry Ford's utilization of an efficiency wage to increase production is one example, as is Wiseman and Chatterjee's (2003) research on the effects of salaries on team performance in Major League Baseball. From a practical standpoint, controlling for the effects of municipal population as well as affluence appears warranted. Moreover, controlling for the effects of organizational size (Brown & Medoff, 1985) and affluence (Dickens & Katz, 1987; Krueger & Summers, 1987) is supported by the literature more generally.

The hypothesis being tested for employee turnover is associated with the labor turnover model of efficiency wage theory:

- Lower turnover or quit rate is associated with higher wages when controlling for municipal size, workforce, and overall wage costs.

Generally speaking, the labor turnover model asserts that turnover will decline when an organization offers a wage rate that is greater than the rate being offered by its competitors. Leonard (1987), Parsons (1977), Salop (1973), and Smith (1977) have provided support for this model. Less well known is whether the costs saved through reduced turnover are great enough to justify paying an efficiency wage. Although this

study does not purport to address this question, it should be noted that previous research (Kim, 1999; Leonard, 1987; Powell et al., 1994) has found little justification for higher wages. Controlling for the effects of wages and organizational size has been advocated by Leonard (1987), whereas Powell et al. (1994) used a measure associated with per employee wage costs.

The hypothesis being tested for accountability control mechanisms is as follows:

- Fewer accountability control mechanisms are associated with higher wages when controlling for municipal workforce, overall wage costs, and reputational service quality.

A hallmark of efficiency wage theory is that employees will automatically become more accountable to their organization when an above-market wage is offered. The reasons for increased accountability vary from a greater sense of individual responsibility (Akerlof, 1982, 1984; Arai, 1994; Taylor, 2003) to elicitation through threat or coercion (Katz, 1986; Stoff, 1982; Yellen, 1984). The question of whether higher wages translate into fewer employee controls has been relatively unexplored empirically. It is commonly held that effort is most readily measured where employees are made accountable through some type of control-oriented pay system, such as piece rates or commissions. However, contrary to popular belief, Brown and Medoff (1989) and Kruse (1992) found organizational size to be a better predictor of wages.

As discussed in Chapter II, a relative irony among public-sector organizations is that elected officials oftentimes place such a strong emphasis on employee accountability that the value associated with a reduction in supervision may not be

viewed as beneficial. Out of good reason, elected officials are concerned with the overall level of service quality being offered. However, it is conceivable that organizations already known for offering high-quality services are less inclined to closely monitor employees.

The hypothesis being tested for wage costs per employee cuts to the heart of efficiency wage theory insomuch as higher paying organizations are supposed to experience reductions in their overall costs associated with personnel:

- Lower wage costs per employee are associated with higher wages when controlling for municipal size and per capita income.

Communities choosing to take advantage of the benefits associated with efficiency wage, such as decreased formal control mechanisms, improved service quality, and lower costs associated with turnover, should reduce overall and per employee costs, despite increased wage costs. Of course, whether this is the case depends on many factors. Controlling for the effects of organizational size (Leonard, 1987) and affluence (Dickens & Katz, 1987; Krueger & Summers, 1987) makes sense from a theoretical standpoint. It is, however, conceivable that the more subtle cost-saving factors associated with efficiency wage are not adequately captured through empirical analysis.

Statistical Models

The statistical models used in this research are commonly practiced techniques in the social and behavioral sciences (McClendon, 2002; Meier & Brudney, 2001). Specifically, this research uses both bivariate correlational analysis and ordinary least

squares (OLS) regression analysis. What follows is a brief discussion of the techniques utilized and an explanation as to why they are appropriate for this study. The results of the statistical analysis are presented in Chapter IV.

Bivariate correlational analysis is a statistical technique used to measure the linear association between two variables that are typically comprised of interval-level data. In essence, correlation refers to a situation whereby only one independent variable (X) and one dependent variable (Y) are being analyzed at a time (McClendon, 2002). In this study, the independent variable, market wage ratio, is correlated against a number of assumptions associated with efficiency wage theory. The resulting correlation coefficient, or r -value, is interpreted as the strength of the relationship between the variables. The most common correlation coefficient is the Pearson product-moment correlation, or Pearson's correlation for short. A Pearson's correlation ranges from -1 to 1, with a result of 0 indicating there is no linear relationship present (McClendon, 2002).

OLS multiple regression serves as the primary statistical technique utilized in this study. Similar to correlational analysis, multiple regression is used to estimate the effects of variables in causal models (McClendon, 2002). OLS multiple regression, however, contrasts one dependent variable against two or more independent variables. This makes sense from the standpoint that most variables have more than one causal relationship. For instance, it is likely that wages alone do not explain all of the variation in perceived reputational service quality. Other variables, such as organizational size, level of affluence, and population, may also have some explanatory power.

OLS multiple regression is most appropriate in situations where the data being analyzed is interval level, as is primarily the case in this study. OLS multiple regression produces some statistics that are useful in assessing causality. The first is the regression coefficient (b). Simply put, the regression coefficient is the average amount a dependent variable increases due to an independent variable, when all other independent variables in the model are held constant. Put another way, the b coefficient is the slope of the regression line: the larger the b , the steeper the slope. The second is the t -statistic and its related significance level. In social science research, a common rule of thumb is to drop any variables not significant at .05 or higher from the model (Meier & Brudney, 2001). The third is the standard error. Generally speaking, the standard error is useful for indicating the amount that b is likely to deviate from the entire population due to chance (McClendon, 2002). The fourth is the coefficient of multiple determination or, as it is more commonly known, R^2 . R^2 is the percent of the variance in the dependent variable explained uniquely or jointly by the independent variable(s) in the model. Due to bias associated with the R^2 statistic, the adjusted R^2 will be reported in this study. The adjusted R^2 attempts to correct any statistical bias by subtracting overestimates caused by random sampling errors (McClendon, 2002).

It should be pointed out that the model predicting accountability control mechanisms (see Table 9 in Chapter IV) faces a methodological hurdle in that the dependent variable is categorical in nature, ranging from 0 to 4. One possible solution might be to recode the dependent variable into either 0 or 1, indicating either the presence or absence of accountability controls. By making the dependent variable dichotomous, other statistical models, such as an ordered logit model, may be used.

Logistic regression, however, utilizes maximum likelihood estimation, which typically requires a sample size larger than what is available in this research (Borooah, 2002). Given this, OLS multiple regression is viewed as the optimal technique for this situation; nevertheless, readers should note that other models were considered.

Case Study Analysis

In order to more firmly tether efficiency wage theory to practical administrative issues, a municipality was selected to serve as a case study. While intended to be primarily illustrative in nature, the case study provides readers with greater context pertaining to the more abstract qualities associated with efficiency wage theory. Simply put, the case study enables readers to see what an efficiency wage system looks like in practice. Based on its status as the prototypical efficiency wage community, the City of St. Charles, Illinois, was chosen for the case study.

When developing the case study, interviews were viewed as the best method in which to proceed. To this end, interviews were conducted with a small sample of current municipal officials. Specifically, the city administrator, public works director, and mayor were interviewed. These individuals were selected because they each play a vital role in the management or oversight of St. Charles's personnel system and, thus, are uniquely qualified to comment on its operation.

As a rule, each interview used the same set of questions and proceeded in a similar manner. Deviation from standard questions occurred when probing into individual-specific issues that varied based on administrative department or responsibility. Moreover, follow-up questions often deviated from the prescribed

format when it was necessary to obtain a deeper understanding of a policy or issue. This was especially true when discussing an employee's specific role in the city's compensation program. Interviews varied in length from approximately one hour to one hour and 30 minutes.

The first major focus of the interviews was on St. Charles's decision to move toward an efficiency wage compensation strategy. In addition to identifying the impetus behind this decision, specific attention was paid to uncovering any obstacles or barriers that made the move more difficult. Generally speaking, the strategy employed by St. Charles highlights several key assumptions associated with the theory and practice of efficiency wage theory. In St. Charles, municipal officials assume that higher pay will result in better employee performance and, ultimately, cost effectiveness. Although paying less may initially be cheaper, such a strategy could lead to greater costs down the road, such as increased employee turnover, retraining costs, absenteeism, equipment sabotage, and inferior customer service. Moreover, officials are confident that by maintaining higher than market starting salaries they will be able to attract and recruit the best employees from the available applicant pool. As mentioned previously, Thurow (1975) refers to this as queue theory. When a job becomes available, potential job applicants form a queue competing for the position. Rational organizations strive to select candidates who have the best fit, the least need for training, and the best credentials. Thus, by paying more initially, an organization increases its odds of hiring optimal candidates.

The second major focus of the interviews was on the political environment and organizational culture necessary for an efficiency-wage-based compensation system to

succeed. Generally speaking, within the municipal realm, the support of several different types of individuals is needed in order for an efficiency wage system to succeed. First, administrative officials must believe they currently have, or can attract, a workforce of sufficiently high quality to justify the payment of an above-market wage. Moreover, wages must be seen as the best method in which to retain these valued individuals. Second, the support of the elected board is critical. Given that efficiency wage theory sounds initially counterintuitive, it may raise political eyebrows. The idea of paying public employees more to reduce costs while also providing more services is a hard pill for some local elected officials to swallow. In the modern era, it is also not uncommon for some local elected officials to use their position as a stepping-stone to higher political office; thus, these individuals must be careful that their decision to substantially increase wages is politically feasible. Third, the employees must buy in to the program and the idea that more is expected of them in terms of performance and productivity.

The third major focus of the interviews was on the city's ability to both monitor and measure employee performance and productivity. Put another way, how do municipal officials know if the compensation strategy is delivering what it promises? St. Charles no longer monitors employee performance through traditional performance appraisals. The city assumes that its employees do not shirk and that they have an incentive to perform well. St. Charles also assumes that it hires better employees from larger applicant pools and retains them longer, thus reducing training costs. Further, by downplaying individual equity rewards (merit pay) connected with individual performance appraisal scores, employees should be less competitive among themselves

and more prone to teamwork. Ostensibly, the probability of greater teamwork, coupled with increased skill levels and multitasking, should enable St. Charles to provide more with fewer employees. Ultimately, this should translate into better quality and quantity of services for St. Charles residents and taxpayers.

As previously mentioned, selecting the City of St. Charles, Illinois, to serve as a case study was ideal given its status as the prototypical efficiency wage community. Although the case study should be viewed as primarily illustrative, it nevertheless provides readers with a greater degree of context regarding the theoretical aspects of efficiency wage theory. Interviews provided the best mechanism by which to learn about the city's compensation policies, procedures, and goals. To summarize, interviews focused on:

- The city's decision to move toward an efficiency wage strategy.
- The political environment and organizational culture necessary for an efficiency-wage-based compensation system to succeed in St. Charles.
- The city's ability to both monitor and measure employee performance and productivity.

The findings associated with the case study are discussed in detail in Chapter V.

