DEPUTY MINISTER SALARY IN CANADA:
ECONOMIC AND POLITICAL FORCES

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ABSTRACT

Since the late 1990s both the public and the federal and provincial governments in Canada have paid increasing attention to the issue of public sector salaries due to the availability of public compensation information, the aging of senior government officials and adoption of new public management by the public sector. This study investigates the factors determining the compensation level of senior government officials, namely deputy ministers (DMs), in the provincial and the federal governments in Canada. The key factors of interest are cabinet minister salaries, private sector salaries and the presence of pay-for-performance schemes. Using descriptive and regression analysis, this study shows that political elements play an important role in DM salary determination. In particular, regression results indicate a close relationship between DM and ministerial salaries during the period between 2000 and 2010. The relationship between DM salary and pay-for-performance schemes shows that DM salary is positively related to the presence of aggressive pay-for-performance schemes. This study argues that the introduction of pay-for-performance schemes is consistent with the politicization of the salary determination process for senior government officials. DMs with better performance are awarded with higher salaries in exchange for reaching performance measures that politicians lay out in advance.

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CHAPTER 1

INTRODUCTION

1.1. Compensation for Senior Public Servants in Canada

The issue of executive compensation in the private sector has been at the heart of public debates since the late 1990s. Exorbitant executive salaries, bonuses and other financial rewards have been discussed in the media (Otten, 2007). Interest in the issue has been maintained because CEO remuneration continued to increase even during the economic recession. For example, according to CBC News (2015), between the 2008 and 2013 the growth rate in the salary of the highest-paid Canadian CEOs was twice the growth rate in salaries of the average Canadian worker.

In addition to being more aware of corporate executive salaries, the general public is also paying attention to the remuneration of senior government officials. Salary disclosure by provincial governments has directed the public's attention to executive pay in the public sector. Due to the Disclosure Acts implemented in some provinces, information on total compensation and/or details about individual compensation is readily available to the public. Since 1996, the government of Ontario has provided salary information of employees who are paid $100,000 or more per year, including the position and the ministry name (Ontario, 2014). In addition, the Vancouver Sun launched an online database of public sector pay in British Columbia (Vancouver Sun, 2015). Due to the availability of this database, the compensation of senior officials is often in the media.

It is not only the general public who is interested in compensation practices in the public sector. Governments have also been interested in this issue. Since the 1980s, governments around the world have adopted reforms – often under the title of New Public Management (NPM) – in an attempt to achieve better public sector management (Hood, 1995). This trend is a worldwide phenomenon, especially in Anglo-Saxon and Nordic countries (Binderkrantz & Christensen, 2012).

In Canada, accountability took on a more central role for reforms in both the federal and provincial governments, starting in the 1990s. This new emphasis led to reforms in policy development, program and service delivery, and report procedures (English & Lindquist, 1998). The reforms also identified the need to improve the quality of leadership among senior managers.

According to the Advisory Committee on Senior Level Retention and Compensation (Canada, 1998), the hiring process is crucial to finding the best employees and salary is an important tool for hiring and retaining these individuals.

The compensation for senior positions in the Canadian public sector is an important topic for governments due to the aging of senior government officials. Compensation reviews by both federal and provincial governments pointed to the retirement of senior officials as a threat to the continuation of good government. The federal Advisory Committee on Senior Level Retention and Compensation argued that the recruitment environment of the 2000s is very different from the environment of the 1970s and 1980s, when a labour surplus existed (Canada, 2000b). The Senior Officials' Compensation Committee in 2005 in Alberta argued that 39 percent of deputy ministers (DMs) are eligible to retire in early 2008 (Alberta, 2005). In 2008, the government of British Columbia predicted that 51 percent of DMs will be qualified to retire within the next decade (British Columbia, 2008).

Government's focus on senior official compensation has led to changes in compensation practices. For instance, the federal government's report from the Advisory Committee on Senior Level Retention and Compensation (Canada, 1998) acknowledged the lower level of compensation for the executive group including executives (EXs) and DMs in comparison with their counterparts in the private sector. The report suggested gradual changes in the compensation structure, including an increase in the total compensation for senior government officials and an implementation of variable pay that is based on performance. In Alberta, the Senior Officials Compensation Ad Hoc Committee (Alberta, 2005) was formed to examine the level and the components of compensation of senior officials. The committee recommended an increase in base salary to provide compensation that would be competitive both with other provincial governments and the private sector. They also recommended a modification to performance evaluation to motivate better performances and differentiate excellent employees from mediocre employees. The government of Nova Scotia announced new salary levels and the introduction of new pay plans, after compensation consultants reviewed senior public servants' compensation (Nova Scotia, 2007).

One of the widespread changes in compensation practices in the Canadian public sector is the introduction of pay-for-performance schemes. The Canadian federal government introduced the Performance Management Program in 1998 (Canada, 1998). The provincial governments

also have implemented performance pay systems beginning in the late 1990s. Ontario Public Service executives, including DMs, have been eligible for a performance-based compensation and an incentive award program since April 1, 1997 (Winter, 2012). Alberta adopted lump-sum performance payments in 1998 (Alberta, 1998). Nova Scotia introduced a performance-related component to its total compensation package in 2002 (Nova Scotia, 2002). Since 2006, a portion of deputy ministers' salary in British Columbia is held back and released depending on performance (Knittelfelder, 2012). Newfoundland and Labrador implemented a preliminary performance management program for period between 2009 and 2013; however, it was not put in effect due to budget constraints (Antle, 2013). In aggregate, all of the provinces, with the exception of Manitoba and Prince Edward Island, currently have a performance pay component.

Even though Canadian governments have acknowledged the importance of retaining and hiring qualified senior officials, their salaries remain much lower than salaries for comparable positions in the private sector. According to studies on wage differentials between the public and private sectors in Canada, there is a public sector wage premium for females, federal government workers, and workers at the lower level of the public sector classification. This premium, however, is lower, or even negative, for those at the higher classification levels, namely senior officials (Mueller, 1998, 2002). In 2008, the Advisory Committee on Senior Level Retention and Compensation demonstrated that the total compensation of a senior federal government official ranged between 45 percent and 60 percent of the total compensation of their private sector counterpart. This gap in compensation levels between the two sectors increases as senior officials are promoted to executive levels. The Committee further showed that these findings have been consistent since 1997 (Canada, 2008). The provincial governments have also examined the significant salary gap between executives in the private and public sectors. Gartner (2007) showed that in 2005 salaries of selected CEOs in the health care, agriculture and financial sectors are approximately ten times higher than salaries of DMs in the Health, Agriculture, and Finance ministries of the Alberta government.

1.2. Salary Determination in the Public Sector

This difference in executive compensation between the public and private sectors raises the question as to the factors that generate this difference. One reason might be the political nature of the public sector. While the private sector will typically consider profit maximization when

deciding executive compensation, the public sector has a very different set of objectives. In particular, the public sector faces political pressures that come from the need to secure the public budget from both taxpayers and other interest groups (Gunderson, 1979). These political pressures are channeled through elections (see Borjas, 1984; Matschke, 2003) and the political ideology of governments (see Jensen, Sum & Flynn, 2009; Pontusson, Rueda & Way, 2002) to the wage settings in the public sector. As a result, senior government officials would receive lower levels of compensation (Joskow, Rose & Wolfram, 1996).

Although political pressures are likely to play a key role in the determination of public sector compensation, private sector wages also contribute to the level of public compensation. These linkages result from the link between the two labour markets. Although rules of wage determination differ from the private to the public sectors, the two labour markets are related due to the significant proportion of public employment in the total working population (Perez & Sanchez, 2011) and the fact that public sector employees can and do move to the private sector.

1.3. Purpose of the Study

The purpose of this thesis is to examine the factors determining the compensation of DMs in the federal and provincial public sector. In particular, the factors of interest are the salary of CEOs in the private sector, the salary of politicians and the presence of pay-for-performance schemes, while controlling for economic and political conditions. To carry out the required analysis for this determination, the objectives of this thesis are to: (1) present descriptive data of compensation for senior government officials (namely, DMs) in both the federal and provincial governments; (2) examine whether the compensation of senior public servants is linked to political pressure and market forces; and (3) investigate the impact of pay-for-performance schemes on the compensation for senior public servants.

1.4. Structure of Thesis

The thesis is structured as follows. Chapter 2 provides a review of the literature on executive compensation in both the private and the public sector, as well as a theoretical model of DM salary determination. Chapter 3 presents the description of the data that is used in the next two chapters. Chapter 4 provides an in-depth examination of pay-for-performance schemes in the provincial and federal governments in Canada, and a descriptive analysis of DM salaries over the

2000-2010 period in relation to cabinet minister salaries, private comparator salaries and the introduction of pay-for-performance. Chapter 5 further explores the relationship between DM salary and the three variables outlined above using regression analysis. Chapter 6 begins with summary of the study, followed by a discussion of the policy implication. Finally, the thesis closes by discussing the limitations of the study and suggestions for future research.

CHAPTER 2
LITERATURE REVIEW

2.1. Overview

The purpose of this chapter is to outline the relevant literature on performance pay and its application to the public sector. The objectives of the literature review are as follows: (1) to investigate the relationship between pay and performance by looking at agency theory; (2) to examine the application of pay-for-performance to both private and public sectors; and (3) to introduce a theoretical model for the determination of deputy minister salary.

2.2. Pay-for-Performance and Agency Theory

2.2.1. Agency Theory

Agency theory starts from the basic relationship between a principal and an agent. The agency relationship occurs when the principal gives the agent a task and the authority to make decisions (Jensen & Meckling, 1976). As a consequence, the agent takes an action on behalf of the principal. This action has an impact on both the principal and the agent (Miller, 2005).

The agency relationship can be found in many situations. Examples of this relationship can be found between a potential home buyer/seller and a realtor agent, or a car insurer and a driver. In the corporate world, the relationship is between the shareholders and the manager/CEO. In this case, the shareholders (the principal), who hold the ownership of the firm, delegate control over the firm's performance to manager/CEO (the agent). In the public sector, the agency relationship could occur between two different hierarchical positions (i.e., a superior as the principal and a subordinate as the agent), or between a politician who has supervisory power and a government department/agency (Dixit, 2002).

The agency relationship suffers from the two problems. First, there is a conflict between the principal's objectives and agent's objectives because of the different interests of each party (Eisenhardt, 1989). For instance, shareholders want to maximize the firm's profit whereas the manager/CEO wants to maximize his/her own personal benefit (which, in addition to compensation, may include power, prestige and perquisites). Second, there is an information asymmetry between the principal and the agent that can only be observed at a cost (Eisenhardt, 1989). More specifically, the agent has more information about the task being undertaken than

does the principal. For example, because a realtor is more knowledgeable about the housing market, the realtor could misrepresent housing information in such a way that could benefit the realtor but not the potential home buyer/seller. Because of these two reasons, the agent's action may depart from the action that would maximize the principal's interest. This departure is the agency problem.

The main focus of agency theory is how to address these problems (Eisenhardt, 1989). There are two approaches by which the principal can address the problem: (1) monitoring the agent's activity; and (2) providing proper incentives to the agent to do something desirable for the principal (Jensen & Meckling, 1976). Monitoring the agent's activity is feasible when accurate information on the agent's action is available. If the principal could learn the agent's action, or if the outcome is tightly linked to the agent's action, the principal could offer a contract based on the action. However, the direct observation of the action is typically difficult and the principal has difficulty verifying the agent's action (Eisenhardt, 1989). Under these conditions, rather than introduce constant and expensive supervision, the principal introduces a contract with incentives for the agent to perform appropriately (Miller, 2005). Thus, the second approach to the agency problem is offering an outcome-based incentive.

The starting point for the second approach is the outcome observed by the principal. Following Dixit (2002), the final outcome of the agent's actions is determined by the agent's direct action along with a random component. In other words, a verifiable random outcome x is the sum of an agent's action a that is not verifiable and a normally distributed error ε with variance v. Thus, output can be written as:

(1) $$x = a + \varepsilon.$$

Although the outcome is not a direct measure of the agent's action, it can be used to infer the agent's action to a certain degree and thus can form the basis of a contract between the principal and the agent (Eisenhardt, 1989).

Assuming that the contract entails a simple linear payment schedule, the total compensation $y(x)$ can be expressed as the sum of a base salary k and a marginal reward per unit of x produced, mx, that is:

(2) $$y(x) = k + mx.$$

The principal wants to design an outcome based incentive scheme that maximizes his expected utility. The expected utility for the principal is defined as the outcome x minus the cost of hiring

the agent. In maximizing utility, the principal needs to satisfy two constraints: (1) the participation constraint; and (2) the incentive constraint. To assure the agent's participation, the principal must offer the agent an expected utility that is high enough for the agent to forgo alternatives. This ensures that the agent stays in the contract. Also, the principal must recognize how the payment scheme affects the agent's action and take the induced action into consideration. This makes sure that the agent acts on behalf of the principal's interests (Dixit, 2002).

The payment schedule in equation (2) contains elements that address these two constraints. The base salary k is used to satisfy the participation constraint, while the coefficient m is chosen with knowledge of how the agent will react to the value of m chosen.

Assuming the cost function of the agent's action $C(a) = {}^{1}/_{2}\, ca^2$ and the principal and the agent have risk aversion coefficients R and r respectively, the optimal marginal bonus coefficient is (Dixit, 2002):

(3) $$m = \frac{1+Rcv}{1+(r+R)cv}.$$

The coefficient m determines the power of the incentives, with a larger m corresponding to a more high-powered incentive. As equation (3) indicates, the contract becomes more high-powered as the measurement uncertainty decreases. For instance, if $v = 0$ (which means the outcome that the principal observes from the agent's action perfectly reflects the agent's efforts, thus $x = a$), m becomes 1. As v becomes large (which means the outcome is affected by other factors and less dependent on the agent's efforts) m becomes smaller and the incentives are less high-powered (Dixit, 2002).

The degree of risk aversion of each party also affects the power of the incentives. If both $R = 0$ and $r = 0$ (i.e., the principal and the agent are both risk neutral), m equals 1. As r becomes larger (which means that the agent is more risk averse), the contract becomes less high-powered. In contrast, the higher is R (which means that the principal is more risk averse), the more high-powered is the contract (Dixit, 2002).

2.2.2. Application to the Private Sector

The results of the model presented above have been used to examine executive compensation in the private sector. In particular, researchers have examined how sensitive the relationship is

between pay and firm performance (Jensen & Murphy, 1990). In the context of the model presented above, the key question concerns the magnitude of m.

Jensen and Murphy (1990) measured the pay-performance sensitivity by running a least-square regression between the CEO's total compensation (dependent variable) and shareholder wealth (independent variable). The data is from 1974 to 1986. The coefficient b represents the pay-performance sensitivity, with a higher coefficient indicating more high-powered incentives. The estimated coefficient on shareholder wealth was $b = 0.000135$ and statistically significant. This means that a $1,000 increase in shareholder wealth results in a 1.35 cent increase in the salary of the manager. Jensen and Murphy also recognized that other variables are associated with the firm performance, such as salary revision and stock ownership. The estimated coefficient of that captured all these impacts was a $3.25 change in the CEO's salary as a result of a $1,000 change in shareholder wealth. They concluded that although pay and performance are positively related and statistically significant, the value of the coefficient is lower than expected from the theory (Jensen and Murphy, 1990).

Murphy (1999) further investigated pay-performance sensitivity with data collected for the period 1992 to 1996. He showed that the proportion of stock options and stock ownership to the total compensation was the largest in the early 1990s, indicating that pay-performance sensitivity had increased. In fact, the sensitivity was nearly twice as large, increasing from 0.3 percent for the period from 1970 to 1988 (Jensen & Murphy, 1990) to 0.6 percent for the period from 1992 to 1996 (Murphy, 1999). Nevertheless, Murphy pointed out that the interests of the executives are still not efficiently aligned with the interests of shareholders.

Some argue that the empirical results reporting low pay-performance sensitivities need to be revisited. Nyberg, Fulmer, Gerhart and Carpenter (2010) contended that what constitutes the relationship between pay and shareholder wealth is important when re-investigating existing evidence. Murphy (1999) distinguished the implicit relationship from the explicit relationship. There is an implicit linkage between CEO wealth and stock-price performance via accounting based measures such as bonuses, salary adjustments, target bonuses and stock grant sizes. The explicit relationship between CEO wealth and shareholder wealth comes from CEO's holdings of stock, restricted stock and stock options (Murphy, 1999). Nyberg, Fulmer, Gerhart and Carpenter (2010) found that many existing empirical studies focused on testing the implicit relationship. Viewing CEOs as investors of firms, they defined CEO wealth as both accounting measures and

stock options. By including shareholder returns in CEO wealth equation, the result of their analysis showed high pay-performance sensitivity.

Although some researchers argue that the relationship between shareholder wealth and CEO compensation needs to be redefined, others argue that there are other contributing factors to CEO compensation that need to be investigated. Tosi, Werner, Katz and Gomez-Mejia (2000) argued that the empirical result of low pay-performance sensitivity might be due to the narrow range of performance criteria. In executive compensation studies, archival data sets have been used to run quantitative analyses. Also, those studies chose variables that can be quantified. Yet, these variables might only cover part of performance criteria. Tosi, Werner, Katz and Gomez-Mejia (2000) argued that the low sensitivity might be because of an incorrect methodology in research design, rather than because of a wrong prediction of the agency theory.

In addition to the possible flaws in the design and methodology of the studies on executive compensation, it is argued that the optimal contract approach has limitations. The optimal contract approach starts with the presumption that offering the proper compensation scheme can solve the agency problem. The assumption in this approach is that boards will provide compensation schemes with appropriate incentives for managers to maximize shareholder utility. However, the board of directors could also be susceptible to an agency problem, meaning that its ability to design and offer an efficient incentive scheme is affected by board members' interests (Bebchuk and Fried, 2003).

The empirical inconsistencies in the pay-performance relationship and limitations of the optimal contract approach have led to another perspective on the agency relationship. This alternative approach, the managerial power approach, views the CEO compensation scheme as not only a possible tool to address the agency problem but also a part of the agency problem.

Bebchuk and Fried (2003) examined the role played by the board of directors. For instance, directors may wish to stay in their positions and to be reappointed to the board, because they receive generous salaries and achieve reputations from networking opportunities. Since the CEO has the ability to influence the nomination process of directors and the compensation decision of directors, directors' interests might be aligned with the CEO's interests and not with the shareholders' interests. Therefore, the managerial power approach contends that the executives have significant power over the compensation decision process through the directors. The higher managerial power implies that the CEO is able to arrange the compensation scheme

in the manager's favour, thus allowing the CEO to benefit from the compensation arrangement (Bebchuk & Fried, 2003).

Although managerial power provides the manager with the ability to extract rents, the "outrage" expressed by the public puts a pressure on this behaviour. Bebchuk and Fried (2003) demonstrated that the perception of outsiders on executive compensation arrangements has an impact on the executive compensation decision process. For instance, if the public views large increases in compensation paid to the top manager as outrageous, this outrage could hurt the reputation of the directors and managers. Furthermore, shareholders will be reluctant to support the manager's salary at this level.

Due to the importance of the outrage effect on the executive compensation, the top managers are motivated to "hide" their rent extraction. For example, the top managers may hire a compensation consultant firm to generate a report that favours their high level of compensation. This report is used as a benchmark when the board decides how much to reward the top managers. Usually, the board remunerates the top manager at level higher than other top managers in the comparison group.