Timing of Implementation

Overall, the data collection process went smoothly, with the survey questionnaires mailed out and collected prior to the case study analysis. It was necessary to collect the survey data first, as these data serve as the primary source of information for this study and, hence, was viewed as most essential. Moreover, it was

not known which municipalities would emerge as high paying, rendering it impossible to select a proper case study beforehand. A final reason for implementing the surveys prior to the case study was to weed out any communities that were not interested in further participation in this study.

In effect, the process of collecting survey data occurred first, followed by a single case study of St. Charles for contextual purposes. At $\approx 48\%$, the survey response rate was higher than average in most cases for this type of research (Miller & Miller-Kobayashi, 2000). Generally speaking, municipalities concentrated in the north and northwestern suburbs were the most responsive; those concentrated in the south and far west were the least responsive.

Strengths and Weaknesses of This Design

The methodology used to test the model of improved organizational outcomes based on efficiency wage rates possesses several strengths. These include:

- The research design and methodology used in this study builds on previous research on efficiency wage theory. This study is uniquely situated, however, in that it views efficiency wage exclusively through a public-sector lens.
- The use of multiple data gathering techniques allows information to be collected from a number of sources, as opposed to relying on a single source. In addition, different data gathering techniques allow for in-depth information to be gathered, bringing added richness to the findings.
- Keeping this study regionally defined allows for a more in-depth study of municipal compensation and is, in general, an accurate reflection of the labor market.

- The Chicagoland region is fairly representative of other suburbanized areas located near a large central city. While the findings of this research cannot be generalized on a national level with statistical certainty, they should be fairly representative of other similarly situated municipalities in other regions.

While this study adds to existing research already undertaken on efficiency wage theory, it is unique in that it: (1) utilizes a sample comprised entirely of public-sector organizations and (2) introduces a novel approach to measuring the effect of wages on reputational service quality. If efficiency wage emerges as a strategic form of compensation in the public sector, municipal officials may begin to rethink how employees are initially attracted to an organization, monitored, and subsequently rewarded or punished.

The most compelling argument for restricting this study to the greater Chicagoland region is that it controls for variations in culture-based history, laws, and customs. A nationwide sample would entail additional research into forms of city government in other states and a detailed understanding of each locale's policies, laws, and customs. Intuitively, this research lends itself to a single-region analysis in that the region is an accurate reflection of the local labor market. To this end, if this study were to be nationalized it would likely maintain a regional focus.

A further point to be made is that the local governments contained within the Chicago SMA are similar to most other major metropolitan areas. While it is true that slight variations in political culture, growth rates, per capita income, and so forth, likely exist, by and large the Chicagoland region is fairly typical of most major metropolitan areas along most of these lines. For instance, nearly 82% of ICMA member

communities have populations of less than 50,000 (A. Richards, personal communication, February 14, 2007). All but five of the municipalities used in this research had populations of less than 50,000 people.

In light of the aforementioned strengths, there are a number of weaknesses that should be recognized. These include:

- The meaningfulness of the reputational service quality variable can be questioned.
- The effect that intervening variables, such as organizational culture or professional leadership, have on organizational performance is not accounted for.
- Attitudinal data assessing employee perceptions about the use of efficiency wage is not a part of the analysis.
- The effects of certain variables, such as those related to fringe benefits, are not included.
- The impact, if any, that labor unions or the private sector have on municipal wage rates is not accounted for.
- There is a lack of any initial measures associated with employee quality. It is not known whether efficiency wage communities are, in fact, hiring better qualified employees initially.
- The findings of this research cannot be generalized on a national level with statistical certainty.

Admittedly, relying on a reputational analysis to assess service quality is a relatively crude measure. Accurately measuring service quality, however, is a complex problem that does not lend itself to any simple solutions. By surveying only professional administrators, who have a certain degree of familiarity with other

organizations in their region, reliability is improved; this is reinforced through the data where several municipalities arose from the mix by receiving multiple mentions. In the future, it may be helpful to look at quality by service area. This, however, would require a significantly larger sample size than is currently available.

The model of improved organizational outcomes presented in Chapter I makes the assumption that there are a number of intervening variables that impact performance and productivity. Due to limitations associated with data, time, and resources, these variables are not examined in this study. While the case study may provide some context and insight regarding the effects of these variables, future research should undoubtedly be focused on this area.

The inclusion of attitudinal data assessing employee perceptions about the use of efficiency wage would add greater specificity to the analysis. As it stands, it is not known whether wages are the driving force behind performance and productivity. There is research to suggest this is the case (Akerlof, 1982, 1984), as well as research to suggest otherwise (Bewley, 1998). It should be pointed out that this kind of data collection is extremely difficult and complex, as it requires a significant amount of personal and financial resources.

As previously discussed, this research does not attempt to create a model based on total compensation. Efficiency wage theory is premised on the notion that higher *wages* will lead to improved organizational outcomes; whether fringe benefits enter into this equation is not known. Given the difficulty associated with accurately converting or placing a dollar value on fringe benefits, the relative parity that exists between certain benefits (i.e., municipal pension plan participation) and the lack of any

comprehensive fringe benefits database, including fringe benefits in the analysis, were viewed as more problematic than beneficial.

The effect of labor unions is not well documented in the literature. Katz (1986) noted that organizations might find it profitable to offer above-market wages to unionized employees or to limit what employees would otherwise receive through negotiation in an effort to maintain industrial peace. Organizations might also decide to offer non-unionized employees an efficiency wage in order to avoid a push toward collective bargaining. It should be noted that the overwhelming majority of municipalities included in this study have at least one collective bargaining unit represented, making statistical analysis impractical, if not impossible.

Including private-sector organizations in the sample would have confounded the analysis inasmuch that it would require substantially different measures of organizational success. Put another way, profit serves as the primary measure of success in the private sector, whereas the public sector relies on the quality of services provided.

It is not known whether better qualified employees are being drawn to organizations offering higher wages. In fact, the adverse selection model is not directly tested by this research. This, in large part, is due to a lack of available data on employee quality. In instances where such data might be available, such as the physical and mental agility exam scores used by most police departments, this data is extremely sensitive and difficult to collect. Nevertheless, obtaining this type of data would add a certain degree of richness to the analysis.

Conclusion

This research is primarily concerned with building a model of improved organizational outcomes associated with efficiency wage theory. Specifically, this research has undertaken the question, “Does the relative placement of a public organization within an external compensation market have much effect on how successful it might be in producing desirable organizational outcomes?” Put another way, to what degree does external equity associate with employee behaviors and performance levels that public organizations would deem indicative of effectiveness and efficiency? A study design and research methodology relying primarily on quantitative data collection and analysis was chosen to address these questions. Two separate survey instruments were mailed to all ICMA-recognized municipalities. Moreover, a municipality was selected to serve as a case study. The case study is intended to be primarily illustrative in nature and provides readers with greater context regarding the more abstract qualities associated with efficiency wage theory.

Chapter IV presents the findings of quantitative analysis. Readers are also provided with an overview of certain key demographics related to the sample. In addition, emerging patterns in the survey data are addressed by pointing out illustrative examples. These examples have been culled from specific questions in the salary and fringe benefits survey that, while not appropriate for statistical analysis, help to better illustrate some key concepts.

CHAPTER IV

RESEARCH FINDINGS:

PUTTING EFFICIENCY WAGE THEORY TO THE TEST

The primary purpose of Chapter IV is to present the findings of the statistical analysis. Specifically, using regression analysis, seven empirical models have been developed. A correlational analysis testing a variety of dependent variables against a single independent variable, market wage ratio, is also presented. This analysis is designed to test whether higher wages, in general, correlate significantly with the primary assumptions associated with efficiency wage theory.

Ultimately, this chapter hopes to show that variation in perceived reputational service quality, turnover or quit rate, accountability control mechanisms, and per employee wage costs are statistically associated with efficiency wage. Conversely, variation may also be due to sociodemographic factors, such as a municipality's population, workforce, or level of affluence. It is hypothesized, as the model of improved organizational outcomes presented in Chapter I indicates, that variation is due to the interactions of several key variables. Variation is also likely due to one or more intervening variables, such as organizational culture or administrative leadership. However, due to methodological hurdles and limitations of the data, these variables are not part of the empirical analysis.

Given these expectations, the actual aggregate survey findings reported in this chapter represent some unexpected outcomes. Some aspects of the research hypotheses, as well as the predictive model, seem borne out by the statistical analysis while other expected relationships are not. A summary of the statistical results is as follows:

- Perceived reputational service quality increases as a municipality's market wage ratio increases, controlling for municipal size (population), affluence (per capita income), municipal workforce (number of full-time employees per 1,000 population), and general fund expenditure (per 1,000 population).
- Perceived reputational service quality and the market wage ratio is a nonlinear relationship. As such, a quadratic specification was utilized in order to demonstrate that reputational service quality increases most dramatically above a market wage ratio of 1.00, controlling for municipal size, affluence, municipal workforce, and general fund expenditure.
- Perceived reputation service quality reaches statistical significance at an efficiency wage rate of 1.13, or 13%, above the regional market average, controlling for municipal size, affluence, municipal workforce, and general fund expenditure.
- Turnover or quit rates do not decrease as a municipality's market wage ratio increases, controlling for municipal size, municipal workforce, and overall municipal wage costs.
- Accountability control mechanisms are not significantly impacted by a municipality's market wage ratio, controlling for municipal workforce, overall municipal wage costs, and perceived reputational service quality.

- Wage costs per employee increase as a municipality's market wage ratio increases, controlling for municipal size and affluence.

As noted in the previous chapter, the salary and fringe benefits survey and reputational service quality questionnaire are included in Appendices D and E, respectively. Readers may find it helpful to reference these materials when considering the specific variables and their measurements used in each model. Prior to presenting the findings, readers are provided with an overview of the sociodemographic make-up of the sample.

Sociodemographic Data

The sociodemographic data presented in Table 4 is intended to inform readers of the breadth and scope of the sample. As can be seen, the municipalities in the sample vary in terms of population, organizational size, and level of affluence. This variation is tempered by other characteristics that all municipalities in the sample share in common, such as laws and customs. Moreover, the municipalities are located within the same regional labor market. This places them in competition with one another in terms of attracting and retaining quality employees. It should be noted, however, that specific municipalities typically develop smaller comparable groups within the broader region when establishing wage rates.