2.2.3. Application to the Public Sector

The focus on the relationship between pay and performance has influenced executive compensation in both the private and public sector. Since the 1980s, there have been reforms in the public sector in many developed countries (Hood, 1995). The view of NPM is that organizations consist of a series of agency relationship. Thus, one of the strategies for reform was to implement pay policies where performance is linked to pay (Perry, Engbers & Jun, 2009; Binderkrantz & Christensen, 2012). The rationale behind this strategy is similar to what has been seen in executive compensation in the private sector. That is, if a clear connection between organizational goals and top manager's pay is determined, the top managers will have an incentive to pursue better performance (Binderkrantz & Christensen, 2012).

Performance related pay is often seen in the public sector (Ingraham, 1993). Many developed countries have implemented pay-for-performance systems in the public sector. Nearly two thirds of OECD members, including Canada, have introduced or are in the process of introducing the system (OECD, 2005). The federal government of Canada adopted the pay-for-

performance system in 1981, with many provincial governments following suit since the late 1990s.

Despite the widespread introduction of pay-for-performance systems in the public sector, scholars argue that they have been not successful. One reason for the lack of success is due to the characteristics of the public sector: multiple principals, multiple tasks, and intrinsic motivation.

First, government agencies in general have multiple principals. A key reason for multiple principals is due to the characteristics of public good. Once a public good has been produced, no one can prevent other people from consuming the public good (non-excludability) and an additional consumer need not pay for consumption of the good (non-rival). In other cases, public goods may be beneficial for some people and costly for others. Taken together, the result is that multiple objectives – multiple principals – have to be addressed. Furthermore, people in general wish to influence not only the nature of the final product but also how the product is produced. This makes it difficult to distinguish between actions and outcomes. Due to the different interests that are affected by the public service, it is unlikely that it will be able to produce "a single evaluation function" (Dixit, 2002, p. 712). One of the consequences of multiple principals is that the optimal incentive contract is likely to be low powered; thus, if a relatively high-powered incentive contract is introduced, the result could be poor outcomes (Dixit, 2002).

Along with the multiple principals, many government agents face multiple tasks. For instance, suppose a government agency is in charge of mail delivery service. Although this service may sound relatively simple, it involves multiple tasks at different dimensions, including pricing the service, maintaining facilities, distributing proper delivery times, and so on. Due to multiple tasks, public agencies sometimes are given vague goals in multiple dimensions resulting in an inability to comprehend what they need to deliver. As well, incentives in these cases should be relatively low-powered; as discussed above, the introduction of relatively high-powered incentives can be detrimental to performance (Dixit, 2002).

The Key assumptions of agency theory is that actions are not verifiable actions, while outcomes are verifiable. Wilson (1986) categorized different types of organizations depending on the observability of outcomes and actions. While there are organizations where actions are unverifiable and outcomes are verifiable, there are other organizations in the opposite situation. There are also organizations in which neither action or outcome is verifiable. Such a possibility corresponds to a situation where the variance v is very large. In these cases, the optimal contract

should be very low powered (Dixit, 2002); the failure to recognize the need for a low-powered contract can result in poor performance.

Agents in the public sector also have their own motivation to work hard. Dixit (1997) contended that the motivation can be found in the service the agents provide, such as service to the poor, the old or the disabled. This service brings out the agents' compassion and thus the agents perform without being offered high levels of monetary rewards. Wilson (1989) also argued that this motivation to work hard for an organizational mission is important in understanding the behaviour of public sector employees. The motivation can stem from a sense of an ethical responsibility, a desire to gain acknowledgement or personal power, or a benefit from being a part of an organization that society considers important. Thus, the agency in the public sector would need fewer financial rewards than agents in the private sector.

In addition to the difficulties in applying the theory of incentives in the public sector, there are three reasons why the implementation of pay-for-performance system in the public sector is difficult: strict performance appraisal system, information asymmetry and budget constraints.

Performance appraisal requires manager's "flexibility and autonomy" (Ingraham, 1993, p.351). Dixit (2002) showed that subjective evaluation becomes an important component in evaluation scheme when agents face multiple actions and multiple outcomes. The agents may exert different types of efforts that produce multiple outcomes. Some outcomes could be observable but others may not. The incentive scheme that puts the emphasis on observable performance measures encourages the agents to focus on meeting observable targets but disregard unobservable targets. Hence, subjective performance appraisal, even if biased, is necessary so that the principals take all aspects of the agents' action into consideration (Dixit, 2002).

However, in practice, the evaluation of performance in the public sector requires "standardization and objectivity" (Ingraham, 1993, p.351). The performance appraisal system is thus less flexible and heavily based on quantifiable measurements. While this structured and precise performance evaluation may appear to be fair and legitimate to the agents and/or some constituents, it may reduce the manager's autonomy and flexibility when evaluating their agents (Ingraham, 1993); this in turn can negatively affect performance.

Second, the information related to performance appraisal is open to manipulation. Intrinsically, the subordinate has more information on his performance than does the manager. Subordinate could provide positive information but hide negative information when evaluating their performance; the information asymmetry makes it difficult for managers to evaluate performance.

Third, budget constraints exist in the public sector. The source of compensation in the public sector is from taxes so the public sector is wary of how and where the resources are used (Perry, Engbers & Jun, 2009). This tension is heightened during economic downturns, when politicians receive public outcrys and need to defend their decision on public sector compensation if rewarding public servants becomes an issue. Moreover, public agencies do not have control over their resources and the availability of the money for pay-for-performance systems is not always guaranteed (Ingraham, 1993).

Government agencies also suffer from lack of competition. In the private sector, competition among firms generates strong external incentives to pursue profit maximization. However, many government agencies are effectively monopolies, since public goods, one of the key outputs of government, rarely have substitutes. One of the consequences of this lack of competition is poor quality and lack of attention to consumer preferences (Dixit, 2002).

2.3. A Model of Deputy Minister Compensation

The discussion above suggests that DM compensation is function of numerous factors, including the compensation in the private sector and political factors that are at work in the public sector. The purpose of this section is to outline the elements of a model developed by Atkinson, Fulton and Kim (2014) that brings these various factors together in a political-economic model of DM compensation determination.

In the model, DM compensation is based on the interaction between supply and demand factors. On the supply side, professionals with appropriate background and training are assumed to make a decision to work in either the public or the private sector. While the private sector provides greater compensation, the public sector provides the opportunity to earn what Besley and Ghatak (2003) term "mission rents." Assuming that professionals differ in the weight they attach to mission rents, the supply of public sector executives (i.e., those professionals that join the public sector) will be determined by those with a greater preference for higher mission rents

joining the public sector, while those with a lower preference will join the private sector. For a given compensation level in the private sector, the public sector can attract additional professionals by raising public sector compensation.

The demand side of DM compensation consists of cabinet ministers who determine the number of DMs to hire and the level of DM compensation. The willingness of cabinet ministers to pay DMs is determined by two factors. First, from an economic perspective, the willingness to pay is a function the value of the marginal product of DMs. The value that DMs provide for cabinet ministers is offering policy advice, and developing and implementing policy. Second, from a political perspective, cabinet ministers' willingness to pay will be a function of their own compensation level and the pressure, or outrage, that they receive from voters. When cabinet ministers review DM compensation, it is hypothesized that they use their own compensation as a benchmark since this value is available and familiar to them.

As a result, the DM compensation is "pulled" toward cabinet minister compensation level. If DM salaries have historically been above those of cabinet ministers (which, as will be shown in the next chapter, has been true), this "pull" takes the form of DM salaries increasing much more slowly than those of cabinet ministers. The degree of this "pull" comes from the cabinet ministers' perspectives on the DMs' job description. If cabinet ministers view DMs' work as similar to their own, it might be hard to accept that DMs should be paid as much as private sector executives (and even more than what they get). Similarly, if cabinet ministers regard themselves as being as powerful as DMs, they would want compensation levels also to be similar. In addition, since cabinet ministers hold elected positions, they are wary of the public outrage that might occur if the level of DM compensation is increased too much. Thus, the political forces result in a DM compensation level that is restricted as some multiple of cabinet minister compensation (Atkinson, Fulton & Kim, 2014).

The equilibrium level of DM compensation is determined by the interaction of these supply and demand forces. The relative importance of these factors can be expected to differ over time and across jurisdictions. Thus, DM remuneration levels can be expected to be pulled more towards that the cabinet minister remuneration levels at points in time when political forces are significant (Atkinson, Fulton & Kim, 2014).

The role of mission rents in this model is also important, since it is the presence of this rent that allows DM compensation to be significantly lower than for similar jobs in the private

sector. Thus, the existence of mission rents allows the political factors to play a role in the determination of DM compensation; without these rents, compensation levels would have to equalize in order to attract professionals to the public sector (Atkinson, Fulton & Kim, 2014).

The model of DM compensation sketched out above suggests an important role for pay-for-performance schemes. Without pay-for-performance, the level of compensation for all DMs is identical based on the assumption that there is no price discrimination. However, cabinet ministers are aware that individual DMs have different performance levels and are willing to offer more compensation for DMs who produce more value in their job. Pay-for-performance provides cabinet ministers with the ability to price discriminate and offer the higher performing DMs greater compensation (Atkinson, Fulton & Kim, 2014).

The cabinet ministers' ability to differentiate DM's performances can also be interpreted through a political perspective. The pay-for-performance schemes are a mechanism by which DMs can be more closely connected to the government's political agenda. Since cabinet ministers bear the political costs arising from the implementation of pay-for-performance schemes and the higher payments they imply, these schemes allow cabinet ministers to impose a political agenda on their DMs in the form of performance targets. The DMs who meet these goals now share the same fate as their political masters. Thus, pay-for-performance schemes can change DM salary levels, providing higher compensation to those DMs that support a political agenda,

2.4. Summary

The agency framework outlines the relationship between a principal and an agent and a link between pay and performance. While theory suggests a clear link between performance and pay, the empirical analysis of this relationship in the private sector shows mixed results. The application of agency theory to the public sector pays particular attention to important characteristics of the public sector such as multiple principals, multiple objectives, and political influence. Based upon the agency framework, a theoretical model of DM salary determination is developed.

CHAPTER 3
DESCRIPTION OF THE DATA

3.1. Overview

The purpose of this chapter is to review the data on public sector compensation in Canada. More specifically, the chapter will present the data on DM, cabinet minister, and private sector compensation in Canada. The chapter will include a discussion of where the data was collected from, how the data is standardized and how the data is coded. Finally, this chapter will also present the data on the control variables.

3.2. Public Sector Compensation Data in Canada

3.2.1. Data Sources

The key variables of the analysis are the salaries of DMs, cabinet ministers, and the DMs' private sector counterparts over the period 2000-2010 for nine jurisdictions: British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, Nova Scotia, New Brunswick and the federal government. In addition, data is required on the pay-for-performance policies of these provinces and the federal government. The source of this data is as follows.

Data on individual DM salary salaries are collected from the Public Accounts of British Columbia, Alberta, Saskatchewan, Manitoba and Nova Scotia and publications of Ontario's Public Sector Salary Disclosure. Where no individual DM salary data is available (that is, Quebec and the federal government), the annual salary ranges of the DM salary are collected. The government of Quebec publishes their DM salary ranges annually in the Public Accounts, while the federal government data can be found in the reports of the Advisory Committee on Senior Level Retention and Compensation. The government of New Brunswick published individual DM salaries from 2000 to 2008 and individual DM salary ranges from 2009 to 2010 in their Public Accounts. Table 3.1 below shows the data sources in detail.

Minister salaries are collected from the Canadian Parliamentary Guide Editions in 1995-1997, 1998/99, 2000-2002, 2005, 2008-2010 for the federal government and the governments of British Columbia, Alberta, Saskatchewan, Manitoba, Quebec, Ontario, and Nova Scotia. The minister salaries in New Brunswick are collected from the Public Accounts from 2000 to 2010.

Table 3.1. DM Salary Data Source

Jurisdiction	Data Source
FD	Reports on Advisory Committee on Senior Level Retention and Compensation (See: Canada, 2015)
BC	Public Accounts 2000-2010 (See: British Columbia, 2015)
AB	Public Accounts 2000-2010 (See: Alberta, 2015)
SK	Public Accounts 2000-2010 (See: Saskatchewan, 2011)
MB	Public Accounts 2000-2005 (See: Manitoba, 2001, 2003, 2005) Public Accounts 2006-2010 (See: Manitoba, 2015)
ON	Public Sector Salary Disclosure (See: Ontario, 2014)
QC	Public Accounts 2000-2010 (See: Quebec, 2015)
NS	Public Accounts 2000-2010 (See: Nova Scotia, 2015)
NB	Individual DM Salary: Public Accounts 2000-2008 (See: New Brunswick, 2015) Individual DM Salary Range: Public Accounts 2008-2010 (See: New Brunswick, 2015)

Due to limited data availability, two jurisdictions are not included in this study: Newfoundland and Labrador and Prince Edward Island. The government of Newfoundland and Labrador provides DM salary salaries in the annual budget since 2012 under departmental salary details (see: Newfoundland and Labrador, 2013; Newfoundland and Labrador, 2012). The minister salaries in Newfoundland and Labrador are available after 2009 (see: Newfoundland and Labrador, 2015). The government of Prince Edward Island does not provide information on DM salaries. Data on minister salaries is available on the website of the Legislative Assembly of Prince Edward Island since 2005 (see: Prince Edward Island, 2014).

Salaries of the DMs' counterparts in the private sector are from the reports of the Advisory Committee on Senior Level Retention and Compensation. This data is provided on a sporadic basis and is presented in graphs or figures (see Canada, 1998, 2002, 2004, 2005, 2008, 2011); as a result, estimates of the salaries were obtained by reading off the graphs and figures. Data for the missing years were interpolated from the data that was collected using the

Table 3.2. Pay-for-Performance: Introduction and Data Source

Jurisdiction	Pay-for-Performance	Source
FD	Implemented in 1981	See: Canada, 1998
BC	Implemented in 2006	See: Knittelfelder, 2012
AB	Implemented in 1998	See: Alberta, 2005
SK	Implemented in at least in 1987	See: Costescu, 2012
MB	No Pay-for-performance	See: Cole, 2012
ON	Implemented in 1997	See: Winter, 2012
QC	Implemented in at least in 1983	See: Carter, 2013
NS	Implemented in 2002	See: Nova Scotia, 2002
NB	Implemented in 2008	See: McCracken, 2012

assumption of a linear trend between data points. The private sector comparator salaries are available only at the federal level; it was assumed that this value also applied to each of the provinces.

Information on the pay-for-performance policy policies in the various governments was obtained from government documents and from personal communication with government officials. Table 3.2 below shows detailed information on the year when different jurisdictions implemented their pay-for-performance schemes and on the source of the information.

3.2.2. Data Standardization

Since each government has different rules on public salary disclosure, the salary information for DMs and ministers often differed. In addition, the salaries for the private counterpart are only available for some years. To allow a comparison across jurisdictions and over time, it was necessary to standardize the data. This section will outline the procedure used to standardize the DM salary, cabinet minister salary and private-sector counterpart salary.

The most diverse salary information was for DMs. DM salary data can be categorized into two broad categories: (1) individual salary amounts; and (2) individual/collective salary range. There are also different ways that the individual DM salaries are presented among jurisdictions: (a) the governments of Alberta, Manitoba and Ontario disclose an annual salary of

the DM in a ministry; (b) the government of British Columbia reports annual salaries of DMs and ADMs (Assistant DMs) without further disclosure of who served as DM or ADM; and (c) finally, some governments such as Saskatchewan and Nova Scotia publish the salaries of public employees (by ministry) who earn more than a threshold level.

Because these different procedures provide different salary information, data standardization is necessary. In the case of (a) above, the data shows how much a DM in a ministry is paid for a year. In the case of (b) more investigation is required to determine who served as DM. Similarly, in the case of (c) information on who served as DM needs to be acquired in order to match DMs and their salaries. In both examples (b) and (c), the Orders In Councils which announced DM appointments were used to identify DMs. Once data on the annual salaries of the DMs were collected, a comparison between the median and the mean DM salary was carried out. Since there were outliers in the DM salary levels in each jurisdiction, the median DM salary in each year was selected to represent the central tendency of annual DM salary in each government.

In three jurisdictions (New Brunswick from 2008 to 2010, Quebec and the federal government), DM salary ranges are published – these ranges extend from the minimum pay for the position to the maximum compensation level allowed. Since each jurisdiction has different rules and methods to publish the salary ranges, each jurisdiction is looked at separately to obtain reliable estimates of annual DM salaries. Regardless of the procedure that is used, there is always the possibility of biasing the estimate, since the distribution of DM salaries is unknown (e.g., there could be clustering at the low end or the high end, or individual salaries could be relatively evenly distributed).

For New Brunswick, the government publishes the pay grid that individual DMs are located on. The mid points of each individual DM salary range are taken and then the median level of these midpoints is selected to represent the estimate of annual DM salary for New Brunswick for the period 2008 to 2010.

The government of Quebec also publishes the salary ranges of senior civil servants in the public accounts annually. According to the public accounts, senior civil servants include DMs, chief executive officers of government agencies, persons designated by the National Assembly and their assistants. Since collective salary ranges for senior civil servants contain a broad range of public employees, other information that could narrow the DM salary range down was

obtained. According to decree 713-2000, the DM salary ranges from $104,321 to $162,946, whereas salaries of senior civil servants range from $54,154 to $162,946 (for the year 2000). By comparing the public account in 2000 and decree 713-2000, the DM salary is located between the 50 percentile and the 100 percentile of the senior civil servants salary range. Unfortunately, there is no other document or decree showing only the DM salary range for the other years in this study. Therefore, it is assumed that the DM salary is between the midpoint and the maximum amount of the senior civil servants throughout all years. After collecting the DM salary ranges for each year, the mid-point of the DM salary ranges is taken as the estimate of annual DM salary.

The DM salary ranges in the federal government are found in the reports of the Advisory Committee on Senior Level Retention and Compensation. DMs in the federal government are divided into four levels; DM1 is the lowest and DM 4 is the highest. The Advisory Committee reports provide salary ranges for each level. As can be seen table 3.3 page, each level has different salary ranges and at risk pay.

Three steps were used to obtain an estimate of annual DM salary. First, the DM 2 level is chosen among the four DM level because the private comparator values used in this study are also from the Advisory Committee reports and are benchmarked at the DM2 level. Second, the midpoint of the salary ranges for DM 2 is selected. The DM 2 salary ranges between the job rate, the maximum salary amount, and its 85 percent, the minimum salary amount. Third, the lump sum payment is added to the midpoint of the DM2 salary range. According to the report by Advisory Committee on Senior Level Retention and Compensation, when the private market salary and the DM salary are compared, the DM salary was calculated as the job rate of DM2 and 70 percent of the lump sum payment. Hence, it is assumed that the 70 percent of DM2s receive the full amount of available risk payment.

Minister salaries represent the total salary of ministers with portfolio each year. The salaries consist of the basic salary for being Members of the Legislative Assembly (or Members of Parliament) and the additional salary of being a cabinet minister.

Estimates of the comparable salaries in the private sector are obtained from the graphs in the reports by the Advisory Committee on Senior Level Retention and Compensation. There are three problems concerning the private counterpart salaries. First, the exact level of salary is not available. Second, the counterpart salary information contains some other components that are

not included in the DMs' and ministers' salaries. Third, the counterpart salary is only available for six selected years. Fourth, the counterpart salary at the provincial level is not available.