Table 4

Sociodemographics of Municipalities in Study Sample

Variable	Median	Mean	Std. Dev.	Min.	Max.
Population	21,251	24,207	20,852.42	1,601	140,106
Per Capita Income	28,686	32,245	10,828.82	14,461	63,765
Municipal General Fund Expenditure (\$1,000)	14,476	15,910	11,423.48	1,317	59,578
Municipal Total Full-Time Employees	125	138	136.43	10	1,003
Overall Wage Costs (\$1,000)	4,388	5,464	3,827.15	527	23,832
Municipal Turnover Rate (%)	6.7	7.4	5.41	0	27.9
Market Wage Ratio	1	1	.13	.73	1.28

N = 79

Correlational Analysis Testing Efficiency Wage Assumptions

The correlational analysis is intended to test whether a statistically significant relationship exists between the market wage ratio and several core assumptions associated with efficiency wage theory. Specifically, this analysis examines whether variation in perceived reputational service quality, turnover or quit rates, number of accountability control mechanisms, and wage costs per employee is due to variation in municipal wage rates. The findings of the analysis are presented in Table 5.

Table 5

Correlations of Market Wage Ratio and Core Assumptions

<u>Dependent Variable</u>	<u>Market Wage Ratio</u>
Reputational Service Quality (RSQ) Score	.662***
Turnover or Quit Rates	-.218 [#]
Accountability Control Mechanisms	.084
Overall Municipal Wage Costs per 100 Full-Time Employees	.337**
N = 79	

Note: [#] p < .10, ** p < .01, *** p < .001

As expected, a strong, statistically significant correlation ($r = .662, p < .001$) is present between the market wage ratio and RSQ score. Put another way, as municipal wage rates increase, a corresponding rise in reputational service quality occurs. This is consistent with the sociological aspect of efficiency wage theory; namely, higher wage rates enhance levels of performance and productivity among employees.

The market wage ratio and turnover or quit rates are negatively correlated ($r = -.218$). It should be noted that, from the perspective of statistical significance, this finding is only weakly supported ($p < .10$). This, however, does not offset the fact that the correlation is in the expected direction and indicates that the market wage ratio, taken alone, has a measurable negative impact on turnover. The correlation coefficient between the market wage ratio and accountability control mechanisms ($r = .084$) does

not achieve statistical significance. It is expected that wage rates and the number of accountability controls utilized will be negatively correlated, insomuch as higher wage rates decrease shirking and, thus, reduce the need to formally monitor employees.

A positive, moderately significant correlation ($r = .337$, $p < .01$) between the market wage ratio and overall municipal wage costs per employee is present. A finding of this nature is not surprising given that the direct relationship between higher wages and per employee costs is being measured. Moreover, proponents of efficiency wage theory do not contend that higher wages will necessarily reduce the size of an organization's payroll; rather, cost savings are most often evidenced through other means, such as lower turnover rates or improved performance. Thus, while an organization may technically spend more on wages, it will experience savings in other areas, such as reductions in hiring costs due to decreased turnover, which ultimately exceed the costs associated with higher wages. However, it may simply be the case that organizations "get what they pay for." In this sense, higher wages produce a number of desirable benefits, but at an increased cost to the organization.

The preceding discussion indicates that, with the exception of accountability control mechanisms, a statistically significant relationship exists between the market wage ratio and the primary dependent variables utilized in this study. Specifically, the findings demonstrate that higher wages: (1) enhance reputational service quality, (2) reduce turnover or quit rate, and (3) are positively correlated with wage costs per employee.

While these relationships are present at the bivariate level, it is necessary to examine them within a multivariate context in order to become more confident that they

are not spurious. The section that follows presents the findings of the OLS multiple regression analysis. The models test the relationship between the primary tenets of efficiency wage theory and the market wage ratio, controlling for a number of sociodemographic characteristics.

Hypothesis Testing Using Ordinary Least Squares Multiple Regression

Ordinary least squares (OLS) multiple regression is used in this study to test the primary theoretical components of efficiency wage theory against a variety of sociodemographic control variables. The seven models presented demonstrate the potential benefits and costs associated with paying higher wages. More importantly, these models provide a partial answer to the question of whether public-sector organizations can effectively utilize efficiency wage rates to leverage more out of their employees. From a methodological standpoint, OLS multiple regression places wage rates under a much more stringent test than correlational analysis. Coupling the market wage ratio with other sociodemographic variables serves as a more valid indicator of the true ability of wages to influence organizational outcomes associated with efficiency wage theory.

It should be pointed out that the independent variable of primary importance in each OLS model is either the market wage ratio or the efficiency wage rate. The market wage ratio ranges from 0.73 to 1.27, with 1.00 representing the regional wage benchmark. The efficiency wage rate represents the extent in which a municipality falls above or below the regional wage benchmark. In this study, municipalities paying above this benchmark and, hence, having a wage ratio greater than 1.00 pay an

efficiency wage rate; those that pay below this benchmark or have a ratio less than 1.00 are not considered to be an efficiency wage community.

Predicting Reputational Service Quality (RSQ) Score

The first model predicts the relationship between reputational service quality (RSQ) score and the market wage ratio, controlling for municipal size, per capita income, municipal workforce, and general fund expenditure. The dependent variable, RSQ score, represents the number of times a professional administrator recognized a municipality as having a reputation for providing high-quality service in a particular service area. The results of the analysis are presented in Model 1, Table 6.

The results show that the market wage ratio is a significant predictor of RSQ score, all else equal. As hypothesized, the coefficient for municipal size signifies that for every 1,000 increase in population RSQ score increases by .592 ($p < .001$), *ceteris paribus*. The coefficient for per capita income indicates that level of affluence is a significant predictor of reputational service quality, all else equal. In other words, for every \$1,000 increase in per capita income, a municipality can expect a .455 ($p < .05$) rise in RSQ score. Interestingly, municipal workforce does not appear to be a significant predictor of reputational service quality, all else equal. This finding runs counter to previous research on efficiency wage theory (Brown & Medoff, 1985), suggesting that larger organizations are better able to leverage more from their employees and, thus, provide a higher overall level of services. Finally, the coefficient for general fund expenditure is not shown to be a significant predictor of reputational service quality, *ceteris paribus*. This finding runs

Table 6

Regression Analysis Predicting Reputational Service Quality (RSQ) Score

<u>Independent Variable</u>	<u>Model 1</u>	<u>Model 2</u>
Market Wage Ratio	51.460* (22.833)	-704.733** (195.876)
Market Wage Ratio ²	---	388.279*** (91.333)
Municipal Size (1,000)	.592*** (.131)	.503*** (.122)
Per Capita Income (\$1,000)	.455* (.216)	.291 (.202)
Municipal Workforce per 1,000 Population	.111 (.665)	.170 (.607)
General Fund Expenditure per 1,000 Population	.000 (2.551)	.000 (2.331)
Constant	-63.692** (18.371)	305.062** (96.446)
S.E.E.	16.591	15.157
Adj. R ²	.531	.609
F-Statistic	18.236***	20.721***
N	76	76

Note: Dependent variable, RSQ score, represents the number of times a professional administrator recognized a municipality as having a reputation for providing high-quality service in a particular area.

Standard errors in parentheses.

* $p < .05$, ** $p < .01$, *** $p < .001$

counter to previous literature (Dickens & Katz, 1987; Krueger & Summers, 1987), indicating that more affluent organizations are likely able to pay higher wages, which, in turn, should translate into higher levels of performance and productivity on the part of employees. From a practical standpoint, however, smaller municipalities can be perceived as offering higher quality services, which may explain why a municipality's general fund expenditure is not predictive of reputational service quality.

The value of the adjusted R^2 is .531. This is significant in that the model is explaining a relatively large amount of the variation in reputational service quality. Put another way, $\approx 53\%$ of the variation in reputational service quality can be explained by the variables in the model. This finding should comfort professional administrators who question their municipality's relative wage position in their respective regional labor market. Of course, this finding must be tempered with the realization that the dependent variable is based on a measure of *perceived* service quality, as opposed to an *actual* measure of service quality. Regardless, it appears that the predictive quality of the market wage ratio, all else equal, is significant.

Professional administrators may also question: "If the model is only explaining $\approx 53\%$ of reputational service quality, what explains the rest?" The answer to this query likely lies in the intervening variables not included in the empirical analysis. That is, factors such as organizational culture, administrative leadership, and political environment might also play a role in projecting an image of an organization, which, in turn, may impact the perceived level of service quality as well as the actual.

The second model presented in Table 6 includes a quadratic specification. After running diagnostics on the relationship between the dependent variable, RSQ score, and the primary independent variable market wage ratio, a nonlinear relationship was discovered. A nonlinear relationship indicates that the slope of the function that relates the dependent variable (Y) to the independent variable (X) is not the same for all values of X (McClendon, 2002). In this sense, the effect of the independent variable can either rise or decline or change signs from positive to negative as the values of X increase.

The linear model (Model 1) implies that an increase in the market wage ratio, for example, from .70 to .80 (30 to 40% below the regional wage benchmark), has the same effect on reputational service quality as an increase in the market wage ratio from 1.10 to 1.20 (10 to 20% above the regional wage benchmark). The quadratic model (Model 2), however, shows that reputational service quality is higher at points where the market wage ratio exceeds 1.00. For a graphical representation of the relationship between reputational service quality (RSQ) score and market wage ratio, denoting the quadratic fit line, see Figure 3.

Following this logic, a municipality garners a higher RSQ score the higher its market wage ratio. From this standpoint, for example, the increase in reputational service quality that results from paying a market wage ratio of 1.10 is not as great as paying a market wage ratio of 1.20. The overall fit of the quadratic model ($R^2 = .609$) is increased noticeably over the linear model, lending further support for utilizing this specification. While organizations offering wages in excess of the regional wage benchmark are considered as paying efficiency wages, it is prudent to question: “How far above this benchmark must a municipality pay in order to receive an optimal benefit

in terms of reputational service quality?" The analysis presented in Table 7 addresses this question.

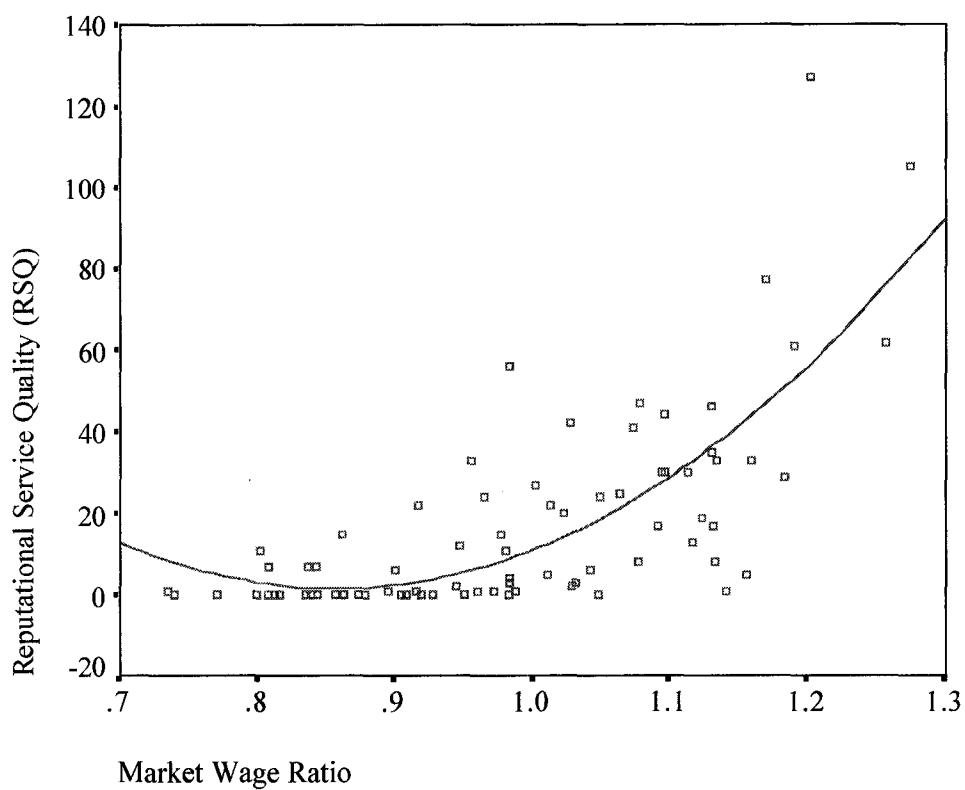


Figure 3. Scatterplot of reputational service quality (RSQ) score and market wage ratio.