To obtain estimates of private counterpart salary, four steps are used. First, the approximate level of comparator salary is obtained based upon a visual inspection of the graphs. Second, the private comparator salary data is adjusted to remove cash compensation, and pension and other benefits (the salary for DMs and ministers do not include pensions and other benefits). According to the Advisory Committee on Senior Level Retention and Compensation, pension

Table 3.3. DM Salary Job Rates and Lump Sum Pay in the Federal Government

	Job Rates (Salary range maximum)* and At-Risk Pay							
	DM1		DM2		DM3		DM4	
Year	Job Rate	At-Risk Pay**	Job Rate	At-Risk Pay	Job Rate	At-Risk Pay	Job Rate	At-Risk Pay
2000	170,700	15%	196,300	20%	219,800	20%	246,300	25%
2001	176,000	15%	202,400	20%	226,700	20%	254,000	25%
2002	180,100	15%	207,100	20%	232,000	20%	259,000	25%
2003	185,000	15%	212,900	20%	238,500	20%	267,200	25%
2004	189,800	15%	218,200	20%	244,400	20%	273,800	25%
2005	195,100	-	224,300	-	251,200	-	281,300	-
2006	200,000	16.1%	230,000	21.1%	257,500	21.1%	288,400	26.1%
2007	204,200	22.4%	234,900	27.4%	263,000	27.4%	294,500	32.4%
2008	208,300	26%	239,600	33%	268,300	33%	300,400	39%
2009	211,500	26%	243,200	33%	272,400	33%	305,000	39%
2010	214,700	26%	246,900	33%	276,500	33%	309,600	39%

* Minimum salary is at 85 percent of the job rate.

** From 2000 to 2006, only at-risk pay exists. During this period, At-risk pay indicates the maximum at-risk pay. From 2007, performance pay includes at-risk pay and bonus. At-risk pay from 2007 indicates the maximum of both at-risk pay and bonus.

and other benefits account for 16 percent of the value of the Canadian labour market (Canada, 2011). Thus, 16 percent is used in the adjustment of the comparator salary. Third, the estimated salary points for the years for which data is not available are obtained using linear interpolation between adjacent data points. Fourth, because counterpart salaries are not available at the provincial level, it is assumed that the private salary is the same for all jurisdictions.

3.2.3. Data Coding

The salary data obtained using the methodology outlined above is nominal data. To convert the data to constant dollars, the GDP price deflator was used. The result is real data expressed in 2002 dollars.

Data on the pay-for-performance scheme used in each jurisdiction is also required for the analysis. There are two different variables: *Pay-for-performance* and *Pay-for-performance by type*. The *Pay-for-performance* variable indicates whether the jurisdiction in question has a pay-for-performance system in place. If there is pay-for-performance scheme, the variable takes on a value of 1; if not, the variable takes on a value of 0. For instance, the government of Nova Scotia implemented its pay-for-performance schemes in 2002. Because there was no pay-for-performance scheme before 2002, the *Pay-for-performance* variable for 2000 and 2001 for Nova Scotia is coded as 0; for the rest of the years (i.e., from 2002 to 2010), this variable is coded as 1.

The *Pay-for-performance by type* variable recognizes the different types of pay-for-performance schemes that are in place. Although pay-for-performance schemes are common practice in the public sector, different jurisdictions have adopted different forms. In particular, pay-for-performance schemes differ in the amount of salary that is available as a bonus (or is at risk). This amount varies from the incremental increase within a salary range to over 20 percent of lump sum payment. Depending on how aggressive the form is, the pay-for-performance type is divided into (1) *Aggressive*, (2) *Passive*, and (3) *No Pay-for-Performance*. Each three categories are three dummy variables. For instance, the federal government has implemented the aggressive form of the pay-for-performance scheme whereas the government of Saskatchewan has a passive scheme. The next chapter provides a more detailed examination of the pay-for-performance type.

3.3. Control Variables

There are two types of control variables included in the regression analysis: economic and political. Although it is expected that the salary setting environment in the public sector is influenced by political variables, the literature and empirical evidence show that the labour market environment also plays an important role in determining public sector salary. According to Fernandez-de-Cordaba, Perez and Torres (2012), the labour market condition is related to public salary determination. They further explained that governments tend to increase employment and salaries when the economic conditions are tight and do the opposite when the economy is in downturn. In addition, the Advisory Committee in Senior Level Retention and Compensation (Canada, 2010) indicated that following the labour market trend is essential to keep the public labour market competitive in order to hire and preserve high quality senior executives for the federal government. The government of British Columbia also has an objective of retaining its competitiveness by paying close attention to the Canadian labour market and economic conditions (British Columbia, 2010).

In this study, three economic variables are selected, *Inflation, Economic growth* and *GDP per capita*. *Inflation* is measured by the change in the GDP implicit price index. It is expected that DM salary will be positively related to the rate of inflation, since as prices go up, increases in compensation will be required to maintain purchasing power.

Economic growth is measured by the year-to-year percentage change in expenditure based GDP in the economy of the jurisdiction in question. It is also adjusted for inflation in order to obtain a real growth rate. The growth rate ranged from -4 percent to 6 percent over the period 2000 to 2010 and across the various jurisdictions. Since economic growth represents the health of the economy and a stronger economy can be expected to support DM salaries, it is expected that there will be a positive relationship between *Economic growth* and DM salary.

GDP per capita is calculated by dividing real GDP by population. It is expected that there will be a positive relationship between *GDP per capita* and DM compensation. For instance, Lamo, Perez and Schuknecht (2007) showed that the governments in the Euro area follow the trend of real GDP per capita when setting government expenditures on employee compensation. The unit of *GDP per capita* is 2002 dollars per person.

The existence of political barriers in the public sector can also influence the DM salary level. Political pressure is indirectly channeled through institutional settings, which in turn are

directly conducive to the public wage setting process (Gunderson, 1979). Three political control variables are selected for this study: *Election*, *Political party* and *Unionization* in the public sector.

The variable *Election* is a dummy variable that indicates whether an election was held in that year (*Election* = 1) or not (*Election* = 0). By its nature, government is a political entity that seeks political support from the voters. Governments often utilize their resources in an attempt to regain or retain political power (Borjas, 1984). The evidence suggested in the literature supports the general consensus that there is a relationship between the electoral cycle and the government's spending pattern (Blais & Nadeau, 1992). Borjas (1984) studied the wages of federal public servants during election times in the United States and showed that the wage increased more during the election year than the non-election year. Matschke (2003) also showed that there was an increase in the public wage due to the electoral cycle in Germany. Thus, the variable *Election* is expected to have a positive relationship with DM salary.

It is also expected that the nature of the governing political party plays a role. The political parties, whether right or left wing, have different political constituencies, which lead political parties to have different objectives and preferences on policy decisions. Jensen, Sum and Flynn (2009) showed that government employees agree with left wing parties' ideas on the expansion of government (i.e., larger government expenditure). However, they also showed that employees with higher levels of income level are less likely to support the left wing party. Pontusson, Rueda and Way (2002) explained that liberal governments promote an egalitarian culture within the public sector, which in turn implies a relatively more equal income distribution among employees. Thus, left wing governments can be expected to push up the salary of the lower-end pay scale workers and constrain the salary of the higher-end pay scale workers. Therefore, left or centre leaning parties may be expected to exert a negative impact on DM salary salaries, while conservative parties would have the opposite impact. In this study, a variable *Conservative* is a dummy variable, taking the value of 1 for conservative/right-of-centre parties and 0 for centre or left parties. The information on political party and ideology is taken from the Parliamentary Budget Officer (PBO) Fiscal Rules Database. Table 3.4 shows the categorization of a political party.

A variable *Unionization* is calculated as the percentage of public sector workers who are covered by a union. In general, employees, whether in local or state governments and whether

Table 3.4. Political Party and Political Ideology

Jurisdiction	Political Party	Conservative
FD	Liberal party of the federal government	Non Conservative
	Conservative party of the federal government	Conservative
BC	NDP of British Columbia	Non Conservative
	Liberal party of British Columbia	Conservative
AB	Progressive Conservative party of Alberta	Conservative
SK	NDP of Saskatchewan	Non Conservative
	Saskatchewan Party	Conservative
MB	NDP of Manitoba	Non Conservative
ON	Conservative party of Ontario	Conservative
	Liberal party of Ontario	Non Conservative
QC	Parti Quebecois	Non Conservative
	Liberal party of Quebec	Conservative
NS	Conservative party of Nova Scotia	Conservative
	NDP of Nova Scotia	Non Conservative
NB	Progressive Conservative of New Brunswick	Conservative
	Liberal party of New Brunswick	Non Conservative

covered or not covered by collective agreements, are likely to earn more when there is union in the public sector. Hence, the higher the degree of unionization in the public sector, the higher salary for both covered and not covered employees (Belman, Heywood & Lund, 1997). However, Pontusson, Rueda and Way (2002) explain that this relationship may not hold for senior civil servants. The reason is that the egalitarian culture and union density in the public sector promote a more equal income distribution among public employees. Since DMs are the highest paid employees in the public sector, it is expected that the degree of unionization in the public sector has a negative impact on DM salary. Table 3.5 provides detailed information on the control variables. The description of each variable and the source of data are explained.

3.4. Summary

Chapter 3 described the data used in this study. First of all, this chapter introduced how the raw data of each variable is collected. The data on DM salary, cabinet minister salary and private counterpart salary are from various government documents (e.g., Public Accounts in some provincial governments; reports from the committee regarding compensation policy in other jurisdictions). The data on the pay-for-performance scheme in each jurisdiction are collected through either personal communication with government officials or government documents.

The next part of the chapter 3 presented how the quantitative variables are standardized and the categorical variables are coded for the regression analysis. The salaries of DM, cabinet minister and private counterpart are stated in constant 2002 dollars. The pay-for-performance system is expressed as the existence of the scheme in place, thus regarded as the categorical variable. Lastly, the economic and political control variables were introduced. The determination of DM salary involves other factors apart from the independent variables. Based on the literature and empirical studies, both market conditions and the political environment have an impact on public salary determination. The economic control variables - *Inflation, Economic Growth,* and *GDP per capita* – measure labour market conditions. The political control variables – *Election, Political party,* and *Unionization* – take into account the political pressure.

Table 3.5. Control Variables: Description and Data Source

Variables	Description	Data Source
Inflation	Implicit price indexes, gross domestic product (2002=100)	Statistics Canada – Cansim Table No. 384-0036
Economic growth	Percentage change (year to year) of gross domestic product, expenditure-based (changed in 2002 dollars)	Statistics Canada – Cansim Table No. 384-0002
GDP per capita	Real gross domestic product (2002=100) divided by estimates of population	Statistics Canada – Cansim Table No. 384-0002 Statistics Canada – Cansim Table No. 051-0005
Election	Year that an election is held (=1, if no election=0)	PBO Fiscal Rules Database
Conservative	Ideology of a party (if Conservative=1, if no conservative=0)	PBO Fiscal Rules Database
Unionization	Percentage of employees covered by union in total employees in the public sector	Statistics Canada – Cansim Table No. 282-0078

CHAPTER 4

PAY-FOR-PERFORMANCE AND DM COMPENSATION IN CANADA

4.1. Overview

The purpose of this chapter is to: (1) examine pay-for-performance legislation in Canada's provincial and federal governments and develop a categorization of the pay-for-performance schemes that have been introduced over the last 20 to 30 years; (2) provide a descriptive analysis of DM salary over the 2000-2010 period; and (3) show the relationship between DM salary and the compensation paid to cabinet ministers, the relationship between DM salary and the compensation paid in the private sector, and the relationship between DM salary and the introduction of pay-for-performance schemes.

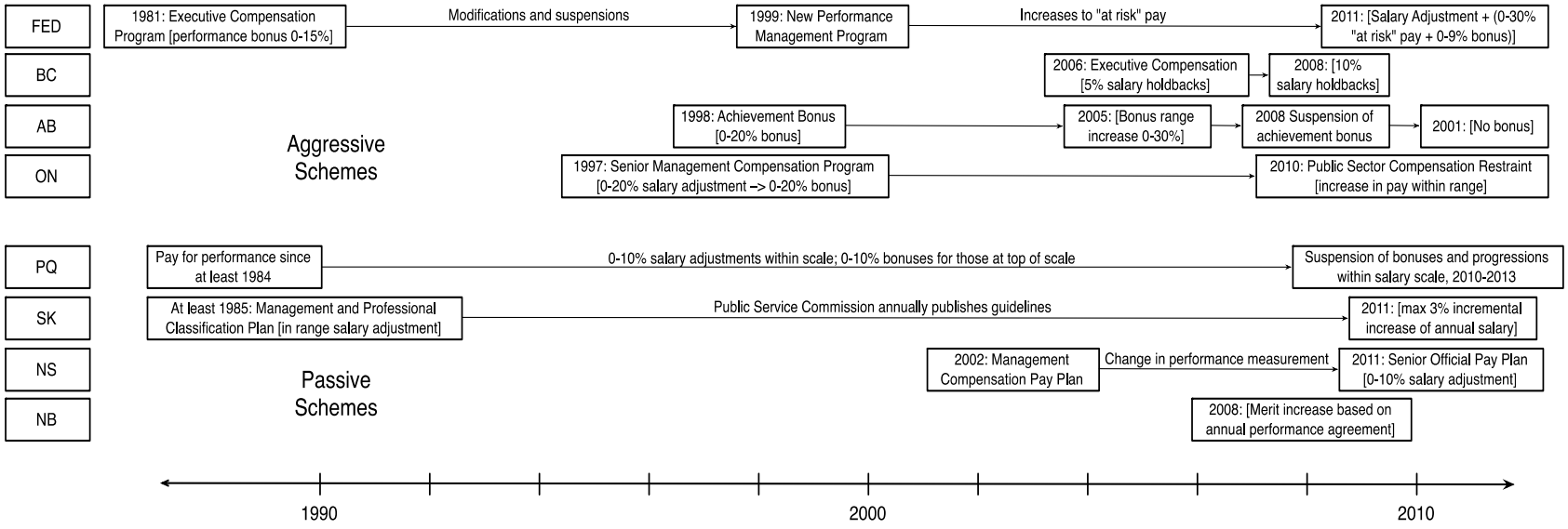
4.2. Pay-for-Performance in the Canadian Public Sector

4.2.1. Pay-for-Performance Schemes

Pay-for-performance schemes have been adopted in developed countries around the world, including Canada (Perry, Engbers & Jun, 2009). The early forms of performance related pay have existed since the 1980s. In Canada, the federal government introduced a performance pay system in 1981 (Canada, 1998). Quebec and Saskatchewan followed the federal government's footsteps – Quebec introducing performance related pay as early as 1983 and Saskatchewan in 1987.

Elsewhere in Canada, pay-for-performance schemes have been introduced beginning in the late 1990s. The government of Ontario introduced performance-based compensation and incentive award programs that targeted senior executives including DMs in April 1997 (Winter, 2012). Alberta adopted lump sum performance payments in 1998 (Alberta, 1998), followed by Nova Scotia in 2002 (Nova Scotia, 2002), British Columbia in 2006 (Knittelfelder, 2012), and New Brunswick in 2008 (McCracken, 2012). Currently, all of the provinces, with the exception of Manitoba (Cole, 2012) and Prince Edward Island (Stanley, 2012), have a performance pay component in their total compensation for senior officials. Figure 4.1 provides a timeline of the introduction of pay-for-performance schemes in Canada.

Figure 4.1. Timeline for the Introduction of Pay-for-Performance Schemes in Canada



One reason for the adoption of pay-for-performance schemes is an attempt by government to adopt the practices of the private sector (Perry, Engbers & Jun, 2009). Pay-for-performance schemes have been introduced alongside the adoption of New Public Management, a management approach that transfers private business practices such as contracting and attention to the needs of the final consumer to the public sector with the intention of improving the efficiency of public service (OECD, 2005). Seen in this light, the adoption of pay-for-performance schemes can be seen as an attempt by government to adopt practices that have been proven to be successful, albeit in a different environment, and hence are viewed as legitimate. This tendency to mimic the practices of other organization also involves other governments. For instance, the government of Nova Scotia introduced the performance components in order to be "in line with other provincial governments" (Nova Scotia, 2002).

Internally, performance systems are believed to bring improvements to management and the quality of public service. According to the Advisory Committee on Senior Level Retention and Compensation, the Performance Management Program reinforces organizational and individual accountability by rewarding achieved results and encouraging better performance (Canada, 2003). Also, the Advisory Committee states that the close relationship between a financial reward and an outstanding performance would eventually produce efficient and cost effective public service (Canada, 2000a).

Along with higher public service quality, the various jurisdictions in Canada believe that the pay-for-performance system will help attract and retain talented senior professionals. One of the conclusions reached by compensation reviews undertaken by the federal and provincial governments is that of an aging public service and the need to find a new pool of talented public servants. The Advisory Committee on Senior Level Retention and Compensation (Canada, 2002) argued that the recruitment environment in the 2000s is different from the time when a labour surplus existed in 1970s and 1980s. In a similar vein, the Senior Officials Compensation Ad Hoc Committee (Alberta, 2005) in Alberta indicated that 39 percent of DMs were eligible to retire in early 2008, while the government of British Columbia predicted in 2008 that 51 percent of DMs would be qualified to retire within the next decade (British Columbia, 2008). The development of competitive compensation systems that reward those with the appropriate skills is an important element in attracting senior civil servants.

Despite the governments' commitment, the efficacy of the pay-for-performance system remains unclear. This question comes from the nature of public sector in terms of institutional settings and characteristic of public servants. When linking performance and pay, the public sector is often faced with difficulties of defining and measuring performance goals and targets. The government officials have multiple goals, which are often vague, and multiple principals whose interests are different. Thus, evaluation of performance is challenging. In addition, even if concise performance goals and evaluation are possible, governments face financial constraints. The result is that a governments' desire to keep salary levels competitive compared to the private sector and maintain internal equity horizontally and vertically is incompatible with the limited budget. This incompatibility is more apparent when budgets are tight (Kellough & Lu, 1993). In fact, incentive pay plans are often frozen in economic downturns. For instance, an early form of performance management (between 1981 and 1998) in the federal government was suspended twice due to budgetary constraints (the Public Sector Compensation Restraint Act in 1982-1983 and the Budget Implementation Act in 1994-1996) (Canada, 1998). Recently, a number of provinces have suspended their performance systems due to economic downturns in the late 2000s. For example, the Achievement Bonus in Alberta has been suspended since March 1, 2008, while the compensation structure in Ontario was frozen on March 25, 2010, and lasted until March 31, 2012 (Ontario, 2010).

Not only does the non-market setting of the public sector make the efficacy of pay-for-performance difficult, so too does the motivation of public servants. Unlike the private sector where the agents are primarily attracted to monetary incentives, the agents in the public sector often have a motivation to serve the public. This inconsistency between the motivation and an attempt to link pay and performance results in reducing the efficacy of the pay-for-performance schemes (Langbein, 2010).

Even though evidence of successful pay-for-performance is rarely found (Burgess & Ratto, 2003; Kellough & Lu, 1993), the implementation of this scheme is prevalent in the public sector. Ingraham (2005) argued that despite the challenges of the performance pay system governments need to keep moving to this direction. Kellogh and Lu (1993) explained a number of reasons behind the "persistence" of performance pay. There are three reasons that could shed light in this study: first, linking pay and performance improves transparency and accountability; second, this linkage allows principals to have more control over their agents by participating in

the performance appraisal process; further to the second reason, the senior officials are more prone to political control by their masters. In next section, pay-for-performance systems in the Canadian governments will be looked at closely.

4.2.2. Types of Pay-for-Performance Schemes

As mentioned above, all jurisdictions in Canada except Manitoba and Prince Edward Island have adopted pay-for-performance schemes. Furthermore, there are significant variations in the form of the pay-for-performance schemes among the different governments. Three variations have been identified: (1) aggressive, (2) passive, and (3) resistant, or no pay-for-performance.