Table 7

Regression Analysis Predicting Reputational Service Quality (RSQ) Score at
Efficiency Wage Rate Tipping Points

<u>Independent Variable</u>	<u>Model 1</u>	<u>Model 2</u>
Efficiency Wage Rate at 1.00	5.751 (5.046)	---
Efficiency Wage Rate at 1.13	---	12.440* (6.068)
Municipal Size (1,000)	.715*** (.120)	.671*** (.114)
Per Capita Income (\$1,000)	.638** (.200)	.593** (.191)
Municipal Workforce Per 1,000 Population	.004 (.684)	-.038 (.668)
General Fund Expenditure per 1,000 Population	.000 (2.620)	.000 (2.564)
Constant	-23.591** (8.120)	-20.820** (8.089)
S.E.E.	17.019	16.687
Adj. R ²	.507	.526
F-Statistic	16.624***	17.862***
N	76	76

Note: Dependent variable, RSQ score, represents the number of times a professional administrator recognized a municipality as having a reputation for providing high-quality service in a particular area.

Standard errors in parentheses.

* $p < .05$, ** $p < .01$, *** $p < .001$

Two separate models are presented in Table 7. These models predict the relationship between perceived reputational service quality and the efficiency wage rate at separate cut or tipping points, controlling for municipal size, per capita income, municipal workforce, and general fund expenditure. The efficiency wage rate is coded as a dummy variable, where, in the first model, municipalities with a wage ratio of 1.00 or greater are coded 1 and 0 otherwise, and, in the second model, municipalities with a wage ratio of 1.13 or greater are coded 1 and 0 otherwise.

The results of the first model show that an efficiency wage rate of 1.00 or greater is not a significant predictor of reputational service quality, all else equal. The coefficient for municipal size indicates that population is a significant predictor of reputational service quality, *ceteris paribus*. For every 1,000 increase in population, a municipality's RSQ score increases by .715 ($p < .001$). Per capita income is also a significant predictor of reputational service quality, all else equal. In this instance, for every \$1,000 increase in per capita income, a municipality's RSQ score increases by .638 ($p < .01$). These results comport nicely with existing literature indicating that larger, more affluent organizations may be able to leverage more out of their workers.

In order to determine the tipping point where efficiency wage rates predict reputational service quality, the model was retested at numerous ratios. The results of the second model show that an efficiency wage rate of 1.13 or greater is a statistically significant predictor of reputational service quality, all else equal. Put another way, municipalities need to offer a wage rate that exceeds the regional wage benchmark by 13% in order to see a significant increase in their perceived reputational service quality. The coefficient for the efficiency wage rate is 12.440 ($p < .05$), which indicates that

municipalities with an efficiency wage rate of 1.13 or greater will receive an increase in RSQ score of ≈ 12 .

These results suggest that municipalities wanting to enhance perceptions of service quality through efficiency wages will have to exceed the market-clearing rate by approximately 13%. This is important inasmuch as municipalities paying below this rate, yet in excess of the regional wage benchmark, are likely not receiving much, if any, more benefit than municipalities offering an average wage. Similarly, municipalities offering wages substantially above the 13% threshold may not receive any additional benefit and, thus, are paying more than is necessary.

Predicting Turnover or Quit Rate

In this model the relationship between turnover or quit rate and the market wage ratio, controlling for municipal size, municipal workforce, and overall wage costs, is examined. The dependent variable, turnover or quit rate, represents the total percentage of employees in a municipality who resigned from their position in 2005. The results of the analysis are presented in Table 8.

The results show that the market wage ratio is not a significant predictor of turnover or quit rate, all else equal. Although the coefficient is weakly significant at .10, the F-statistic indicates that the overall model is not significant. Moreover, municipal size, municipal workforce, and overall wage costs are not significant predictors of turnover or quit rate, *ceteris paribus*. One might surmise that organizations located in more highly or densely populated areas offer more

Table 8

Regression Analysis Predicting Turnover or Quit Rate

<u>Independent Variable</u>	<u>B</u>	<u>S.E.</u>
Market Wage Ratio	-11.140 [#]	6.086
Municipal Size (1,000)	.011	.039
Municipal Workforce per 1,000 Population	.121	.230
Overall Municipal Wage Costs per 1,000 Population	.000	4.743
Constant	17.279**	5.598
S.E.E.	5.357	
Adj. R ²	.015	
F-Statistic	1.289	
N	77	

Note: Dependent variable, turnover or quit rates, represents the total percentage of municipal employees who resigned from their position in 2005.

[#] $p < .10$, ** $p < .01$

opportunities for employment. Increased opportunities for employment might, in turn, decrease an organization's ability to sustain low turnover regardless of the wage rate being offered. This logic is similar to Kim (1999), who noted that the unemployment rate emerged as the best overall predictor of turnover. In this sense, prior to deciding whether to separate from an organization, employees may first examine the outside environment to see if such a decision is feasible.

The factors responsible for turnover are likely attributable to other variables not included in the model, such as special financial incentives offered by an organization (Wilson & Peel, 1991). Intervening variables, such as the organizational culture, political environment, and professional leadership found in an organization, are also likely to influence turnover. Organizations with lower turnover may spend less time and resources overseeing and directing more experienced employees. This would result in additional cost savings, which are not captured in the model.

Of course, whether such savings would be enough to justify any increased costs due to higher wages is subject to debate. Previous literature (Kim, 1999; Leonard, 1987; Powell et al., 1994) has attempted to measure this by contrasting the cost of higher wages against the cost associated with employee recruitment and training. In these instances, the marginal reduction in turnover achieved was not enough to warrant the added cost associated with higher wages. Finally, considering the relative parity of the sample, controlling for labor union representation and the unemployment rate would add little explanatory power to the model.

Predicting Accountability Control Mechanisms

In this model, the relationship between accountability control mechanisms and the market wage ratio, controlling for municipal workforce, overall wage costs, and reputational service quality, is examined. The dependent variable, accountability control mechanisms, represents the number of controls or performance measure mechanisms used by a municipality to monitor employee behavior. The results of the analysis are presented in Table 9.

The results show that the variables in the model are not a significant predictor of variation in accountability control mechanisms. The adjusted R^2 of $-.020$ indicates that the variables do not supply additional leverage in predicting the values of the dependent variable. Typically, the R^2 value will increase as additional independent variables are added to a model. The adjusted R^2 , however, is a more demanding model fit statistic. Given that the value is negative, it is a clear indication that the variables specified are essentially useless in predicting variation in accountability controls.

Three possible reasons can be readily identified for the poor outcome of this model. First, the range of the dependent variable is very narrow. Municipalities were surveyed as to whether they: (1) utilize formal performance appraisals, (2) offer skill-based pay, (3) base salary increases on merit, or (4) offer other nonmonetary incentives. The majority of the municipalities were identified as using most, if not all, of these control mechanisms. This created a very narrow index in which to conduct statistical analysis. Other techniques, such as an ordered logit model, were considered. However, given limitations in sample size, this technique was as equally problematic.

Table 9

Regression Analysis Predicting Accountability Control Mechanisms

<u>Independent Variable</u>	<u>B</u>	<u>S.E.</u>
Market Wage Ratio	.299	1.031
Reputational Service Quality	.003	.006
Municipal Workforce per 1,000 Population	-.013	.037
Overall Municipal Wage Costs per 1,000 Population	.000	7.584
Constant	1.292	.989
S.E.E.	.857	
Adj. R ²	-.020	
F-Statistic	.627	
N	78	

Note: Dependent variable, accountability control mechanisms, represents the number of controls or performance measure mechanisms used by a municipality to monitor employee behavior.

Second, as previously discussed, elected officials oftentimes place such a strong emphasis on employee accountability that the value associated with a reduction in supervision may not be viewed as beneficial. In this sense, higher wages may not substitute for fewer employee accountability controls. Rather, it is plausible that elected officials in higher wage municipalities will actually be more inclined to closely monitor employees.

Third, the degree in which a municipality monitors or controls its employees is difficult to capture through aggregate survey data. This kind of measurement is likely better suited for a qualitative research methodology, where the more abstract qualities of employee accountability, such as employee trust and autonomy, can be captured. For example, a micro study, comprised of a small number of organizations, assessing employee opinions regarding accountability controls would yield a much richer and more comprehensive analysis.

Predicting Wage Costs per Employee

The final model examines the relationship between wage costs per employee and the market wage ratio, controlling for municipal size and per capita income. The dependent variable, wage costs per employee, represents the overall wage costs per 100 full-time employees for a given municipality during FY 2005. The results of the analysis are presented in Table 10.

Table 10

Regression Analysis Predicting Wage Costs per Employee

<u>Independent Variable</u>	<u>B</u>	<u>S.E.</u>
Market Wage Ratio	119,308.029*	37,320.471
Municipal Size (1,000)	178.520	269.508
Per Capita Income (\$1,000)	-1,056.952*	448.062
Constant	-33,041.029	37,320.471
S.E.E.	34,920.655	
Adj. R ²	.182	
F-Statistic	6.622**	
N	76	

Note: Dependent variable, wage costs per full-time employees, represents the overall municipal wage costs during FY 2005 per 100 full-time employees.

** p < .01, * p < .05

The results show that the market wage ratio is a significant predictor of wage costs per employee, all else equal. However, contrary to what was predicted, wage costs per employee increase as the market ratio increases. Here, a one-unit rise (from 1.0 to 2.0) in the market wage ratio increases wage costs per 100 full-time employees by $\approx \$119,308$ ($p < .05$). Intuitively, this finding makes sense; increasing the market wage ratio should correspond with higher per employee wage costs. Conversely, this finding does not take into account the more subtle cost-saving factors likely associated with higher wages. For instance, reductions in costs due to higher service quality are not included in the model.