The basis for this categorization comes from the U.S. Merit Systems Protection Board (MSPB), which provides an analysis of different types of pay-for-performance schemes. Pay-for-performance schemes consist of a base salary and an "at risk" or bonus component. According to MSPB, there are three types of pay-for-performance: (1) a bonus or lump sum payment which is paid in addition to the annual base pay, (2) an incremental increase within salary range based on performance, and (3) a combination of the two (U.S. Merit Systems Protection Board, 2006).

In a number of jurisdictions in Canada, the "at risk" or lump sum component can be as high as 30 percent of base salary. The aggressive category is defined to include schemes that have fairly large bonus payments (Aggressive A), or a combination of bonus and salary progression within the salary range (Aggressive B). Among the Canadian governments, the federal government, British Columbia, Alberta and Ontario are deemed to have adopted the aggressive form of pay-for-performance. In contrast, the passive category includes a relatively small component of "at risk" pay. The passive performance systems typically involve an incremental increase in salary based on performance to the maximum of the salary range. The jurisdictions that are categorized as having the passive form are Saskatchewan, Quebec, Nova Scotia, and New Brunswick.

Table 4.1 provides a description of pay-for-performance schemes in the different jurisdictions in Canada, along with a categorization of these schemes according to the criteria laid out above. Although the pay-for-performance schemes are divided into three categories, each government shows unique characteristics in terms of payment arrangement, performance goals and appraisal and limitations on eligibility. For instance, Alberta, which is classified as Aggressive A, rewards a bonus to DMs who performed very well in a given year, while British

Columbia, which is also categorized as Aggressive A, introduced holdbacks that are only paid when DM meets criteria that are set in advance. The federal government, which is classified as Aggressive B, provides rewards in terms of salary adjustment as well as lump sum payment for those who meet expectations, allowing higher discrepancy in DM salaries In contrast, Ontario, which is also classified as Aggressive B, differentiates DMs who are within base salary range from those at maximum base salary range. The compensation of DMs within base salary range progresses until they reach the maximum level; DMs at the maximum range are rewarded with lump sum payments.

Performance goals and appraisal also vary among jurisdictions. In general, performance goals include organizational and individual targets. Organizational goals refer to targets at the ministry/department level, while individual goals refer to targets for management and leadership set out for the individual DM. While both organizational and individual goals are assessed during the appraisal process in most jurisdictions, different weights have been assigned to each goal in each government.

Lastly, there are various limitations on eligibility of pay-for-performance pay. Some provincial governments with a passive pay-for-performance scheme explicitly restrict further rewards for those who are at the maximum level of their salary range. In contrast, governments with aggressive schemes allow one-time lump sum payment regardless of DM's salary amount.

4.3. DM Compensation in Canada

4.3.1. DM Compensation

Figure 4.2 presents real DM salaries over the period 2000-2010 in nine jurisdictions (all salary figures are reported in 2002 dollars unless otherwise specified). There are four characteristics of DM salary during this period: (1) DM salaries have, on average, increased; (2) there is considerable year-to-year fluctuation in DM salaries for some jurisdictions; (3) jurisdictions often change their position within the overall ranking of DM salaries; and (4) there is a decrease in DM salaries in some jurisdictions after the 2008 economic crises.

Table 4.1. Categorization of Federal and Provincial Pay-for-Performance Schemes

Jurisdiction	Type of Scheme	Detailed information
AB	**Aggressive A** Lump sum payment	• Funding: Bonus pool established at 20% of DM payroll • Lump sum payment: 0-30% of annual salary (highest rating for exceptional performance) • Performance goals: government, ministry and individual/team goals – leadership development, work environment, collaboration with other ministries, and demonstration of innovation • Performance appraisal: individual performance against performance goals
BC	**Aggressive A** Lump sum payment	• Lump sum payment: 10% of salary holdbacks • Performance goals: employee engagement, achievement of fiscal targets, delivery of key government priorities, preparation of the future of the public service • Performance appraisal: based on the achievement of goals and targets within ministry service plans and specific performance objectives
FD	**Aggressive B** Salary adjustment + lump sum payment	• Salary adjustment: economic increase (% increase in base salary) + in-range salary movement (5% progression per year) for those achieving expectations • Lump sum payment: at-risk pay (re-earnable 0-30% of base salary) for those achieving expectations + bonus (0-9%) for those surpass expectations • Performance goals: individual goals (policy and program, management, and leadership results) + corporate goals • Performance appraisal: performance rating based on results achieved and on the manner in which they were achieved (5 ratings)

Table 4.1. Categorization of Federal and Provincial Pay-for-Performance Schemes (cont'd)

Jurisdiction	Type of Scheme	Detailed information
ON	**Aggressive B** Salary adjustment + lump sum payment	• Funding: availability in any given year subject to Cabinet approval • Salary adjustment: 0-20% of current base salary for those not at the salary range maximum • Lump sum payment: 0-20% of current base salary for those at the salary range maximum • Performance goals: corporate, ministry, and individual goals • Performance appraisal: based on achievement of business and operational plan commitments
QC	**Passive** Salary adjustment + lump sum payment	• Salary adjustment: 0-10% of current base salary for those not at the salary range maximum • Lump sum payment: 0-10% of current base salary for those at the salary range maximum • Performance appraisal: deputies given grades A-E; A = results much exceed expectations, C = results equal expectations; E = results much less than expectations. Grades translate into salary adjustments
SK	**Passive** Salary adjustment	• Funding: identified by Public Service Commission annually • Salary adjustment: Public Service Commission provides guidelines annually (i.e., maximum 3% of salary increase) • Performance goals: work, competency, and learning and development objectives • Performance appraisal: performance rating against goals (5 ratings) • Limitation: not eligible for those at the salary range maximum

Table 4.1. Categorization of Federal and Provincial Pay-for-Performance Schemes (cont'd)

Jurisdiction	Type of Scheme	Detailed information
NS	**Passive** Salary adjustment	• Salary adjustment: up to 110% of DM's base pay rate (highest rating for exceptional performance for a number of years) • Limitation: not eligible for those not meeting or exceeding expectations/ negative salary adjustment for those at or not meeting expectation, and having been awarded a performance increase previously
NB	**Passive** Salary adjustment	• Salary adjustment: merit increase • Performance goals: government commitments, corporate priorities, departmental challenges, horizontal management responsibilities • Performance appraisal: review of goals on DM's anniversary date • Limitation: not eligible for those at the salary range maximum
PEI	**Resistant**	
MB	**Resistant**	

First, DM salaries have in general increased over time in real terms. Even though there are some hikes and setbacks in DM salary across Canada from time to time, real DM salaries have tended to trend upward over time. Over the period 2000-2010, all jurisdictions, except Manitoba, experience an increase in DM salary, although some of the increases have been very small (as in Ontario).

Despite this overall increase, considerable fluctuations are observed in some provinces. The governments of British Columbia, Alberta, Quebec, Nova Scotia and New Brunswick experience one or two hikes in DM salaries during the 2000-2010 period by more than 15 percent. Coincidentally, some increases are linked with changes in the compensation policy. For instance, British Columbia (2006) increased their DMs salary to 83 percent of federal salary in 2001, resulting in a 26.5 percent increase in DM salary between 2001 and 2002. In 2006, another adjustment in DM salary was implemented, in addition to the introduction of salary holdback based on performance, showing 21 percent increase in year 2005-2006. Furthermore, Nova Scotia underwent a change in the pay plan for senior officials effective in 2007, resulting in a pay increase for all DMs. In 2006, which was an interim year to a new pay system, there was a retroactive payment to the DMs, hence increasing the DM salary by 22.5 percent.

Third, jurisdictions that are classified as having the highest DM salaries in 2000 do not always remain in that category in later years. For instance, in 2000, the highest DM salary group included the federal government, Alberta and Ontario. DMs in the federal government were paid approximately $217,000, followed by DMs in Alberta at $214,000 and DMs in Ontario at $192,000. DM pay in Nova Scotia and New Brunswick was at the lowest level at approximately $102,000 in 2000, with the rest of the provinces—British Columbia, Saskatchewan, Manitoba and Quebec—clustered in the $128,000 to $136,000 range. By 2010, only Alberta remained in the highest DM salary group, paying their DMs around $283,000. The federal government lies between the highest and the midrange group, recording $230,000 for DM annual salary. Ontario fell back to the middle range group, which now consists of Ontario, Quebec, New Brunswick, British Columbia, and Saskatchewan; salaries in this group range from $173,000 to $196,000. New Brunswick moved to the middle range group, paying their DMs around $189,000. In fact, New Brunswick records the highest annual growth rate of DM salary among all jurisdictions (6.69 percent annual growth rate between 2000 and 2010). The lowest DM salary group in 2010 contains Nova Scotia and Manitoba. Nova Scotia remains in the lowest group, while Manitoba

moves from the middle range to the lowest group. The DM salary in Manitoba is $123,000 in 2010, which is the lowest real DM salary among all the jurisdictions.

Finally, many jurisdictions experience a decrease in real DM salary due to the economic downturn in the late 2000s. All jurisdictions except Quebec encounter a decrease in real DM salary after 2008. For instance, Alberta paid their DMs approximately $325,000 in 2008, the highest salary across Canada. In 2009, DMs in Alberta received on average $286,000, a 12 percent decrease. This drop was due to the Government of Alberta suspending the bonus payments in 2008. Similar to Alberta, the government of Ontario in 2010 also announced salary range freezes on those who are not covered by the union (including their DMs) at 2009 levels (Winter, personal communication, May 3, 2012). DM salaries in Ontario in 2009 were approximately $213,000 in real terms; in 2010, the real DM salaries were around $195,000, a decrease of about 8 percent. British Columbia, Ontario and New Brunswick report over a five percent decrease in real DM salaries between 2009 and 2010. Although Quebec shows a continual increase in real DM salaries over time, between 2009 and 2010 the growth rate of DM salary fell to 0.5 percent, much less than the average annual growth rate over the previous periods.