The coefficient for per capita income indicates that the level of affluence is a significant predictor of overall wage costs, *ceteris paribus* ($p < .05$). The negative direction of the coefficient suggests that more affluent communities maintain lower per employee wage costs. Municipal size is not a significant predictor of overall wage costs. Finally, the adjusted R^2 of the model is .182, suggesting that considerable variation in overall wage costs is not being captured by the model.

Conclusion

The overarching goal of this research was to answer the question of whether employee wages are positively correlated with performance and productivity. The answer to this question has important ramifications for a number of deeply held beliefs regarding public-sector compensation, such as starting pay and performance-based incentives. Generally speaking, the findings presented in this chapter amass a degree of

evidence in favor of efficiency wage theory. The empirical models tested assumptions associated with the shirking model, wage-productivity model, and labor turnover model.

As hypothesized, the market wage ratio was found to be a significant predictor of perceived reputational service quality. Given the nonlinear nature of this relationship, a tipping point was identified whereby efficiency wage rates have the greatest impact on perceived service quality. Municipal size and affluence are also associated with reputational service quality; however, these variables do not predict turnover or quit rate. In addition, the market wage ratio was found to be a significant predictor of wage costs per employee; however, this relationship was not in the expected direction. No definitive evidence was found in support of the hypotheses regarding accountability control mechanisms.

Chapter V makes recommendations regarding the utilization of efficiency wage theory as a method for strategic compensation in the public sector. When drawing conclusions, the results of the statistical analysis, as well as the case study, are relied upon. Ways in which municipal government professionals might utilize this study's findings to guide their own compensation policies are considered. Most of these revolve around linking wages to improved organizational outcomes. Finally, this chapter provides a basis for future research and, hopefully, some ideas for others to follow up on what has already been completed.

CHAPTER V
THE POTENTIAL FOR AN EFFICIENCY WAGE STRATEGY
TO FUNCTION IN THE PUBLIC SECTOR

Intended as a bookend to the dissertation, Chapter V is comprised of three primary sections. First, the implications of the research findings are discussed. Many of these implications settle around the notion of higher wages and, when applicable, efficiency wage as a tool for strategic compensation in the public sector. Second, an illustrative case study is presented. Due to its status as the prototypical efficiency wage community, the City of St. Charles, Illinois, was selected for the case study. The case study was designed to demonstrate the potential for an efficiency wage strategy to function in a public-sector organization. Moreover, the practical benefits and hurdles that St. Charles has encountered while operating under an efficiency wage system are addressed. Third, questions surrounding the future of compensation in the public sector and how efficiency wage may fit into the picture are outlined. Finally, this chapter provides a basis for future research and, hopefully, offers questions for others to follow up on regarding the loose ends of efficiency wage theory and practice.

It is important to note that the findings of this research are consistent with previous studies conducted primarily within the private sector. While not all of the primary tenets associated with efficiency wage theory are brought to bear through the statistical analysis, some are supported. This is significant in that it demonstrates the

potential benefits of utilizing an efficiency wage strategy in the public sector. Any variance in findings points to a need for further research, which would likely entail expanding the scope of the study to encompass more than one regional labor market. In addition, future research should strive to gain a broader understanding of how potential intervening variables, such as organizational culture or professional leadership, impact the relationship between wages and organizational performance and productivity. Ultimately, the jury is still out regarding the generalizability of the research findings. Regardless, a number of implications can be readily drawn from the analysis.

Implications of the Research Findings

The implications of the research findings become clear through a discussion of four major topic areas. First, the most obvious implication for this research is the linkage between efficiency wage and reputational service quality. The findings indicate that efficiency wage is a significant predictor of higher levels of perceived reputational service quality, all else equal. Whether perceived service quality is an accurate predictor of actual service quality is debatable. What can be construed, however, is that municipalities garnering higher RSQ scores also have a known reputation for providing exceptional services. Moreover, there is a positive association between a municipality's relative position within the regional labor market and its perceived level of service quality.

The implication is that highly regarded municipalities may leverage their reputation as a tool for increasing economic development or for attracting more affluent residents to the community. More narrowly, municipalities may use reputation as a

vehicle for attracting and retaining employees to the organization. Simply put, being regarded as a service leader within a regional market may lead to other positive or desirable outcomes for the community. In this sense, municipalities benefit from paying above-market wage rates. This should, however, be tempered by the fact that municipal size and affluence were also shown to be significant predictors of higher reputational service quality. It could be that larger or more affluent municipalities are viewed as de facto service leaders within the region. While size and affluence matter, the independent predictive quality associated with efficiency wage should not be ignored.

Another implication of the link between efficiency wage and higher reputational service quality may come about as a consequence of more communities moving toward this compensation strategy. As previously noted, as the number of municipalities striving to pay above-market wage increases, the distance between higher paying and lower paying organizations will be compressed. This, in turn, can result in higher overall compensation costs for organizations within the same market without yielding the same level of positive effects on service quality. The implication of this would be to place additional financial pressure on municipalities as they jockey to sustain or improve their perceived level of service quality.

The second set of implications occurs as a result of the association between higher wages and turnover or quit rate. The findings show that the market wage ratio is not a significant predictor of turnover or quit rate, *ceteris paribus*. This finding is counter to Leavitt (1996), who found that employees working for the Denver, Colorado, municipal water utility, a high-wage organization with very low turnover, expressed a

high degree of dissatisfaction when discussing their chances for advancement within the organization. Leavitt (1996) attributed the problem to organizational stagnation due to exceedingly low turnover caused by the organization's high wage strategy.

By nature, lower turnover corresponds with tenure stability. Increased tenure stability reduces the number of times that a municipality's organizational culture is disrupted by changing personnel. Each time a new person enters the organization, there is a period of learning and adjustment that must occur prior to reaching full operating effectiveness. This can have the effect of decreasing performance and productivity, ultimately impacting service quality. This does not appear to be an issue among the higher wage municipalities included in this study; however, future research should examine the relationship between wages and turnover more fully.

The third set of implications occurs as a result of the association between higher wages and wage costs per employee. The findings show that the market wage ratio is a significant predictor of increased wage costs per employee, all else equal. While this correlation is likely apt, it does not take into account the more subtle cost-saving factors associated with paying higher wages. For instance, reductions in costs, due to higher reputational service quality, are not included in the empirical analysis. Increases in employee morale and self-satisfaction may also be connected to higher wages (Akerlof, 1984).

By implication, municipalities considering the findings of this research should question whether the potential benefits, not measured in this study, outweigh the direct costs associated with paying higher wages. Failing to take these variables into consideration leads to the conclusion that a high-wage compensation strategy is more

costly than the alternative. In turn, this could provide elected officials, who may be dubious of the theoretical underpinnings associated with efficiency wage, with the ammunition needed to reject any move toward higher wages. Conversely, it may simply cause municipalities to invoke the old adage, “You get what you pay for.” This mentality would likely permeate through an organization, creating an expectation of increased performance and productivity among the employees. Put another way, employees would likely respond to the knowledge they are being rewarded highly by increasing their output accordingly (Adams, 1965).

The fourth set of implications entails the association, or lack thereof, between higher wages and accountability control mechanisms. The findings show that the market wage ratio is not a significant predictor of variation in accountability control mechanisms. In fact, none of the variables included in the model reach statistical significance. The implication of this finding is that municipal employees, regardless of wage level, municipal size, wage costs, and reputational service quality, experience very little variation in supervisor intensity. This runs counter to research by Groshen and Krueger (1990), Kruse (1992), and Leonard (1987), who found a correlation between rate of pay and supervisor intensity.

As mentioned previously, the public sector may be unique in that elected officials place a high value on employee accountability. Without formal evaluation methods in place, such as written performance appraisals, elected officials are unable to accurately determine whether employees are performing at a high level. Given this, it appears that very few municipalities, regardless of whether they offer higher wages, have abolished their conventional performance appraisal process. Regardless, as more

municipalities adopt a higher wage compensation strategy, de-emphasizing traditional accountability control mechanisms should be considered as an additional way to reduce costs.

In sum, the efficiency wage rates were found to be a significant predictor of higher reputational service quality. Sociodemographic variables, such as municipal size and affluence, were also found to be associated with reputational service quality, but not with turnover or quit rate. Higher wages, however, were not found to be a significant predictor of turnover or quit rate or accountability control mechanisms. Although the result was not in the expected direction, the market wage ratio was found to be a significant predictor of wage costs per employee.

Assessing the Model for Understanding Improved Organizational Outcomes Associated with Efficiency Wage Rates

The model developed in Chapter I for understanding improved organizational outcomes associated with efficiency wage rates is both supported and not supported under empirical scrutiny. For instance, while efficiency wage rates were a predictor of variation in reputational service quality, they were unable to explain variance in turnover or quite rate, accountability control mechanisms, and wage costs per employee. Variation in the predictive quality of the sociodemographic control variables was also present. For example, municipal size was found to be a significant predictor of reputational service quality, but not wage costs per employee or turnover rate.

Per capita income was found to be a significant predictor of wage costs per employee as well as reputational service quality. Somewhat surprising was the inability

of municipal workforce to predict, with statistical significance, variation in any of the dependent variables. This finding is counter to previous research (Brown & Medoff, 1985) suggesting an association between organizational size and level of performance and productivity. Finally, it is not known whether or to what extent the culturally based intervening variables predict variation in organizational performance and productivity, as such variables fall outside the purview of this study.

The overall impact of these findings on the model is not yet fully known. The perceived shortcomings of the model require further examination before a more definitive statement regarding their predictive qualities can be assessed. Similarly, the influence of the intervening variables contained in the model is simply not known. Without question, this model will continue to evolve as this research is expanded to other regional labor markets and as more research is conducted on the intervening variables.

To provide a richer context to the research findings, as well as to better illuminate the assumptions associated with efficiency wage theory, attention will now turn to a case study analysis. This case study demonstrates how an actual efficiency wage system functions in a public-sector organization. Pointing out illustrative examples found in the case study and relaying them to the model depicted in this analysis can develop a more holistic view of a higher wage and, more narrowly, efficiency wage strategy for the public sector. Due to its status as the prototypical efficiency wage community, the City of St. Charles, Illinois, was selected for the case study.

Case Study Analysis: St. Charles, Illinois

The City of St. Charles, Illinois, is a picturesque community situated along the banks of the Fox River in the far-western Chicagoland region. With a land area of 15.9 miles and a population near 32,000, the city boasts a balanced mix of retailers, restaurants, and manufacturing facilities (Community Profile, 2006). For an overview of socioeconomic and demographic data for St. Charles, see Table 11.

Table 11

Socioeconomic and Demographic Data for St. Charles, Illinois

Total Population (2005)	31,834*
Population \geq 25 years of age	18,134**
Education \geq High school diploma	16,603**
Education \geq Bachelor's degree	7,787**
Median Household Income (1999)	\$69,424**
Per Capita Income (1999)	\$33,969**

Note: *Northeastern Illinois Planning Commission; **U.S. Census Bureau, 2000

By all accounts, St. Charles is an affluent, growing community with a penchant for providing high-quality services to its residents. However, not unlike many Chicago-area suburbs, St. Charles is currently undertaking an effort to revitalize its downtown district. This includes adding an additional 200,000 square feet of retail and office space, 96 housing units, and two parking facilities (Community Profile, 2006). The city

is met on all sides by the borders of neighboring communities. This leaves little potential for future growth through annexation, making the success of the downtown revitalization project acutely important for continued robust economic expansion in the community.

In Illinois, any municipality with a population of more than 25,000 is automatically a home-rule unit. Essentially, this grants St. Charles, “the power to regulate for the protection of public health, safety, morals and welfare; to license; to tax; and to incur debt” (Illinois State Constitution, 1970, Article VII, Section 6). The city has an aldermanic form of government with a professional city administrator responsible for the day-to-day municipal operations. The council is comprised of two members from each of the five wards, with a mayor elected at-large. The combination of home-rule status coupled with a professional administrator allows the city a great deal of flexibility in all facets of its organizational operation.

In 2003, the City of St. Charles did something novel: it developed a new compensation strategy based on an efficiency wage model. Specifically, in an effort to recruit, retain, and motivate employees, the city decided to pay its staff at the 75th quartile of its comparable market communities. By way of an annual salary survey, wages are recalculated in order to maintain the 75th quartile benchmark. St. Charles eliminated performance-based or merit pay and cost-of-living adjustments because the city felt that its relative market position, updated annually, mitigated any need for annual cost-of-living increments. In addition, the city abolished its conventional system of formal written evaluations and replaced them with periodic coaching or feedback sessions for both union and non-union employees.

When determining wage rates, the city's compensation plan takes into account internal, individual, and external equity. This helps to ensure that wage rates are set in accordance with the complexity of a position, the relationship of that position to all other positions within the organization, and the relationship of that position to positions of similar qualifications and responsibilities in comparable communities. The hallmark of the plan, however, is its reliance upon measures of external equity. As previously noted, the city conducts an annual salary survey, which is sent to a sample of comparable communities.

The following criteria are used to determine whether a community is considered comparable: (1) the equalized assessed value per capita of the community must be between \$18,539 - \$55,617; (2) the community must be located less than 20 miles from the St. Charles City Hall; and (3) the community's corporate budget must be greater than \$14,941,930 (City of St. Charles, 2006). Not all of the communities meeting these criteria are included in the survey; rather, St. Charles utilizes a select group comprised of 23 communities. For a list of the city's comparable communities, see Appendix F. It should be noted that the list of comparables contains a broad range of municipalities in terms of economic and demographic make-up. These communities, according to the city's mayor, represent the "best" municipalities in the Chicagoland region (D. DeWitte, personal communication, February 2, 2007).

By relying on a list of comparable communities to determine its pay ranges, St. Charles is establishing a market-based salary schedule. From a practical standpoint, it is not difficult to see the impact that the communities chosen as comparables have on the city's ultimate position in the labor market. In fact, it is not uncommon for

disagreement among interested parties to arise regarding the criteria used to determine the list of comparable communities. For example, criteria such as size, level of affluence, and distance may all become a point of contention. It may also be the case that a municipality is selected or excluded not so much for its demographic or economic compatibility, but based on some other factor. Ultimately, the determination of comparable communities is a political decision that must be approved by the elected board. In addition, the elected board must approve any alteration to the set of comparable communities due to the broad financial implications associated with such a decision.

The criteria used by St. Charles to determine its list of comparable communities results in a generous wage system. This is because the city's criteria have only set a minimum or baseline for comparison, with no specific ceiling in place. Put another way, none of the communities chosen as comparables are smaller or less affluent than St. Charles; rather, many are larger, with greater budgets and higher levels of economic development. Under this scenario, St. Charles's relative wage position within the regional labor market rivals that of any community regardless of size or level of affluence.

St. Charles's pay ranges are managed using a traditional grade and step system. Moreover, the city, on an annual basis, identifies the market change for its comparable benchmark positions. This involves determining a new average minimum and average maximum salary range for each benchmark position and, subsequently, a new 75th percentile based on this range. The maximum market adjustment is limited to five percent; however, each benchmark position will vary in how much its specific market

has moved in a given year. For instance, some markets may move only a fraction of a percent while others may move several percents; thus, different benchmark positions will receive different annual raises. In addition to any market adjustments, employees are provided an annual step increase of 3.63%. The step increase helps ensure that employees move through their respective salary range.

Given these very generous compensation adjustments, the overall average wage increase for St. Charles's employees since the inception of its efficiency-wage-based compensation system has been slightly greater than eight percent. It should be cautioned, however, that not every employee receives an eight-percent raise annually; rather, the system average is eight percent. Regardless, considering current economic conditions where the annual cost of living increases by approximately three percent per annum, this reflects a large pay raise for the city's employees.

The impetus behind St. Charles's decision to move toward this compensation strategy was two-fold. First, in the mid- to late 1990s, the city's elected officials perceived a need to further professionalize the bureaucracy. This included the creation of a city administrator position via ordinance as well as relinquishing the day-to-day municipal operations to that individual. Second, during the same period, the city was experiencing tremendous growth in terms of population and economic development. Once again, elected officials were faced with a choice regarding the future direction of the municipality. Thus, in conjunction with the newly hired city administrator, the decision was made to become a regional service leader. In order to achieve this, the city believed it was necessary to undertake an effort to both attract and retain high-quality personnel to the organization. From these early considerations, an efficiency-wage-

based compensation strategy was born. Simply put, above-average wages were seen as the best way to attract and retain an above-average workforce.

The City of St. Charles faced very few obstacles or barriers during the development and implementation of its compensation strategy. Within the organization, employees were happy to receive such vaunted wage increases, which, in most instances, amounted to an initial percentage increase in the double digits. Employees were made aware of the city's lofty wage strategy as well as what would be expected in terms of individual and organizational performance and productivity. Outside the organization, engaged citizenry did not attempt to derail or alter the plan. Rather, many shared a sentiment similar to the city; namely, above-market wages would ensure a highly qualified and motivated workforce. It appears that the move toward an efficiency-wage-based compensation strategy was aided by the demographic make-up and economic viability of the community. Moreover, the elected officials, administration, and employees were highly in favor of adopting this newfound strategy. Figuratively, a "perfect storm" of a positive variety was taking shape.

In order for an efficiency wage strategy to continue, the political environment and organizational culture must remain favorable. The administration and elected board must believe that a high-wage strategy actually produces desirable organizational outcomes, such as better applicant pools and lower turnover. In a similar vein, employees must continue to view their relative wage rate as a "gift," which is taken in exchange for the "gift" of improved work norms and increased performance and productivity (Akerlof, 1982, 1984). In addition, the political environment must be able to weather eventual changes in the elected board, which may result in a set of new

policy directives or goals. Finally, efficiency wage requires economic viability. If a community's economic development becomes stagnant or declines, maintaining a high-wage strategy may become a fiscal liability.

Since implementing its compensation strategy, St. Charles has faced each of the aforementioned factors to varying degrees. For instance, the administration and elected officials do believe that the city's high-wage strategy produces tangible outputs, which is supported by anecdotal evidence and a city-sponsored citizen survey. To elaborate, during the interview process, both the city administrator and mayor strongly asserted that they experienced a marked increase in the value and quantity of applicant pools (B. Townsend, personal communication, January 26, 2007; D. DeWitte, personal communication, February 2, 2007). This sentiment was echoed by the public works director when he described the quality and breadth of applications received during a recent attempt to hire an electrical engineer - a position in strong demand among public- and private-sector organizations (M. Koenen, personal communication, January 31, 2007). With regards to the citizen survey, the mayor cited the twice-yearly survey instrument as a valuable data source used to provide evidence in support of the high-wage strategy. Generally speaking, the survey assesses citizen input pertaining to a wide range of municipal services, where, on average, 98.6% of the citizens either "approve" or "strongly approve" of the level and quality of services provided.

It is interesting to note that an important aspect of St. Charles's compensation program is the belief that performance appraisal instruments, designed to formally assess individual performance and productivity, are unnecessary. Rather, in accordance with efficiency wage theory, the city administrator believes such instruments would

increase personnel costs while providing relatively little information of substantive value. Moreover, the city has worked hard to cultivate an organizational culture based on personal trust; introducing a formal performance appraisal process to this new milieu may lead employees to feel that this trust has been breached.

With regards to how employees view their relative wage rate as a “gift,” the city was found to devote only a small amount of time and energy to promoting or reminding employees of its relative wage position in the market. The shared belief held by administration is that employees are generally aware that their pay is higher than their counterparts in neighboring communities. However, it has become evident that some employees within the organization lack a full understanding of their relative pay position. For example, the city administrator noted that he had received a handful of informal correspondence from employees questioning their level of pay. While the city’s employees are actually being paid at a rate that is $\approx 25\%$ higher than the comparable market average, employees who have contacted the city administrator appear to view the 75th quartile as taken out of 100%. Therefore, they are questioning why they are expected to put forth 100% of their effort when the city is only willing to pay for, in their eyes, 75% of their effort (B. Townsend, personal communication, January 26, 2007). This suggests a fundamental misunderstanding regarding the city’s wage strategy.

St. Charles has also undergone a number of organizational and political changes since initially implementing its compensation strategy. The city’s first professional administrator retired and was subsequently replaced in 2005. In addition, the dynamic on the elected board has shifted, as a new mayor and several new board members have

recently been elected to office. The city has also experienced changes in its economic development. Specifically, over the past two years, tax revenues have flattened out, causing a fundamental shift in policy from continued growth toward redevelopment. In light of these uncertainties, the board is currently examining ways in which to slow the city's yearly expenditures.

Re-examining the city's compensation strategy is one possibility. In fact, the elected board has requested the city administrator to undertake an evaluation of the current compensation system. The impetus behind this request is not due to dissatisfaction with the system per se; rather, it is a proactive measure that will help ensure the city's long-term financial stability. This, in essence, places St. Charles in a proverbial game of Catch-22.

On the one hand, elected and administrative officials believe that the efficiency wage strategy produces desirable outcomes, such as better applicant pools, lower turnover, and higher overall levels of performance and productivity. Moreover, city officials agree that the citizenry would be unlikely to accept a significant reduction in the level or quality of services offered. Thus, the ability to attract and retain highly qualified employees, for which the city's high-wage strategy is credited with doing, is viewed as essential. On the other hand, elected and administrative officials fear that the current wage strategy will be financially difficult to sustain. St. Charles employees receive generous wage increases on a nearly annual basis. The employees view such increases as standard and any significant reduction would likely evoke negative consequences.

Therefore, the city's officials are faced with a difficult situation. Among St. Charles's officials there is little hard data indicating that the efficiency wage strategy produces desirable outcomes, yet they share a strong perception that it does. Moreover, the elected and administrative officials appear genuinely appreciative of the city's employees and believe that the higher level of compensation reflects a fair exchange. Simply put, neither the administration, nor the elected board, is in favor of moving away from a high-wage strategy, even though they realize its costs need better containment.

Redefining the list of comparable market communities is seen as one way the city could maintain its high-wage strategy and at the same time reduce costs. Currently, St. Charles compares itself to several municipalities that are much larger and have greater economic resources. Narrowing the list to include only those municipalities that are demographically or economically similar to St. Charles might reduce the city's wage growth. Moreover, the city administrator is contemplating increasing the city's rate of pay to the 95th quartile of this potentially new set of comparable market communities (B. Townsend, personal communication, January 26, 2007). Ostensibly, this would allow St. Charles to maintain its status as a high-paying community and at the same time create the perception that the city is paying even higher wages. This strategy, however, could backfire. First, it is not known whether this strategy would cost less than the current system over time; it would depend primarily on the new list of comparable market communities. Second, any positive psychological benefits gained by moving from the 75th to the 95th quartile of

comparable communities would likely be lost if the employees' actual pay did not increase dramatically.

If the overarching goal of the city is to reduce costs while at the same time maintain a high-wage strategy, it may simply be better to have fewer employees. Although reducing the number of employees, which could be done through natural attrition, might impact service levels slightly, the remaining employees would likely be more productive than if the city dropped its high-wage strategy in favor of paying near the regional average. In this sense, city officials would be able to cut costs while at the same time maintain what they perceive to be an effective compensation system.

Without question, the administrative staff needs to do a better a job of educating their employees regarding the city's compensation strategy. Employees may misperceive the significance of their level of pay relative to comparable communities. By ensuring that everyone in the organization develops a clearer understanding of efficiency wage concepts, the expected organizational outcomes associated with the model would more likely achieve fruition. In addition, it is recommended that the city undertake an effort to measure the effectiveness of its current compensation strategy prior to taking any steps to alter it. As previously noted, elected and administrative officials believe the strategy yields a variety of desirable organizational outcomes. However, to what degree or extent the strategy is truly effective is not well known and much is anecdotal. By gaining an empirical understanding of the costs and benefits derived from their efficiency wage system, city officials would be better able to gauge whether the benefits outweigh the costs.

Since implementing this strategy, the city has noted marked improvement in the size and quality of its applicant pools. Moreover, the city's turnover or quit rate is very low and, by all accounts, the employees appear genuinely satisfied with the organization. The city enjoys a strong reputation for service quality, as indicated by citizen surveys as well as the peer assessment undertaken in this study. Finally, there appears to be a high level of trust within the organization. Employees are not subjected to formal performance appraisals; rather, they are monitored through informal methods, such as verbal coaching.

Ultimately, the City of St. Charles's experience with its compensation strategy appears to affirm, to some extent, the model for improved organizational outcomes. While no specific hypothesis testing was undertaken, there is little doubt that St. Charles possesses the cultural and innovative qualities necessary to successfully carry out an efficiency wage strategy. As previously discussed, future research should focus on the less tangible, intervening variables contained in the model. In addition, this case study adds a greater degree of context, as well as insight, to the empirical findings discussed in Chapter IV. Many of the observations made during the case study analysis support the aggregate survey data findings.

The following section is intended to conclude the discussion of this research. Questions surrounding the future of compensation in the public sector and how efficiency wage may fit into the picture are outlined. Finally, a basis for future research and ideas for others to follow up on that which has already been completed are provided.

Final Observations and Conclusion

During the 1970s and 1980s, merit pay emerged as an impetus for increasing employee performance and productivity. In order to measure performance on an individual basis, the utilization of a formal method of performance appraisal was viewed as best. Initially, the idea of objective performance appraisals carried out by trained specialists was attractive to organizational leaders, as it would help to ensure the fair and equitable treatment of all employees. However, performance appraisals have, in the large majority of cases, failed to effectively differentiate individual employee performance in a meaningful way. Raters commit a panoply of measurement errors, with the most common being positive halo error, where employees are systematically overrated (Latham & Wexley, 1981). Given that performance appraisal instruments suffer from a host of problems, merit pay has fizzled as an effective compensation tool in the public sector (Gabris, 1998). Thus, while merit pay, in various guises, remains a popular tool because of its perceived ability to control and punish inept employees, it has, for all intents and purposes, lost its sheen. In fact, according to Nigro, Nigro, and Kellough (2007), the era of building compensation systems on strictly merit principles, designed primarily to regulate and restrict behavior, is largely waning.

However, reflecting on the results from a survey of ICMA members, Hays and Kearny (2001) concluded, "Public personnel administration remains in a state of flux and turbulence. Change has become a constant in the practice of [human resources management] as reform proceeds apace across virtually every conceivable front" (p. 595). At the forefront of this reform are ways in which the public sector can utilize

compensation to improve organizational outcomes. Undoubtedly, public-sector organizations will continue to experience political and fiscal pressures to increase performance and productivity while maintaining an ever-leaner bottom line.

In an effort to meet such pressures, the use of compensation strategies, such as skill-based pay or pay bands, has increased in the public sector. As discussed in Chapter I, under a skill-based system, employees are rewarded horizontally through the expansion of their knowledge, skills, and abilities that facilitate their specific job expertise. Pay bands create a much wider pay range for hiring employees at competitive market rates. This, in turn, expands the flexibility of public organizations to be more competitive in complex labor markets. Another compensation strategy beginning to appear in the public sector is gainsharing. Gainsharing rewards employees as members of workgroups that contribute to an organization's performance and productivity. More specifically, gainsharing encourages employees within their workgroups to develop new methods and approaches to problem solving and, in turn, share in the cost savings resulting from such efforts (Graham-Moore & Ross, 1990). From an organizational perspective these compensation strategies make sense, as they grant organizations the flexibility to recruit, retain, and reward employees. However, whether these strategies correlate with significant increases in organizational performance in the public sector has yet to be the subject of extensive empirical research.

The findings presented in this study provide moderate support for the application of a high-wage compensation strategy in the public sector. Specifically, within the Chicagoland region, efficiency wage rates were found to be a significant

predictor of higher reputational service quality, all else equal. Higher wages were also found to be a significant predictor of increased wage costs per employee. This finding, however, does not take into account the more subtle cost-saving factors likely associated with higher wages. Unfortunately, there was no definitive evidence in support of the hypotheses regarding turnover rates or accountability control mechanisms. Regardless, public-sector organizations considering the adoption of a new compensation model would be prudent to consider the potential benefits of a strategy based on efficiency wage theory.

The case study presented earlier in this chapter described how the City of St. Charles, Illinois, actually implemented an efficiency wage compensation strategy that was designed to accomplish specific goals. Anecdotally, the city's administrative and elected officials feel the strategy has worked, even though they lack hard empirical evidence to verify their assumptions. Readers, however, should note that the strategy implemented by St. Charles reflects only one way in which a high-wage compensation model might be deployed. As previously noted, there exist numerous potential alternatives that public-sector organizations could consider.

As this research has suggested in many places, the calculation of the practical compensation market is fundamental. Public-sector organizations could experiment with different market models mathematically in order to ascertain a plausible fit between where in the market an organization would like to rank in relation to its financial resources. A market model that satisfies the efficiency wage assumptions of one organization may vary substantially from another. A partial efficiency wage system may also be attempted. For instance, this may involve calculating benchmark salaries at

higher than average market rates but also coupling these with additional pay incentives, such as skill-based pay, cost-of-living adjustments, or performance bonuses. The key is to identify, as closely as possible, the “tipping point” at which most employees experience a need to increase their performance due to what is perceived as a fair exchange for their pay.

As was observed in St. Charles, some employees believe they are being paid only 75% of what other employees in similar positions receive. This belief causes them to question whether they should produce at only a 75% performance rate. While in this instance the employees’ reasoning is incorrect, perception can be as important as reality. If efficiency wage systems are to work, the employees under them must feel the system is treating them better than average. Only then might they feel compelled to perform above the norm.

The future of compensation in the public sector appears promising. In local government, elected and administrative officials will continue to seek new methods by which to attract and retain quality employees. This brings to bear the fact that no single, all-encompassing compensation model exists. As more public-sector organizations begin to utilize general high-wage concepts, customizing these concepts to better fit specific organizational needs, a greater understanding of the specific kinds of models leading to performance-based tipping points will be gained. Given that continued pressure will be levied on public-sector organizations to provide higher levels of service while maintaining low costs, this research should persuade elected and administrative officials to realize the importance of considering their organization’s relative position in the regional labor market.

Ultimately, it is hoped that a predictive model of improved organizational outcomes associated with efficiency wage can be found. This research lays the foundation for future endeavors encompassing the entire picture of public-sector compensation. Undoubtedly, more work needs to be done. The predictive power of the model needs to be tested in additional labor markets. The role of each independent variable in the empirical models presented need to be confirmed through further analysis; in addition, questions regarding turnover or quit rate and accountability control mechanisms need to be addressed. The scope of future research should also be expanded to include culturally based intervening variables, as the extent to which an efficiency wage strategy is able to function in the public sector may largely be dependent on the overall culture of the organization.

As noted at the outset of the dissertation: compensation matters. By viewing compensation strategies as complex and multifaceted, it helps illuminate the fact that there are no easy answers to the questions posed in this study. Regardless, public-sector organizations can ill-afford to neglect their compensation strategy; rather, it should be viewed as the crux to improved organizational outcomes.

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APPENDIX A
BENCHMARK JOBS SURVEYED

Benchmark Jobs Surveyed

1. City Administrator or Manager
 2. Assistant City Administrator or Manager
 3. City Clerk
 4. Departmental Secretary
 5. Finance Director
 6. Accounts Payable/Receivable or Billing Clerk
 7. City Planner
 8. Code Inspector
 9. Public Works Director or Superintendent
 10. Maintenance Worker (Public Works)
 11. Wastewater Treatment Plant Operator
 12. Police Chief
 13. Police Sergeant
 14. Patrol Officer
 15. Fire Chief
 16. Firefighter
-

APPENDIX B

CORE MUNICIPAL SERVICE AREAS SURVEYED

Core Municipal Service Areas Surveyed

1. Police/Law Enforcement
 2. Fire Services
 3. Public Works
 4. City Planning
 5. City Administration
 6. Economic Development
 7. Parks and Recreation
 8. Code Enforcement
 9. Financial Management
 10. Human Resources Management
 11. Information Technology Systems
-

APPENDIX C

ALPHABETICAL LISTING OF STUDY MUNICIPALITIES

Cook County

Arlington Heights
 Countryside
 Flossmoor
 Glenview
 Hazel Crest
 Hoffman Estates
 Homewood
 La Grange
 La Grange Park
 Lemont
 Lincolnwood
 Lyons
 Morton Grove
 Mount Prospect
 Munster, IN
 Niles
 Northbrook
 Palos Park
 River Forest
 Riverdale
 Riverside
 Schaumburg
 Schiller Park
 South Holland
 Western Springs
 Wheeling
 Wilmette

DeKalb County

DeKalb

DuPage County

Addison
 Bloomingdale
 Carol Stream
 Downers Grove
 Elmhurst
 Glen Ellyn
 Hinsdale
 Lisle
 Lombard
 Naperville
 Oakbrook Terrace
 Roselle

Wheaton
 Woodridge

Grundy County

Minooka

Kane County

Carpentersville
 Geneva
 Montgomery
 North Aurora
 Sugar Grove
 St. Charles

Kankakee County

Manteno

Kendall County

Oswego
 Yorkville

Lake County

Bannockburn
 Barrington
 Beach Park
 Buffalo Grove
 Deerfield
 Hawthorn Woods
 Highland Park
 Kildeer
 Lake Bluff
 Libertyville
 Lincolnshire
 Lindenhurst

McHenry County

Algonquin
 Cary
 Crystal Lake
 Fox River Grove
 Lake in the Hills
 Lakewood
 Marengo
 McHenry
 Woodstock

Will County

Beecher
 Homer Glen
 New Lenox
 Plainfield
 Romeoville
 Shorewood

N = 79

APPENDIX D

SALARY AND FRINGE BENEFITS SURVEY

Municipal Salary and Fringe Benefits Survey

Note: Thank you for participating in the *municipal salary and fringe benefits survey*. Please answer the survey questions in the space provided to the right of the question.

Title	Minimum	Maximum	Current or Current Average
City Administrator/Manager			
Assistant City Admin/Manager			
City Clerk			
Department Secretary			
Finance Director			
Accts. Payable/Receivable or Billing Clerk/Receptionist			
City Planner/Community Development Director			
Code Inspector			
Public Works Superintendent			
Public Works Director			
Maintenance Worker (Public Works)			
Wastewater Treatment Plant Operator			
Police Chief			
Police Sergeant			
Patrol Officer			
Fire Chief			
Firefighter			

I. GENERAL INFORMATION

1) Size (in dollars) of Municipal General Fund? _____

2) Gender of current City Manager/Administrator? _____ Male _____ Female

3) Total number of full-time employees? _____

4) What is the percentage of minority employees in relation to total employees in your organization? (Do not count white females in this calculation) _____

5) Does your municipality utilize an Affirmative Action policy for employee recruitment? (yes/no) _____

6) How many employees resigned from their positions in 2004? _____

7) What is the total number of new employees hired during 2004? _____

II. COMPENSATION INFORMATION

8) How do employees move through their pay ranges (i.e., steps, cost of living adjustment (COLA), across the board, or combination)? Please explain. _____

9) How many salary adjustments are non-union employees eligible for each year? _____

10) Does your plan have a merit or bonus component? (yes/no) _____

11) If so, how are merit raises or bonuses determined (i.e., performance appraisal scores)? Please explain. _____

12) What are the sizes (percent) and amounts (dollars) of bonuses available? _____

13) Are bonuses provided as a lump sum or additions to base pay? Please explain. _____

14) Does your plan offer any kind of non-monetary incentives? (yes/no) _____

15) If so, please explain what those incentives are (i.e., vacation days, awards, etcetera).

16) Does your plan offer any kind of group incentives or gain sharing opportunities? (yes/no)

17) If so, please explain what those incentives are.

18) How regularly, if at all, are the employees surveyed regarding their attitude toward the municipality's compensation philosophy?

19) When is the last time your municipality conducted a salary survey?

20) How frequently does your municipality conduct a salary survey and how many other municipalities were included in the most recent survey?

21) Which of the following compensation philosophies best describes your community?

- A. We strive to pay at a higher overall rate than other comparable municipalities in the region;
- B. We strive to pay at the mean/average rate;
- C. We pay below the mean/average rate;
- D. We do not have a compensation philosophy.

_____ Answer

22) To what degree do union contracts and pay increases influence the compensation and pay increases of non-union (exempt) employees in your municipality?

- A. A great deal;
- B. To some extent;
- C. Little;
- D. Not at all;
- E. Not applicable.

_____ Answer

23) To what degree do local economic/business conditions influence your municipality's pay system?

- A. A great deal;
- B. To some extent;
- C. Little;
- D. Not at all.

_____ Answer

24) To what degree is the pay system in your municipality a political issue with the board/council?

- A. A great deal;
- B. To some extent;
- C. Little;
- D. Not at all.

_____ Answer

25) Does your municipality utilize some form of job evaluation to determine internal equity? **(yes/no)**

26) If so, what type of job evaluation tool (i.e., factor point, position classification, ranking, Hay method, etcetera) is currently being used? Please explain.

27) Does your municipality take internal equity (i.e., internal value of jobs relative to other jobs) into account when determining pay? **(yes/no)**

28) If so, how does your municipality adjust for internal equity through compensation?

29) Does your pay plan include an annual cost of living (COLA) increase? **(yes/no)**

30) If yes, what was the most recent percent adjustment?

31) Does your municipality give pay increases based on skill-based pay? **(yes/no)**

32) If an employee is unhappy with his/her pay increase is there a formal appeals process in place? **(yes/no)**

III. PERFORMANCE APPRAISAL

33) Does your municipality have a formal written performance appraisal/evaluation program? **(yes/no)**

34) If so, what type of performance appraisal instrument does your municipality use? Trait based;

- A. Trait based;
- B. Management by Objectives (MBO);
- C. Other or combination of (please explain).

 Answer

35) How frequent are these evaluations made?

IV. UNION

36) What is the number of unions represented in your municipality?

37) Which department(s) does a union formally represent?

38) What is the average annual pay increase for the employees under a union contract?

V. MEDICAL AND TIME-OFF BENEFITS

39) What is the average out-of-pocket cost for employees for health insurance coverage?

For the employee only: _____

For family coverage: _____

Sick Leave

40) Does your municipality have a formal sick leave policy? **(yes/no)** _____

41) Does your municipality have an incentive program to reward employees for unused sick leave? **(yes/no)** _____

42) If so, what is the conversion/value of the incentive program? _____

43) What was the total number of sick days used by exempt, full-time employees during FY 2004? _____

Vacation

44) How many months must an employee work for the municipality before he/she may use vacation leave? _____

45) How many days per year of vacation are granted to employees who have the following lengths of service?

1. 1 year _____ → _____

2. 5 years _____ → _____

3. 10 years _____ → _____

4. 20 years _____ → _____

Maternity Leave

46) Does your municipality have a maternity leave policy? **(yes/no)** _____

47) If so, are all employees, regardless of sex, eligible for maternity leave? **(yes/no)** _____

Funeral Leave

48) If funeral leave is granted, what is the maximum number of days, with pay, an employee may take? _____

VI. EDUCATIONAL INCENTIVES

49) Does your municipality reimburse employees who acquire supplemental education? **(yes/no)** _____

50) Are courses required to be job related? **(yes/no)** _____

51) If reimbursement is provided for tuition, what % does the municipality pay? _____

52) If reimbursement is provided for books and materials, what % does the municipality pay? _____

VII. PROFESSIONAL DEVELOPMENT

53) Are yearly appropriations made for professional development or training? **(yes/no)** _____

54) If yes, is there a cap amount on how much an employee may receive? _____

55) Are all employees eligible for professional development funding? **(yes/no)** _____

CONTACT INFORMATION

Municipality: _____

Name and Title: _____

Email address: _____

Please email the completed survey to Trent Davis at tdavis2@niu.edu or fax 815-753-2539. You may also mail the survey to my attention at: Division of Public Administration, Northern Illinois University, DeKalb, IL 60115.

APPENDIX E

REPUTATIONAL SERVICE QUALITY QUESTIONNAIRE

Municipal Services Survey

Instructions:

- 1) The following survey is designed to identify municipalities (other than your own) within your regional network that excel in the delivery of one or more service areas. You are not being asked to rank these municipalities, but to identify those municipalities and the service area(s) that stand out to you in your role as a professional administrator.
- 2) The survey is comprised of two parts. Part 1 (labeled **P1**) asks you to identify municipalities within your “regional network” that deliver “particularly high quality service” in one or more service areas.
 - **Regional Network** is defined as those municipalities that employ a professional administrator that you have an opportunity to meet and interact with on a regular or semi-regular basis. It is anticipated that you routinely compare and contrast aspects of your municipality (such as the delivery of services) with the members of your regional network. Interaction may occur informally, such as through a weekly or monthly managers’ luncheon, or it may occur formally, such as through a professional meeting or conference. Your regional network may be comprised of neighboring or nearby municipalities, or it may consist of municipalities farther away in distance. Also, your regional network may consist of municipalities larger or smaller in population, municipal general fund, service offerings, or personnel.
 - **Particularly High Quality Service** is defined as a service area that, in your professional opinion, stands out above most or all other municipalities offering a similar service. The service is of the quality that it could be considered as a benchmark or model for other municipalities to follow. For example, you may believe that Community X excels in the delivery of its police services and, therefore, is seen as offering particularly high quality service in this area.
- 3) Part 2 (labeled **P2**) asks for any additional insight that you might be able to provide which will help me to better understand the type of regional network you belong to and your interaction with other network members.

Municipality: _____

Name and Title: _____

Email: _____

P1

Based on your professional knowledge and experience, please identify those municipalities in your “regional network” that are known for delivering *particularly high quality service* in one or more service areas. List each municipality and the service area(s) below. If a municipality is known for delivering generally high quality services overall, list the name of the municipality followed by “all services” (e.g., Dayton – all services). All services include: Police, Fire, Public Works, Planning, Administration, Economic Development, Parks and Recreation, Code Enforcement, Financial Management, Human Resources Management, and Information Systems Technology.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

P2

Please provide any additional comments you may have which will help me to better understand the type of regional network you belong to or your interaction with other network members.

APPENDIX F

COMPARABLE COMMUNITIES FOR THE CITY OF ST. CHARLES, ILLINOIS

Comparable Communities for the City of St. Charles, Illinois

- | | |
|-----------------------|---------------------|
| 1. Addison | 13. Lombard |
| 2. Arlington Heights | 14. Mount Prospect |
| 3. Batavia | 15. Naperville |
| 4. Bensenville | 16. Palatine |
| 5. Bolingbrook | 17. Rolling Meadows |
| 6. Carol Stream | 18. Romeoville |
| 7. Crystal Lake | 19. Schaumburg |
| 8. Des Plaines | 20. Villa Park |
| 9. Downers Grove | 21. Westmont |
| 10. Elk Grove Village | 22. Wheaton |
| 11. Elmhurst | 23. Woodridge |
| 12. Hoffman Estates | |
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