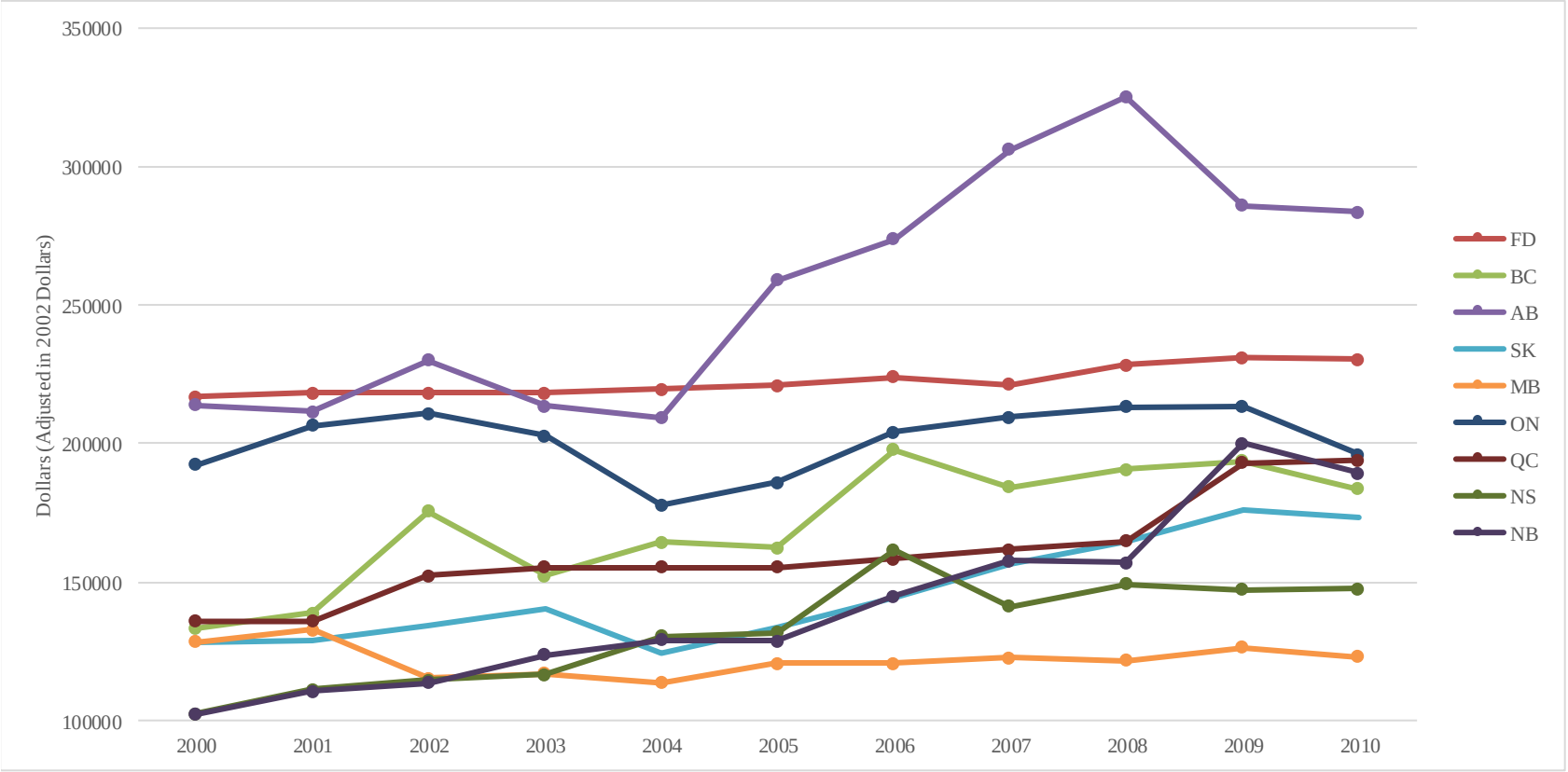
While the numbers presented above indicate that DM salaries have increased in real terms over the 2000-2010 period, they do not provide any comparison with salaries in the private sector, nor with salaries of their political masters – i.e., cabinet ministers. The next sub-section examines the salaries of cabinet ministers and compares them to the salaries of DMs. This analysis is then followed by an examination of salaries in the private sector.

4.3.2. DM and Cabinet Minister Salaries

Figure 4.3 presents real cabinet minister pay in the federal and provincial governments from 2000 to 2010. As illustrated, cabinet minister salaries exhibited four features: (1) salaries increase at steady rate over time; (2) there are substantial hikes in minister salary for most governments; (3) some variations in overall ranking of minister salaries can be seen; (4) difficult economic conditions provide downward pressure on minister salary growth.

First, minister salaries across Canada show a consistent increase over time. Compared to the DM salary trend, minister salaries show much less fluctuations. Instead, minister salary tends to increase at a steady rate, albeit with abrupt hikes in some jurisdictions.

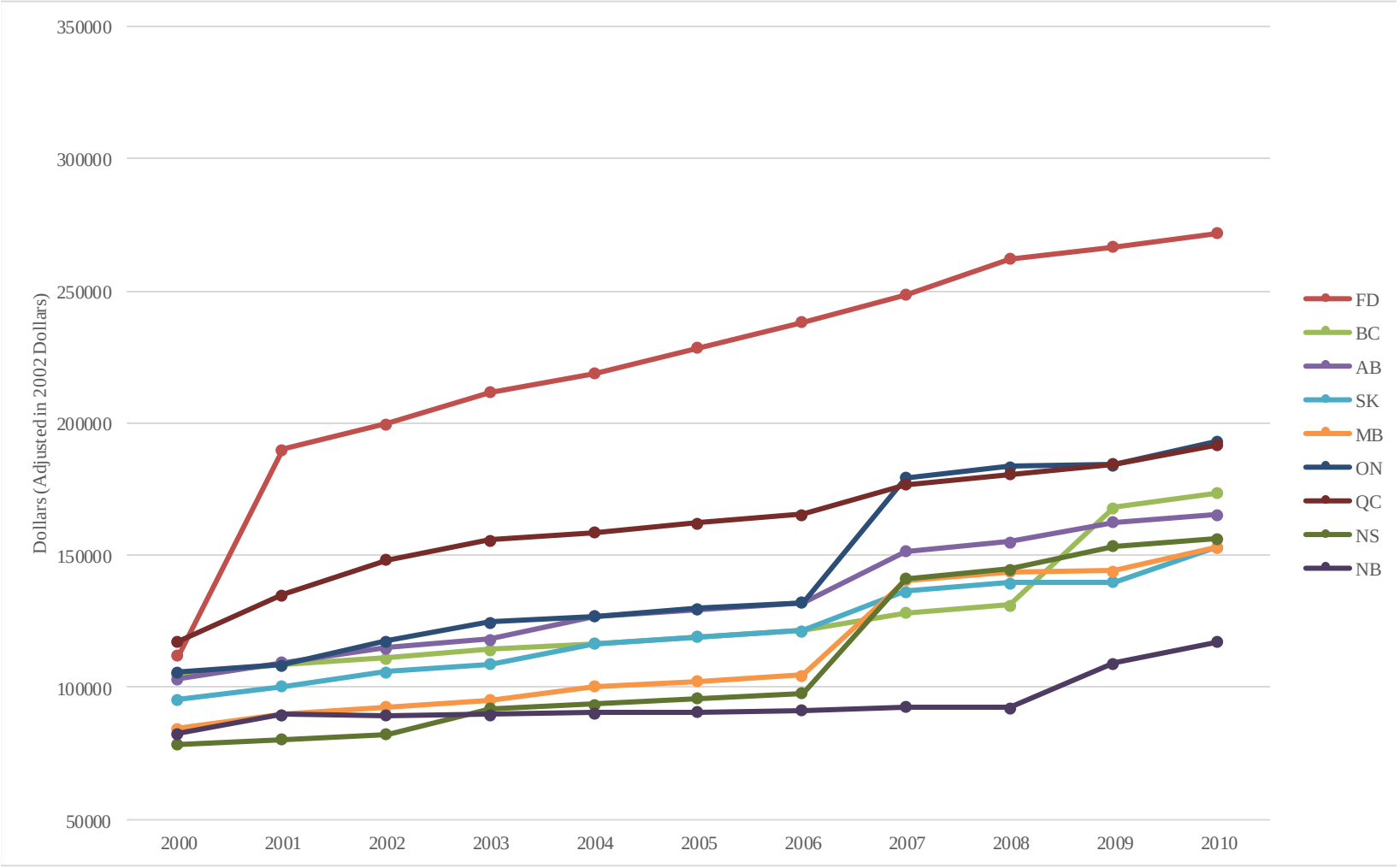
Figure 4.2 Real DM Salary, Federal and Provincial Governments, 2000-2010



Second, many governments experience sharp increases in their cabinet ministers' salaries. For instance, minister salaries in the federal government show a large increase in 2001. To be specific, minister salaries in 2001 increased by 70 percent compared to salaries in 2000, recording the highest change across all the jurisdictions over the period 2000-2010. Also, all provincial governments except Quebec show a sharp increase in their minister salaries in the late 2000s. In fact, Alberta, Saskatchewan, Manitoba, Ontario and Nova Scotia bumped up their minister salary in 2007, with the increase ranging from 12 percent in Saskatchewan to 45 percent in Nova Scotia. Additionally, British Columbia and New Brunswick saw hikes in minister salaries in 2009 of 28 percent and 18 percent, respectively. These increases can often be linked to specific events. For example, the government of Manitoba approved a 34 percent increase in cabinet minister salaries in 2007 based on positive economic conditions and the fact that their ministers were being paid less than ministers in other governments (Werier, 2007). Another example can be found in the 2007 Members of the Legislative Assembly (MLA) compensation review in New Brunswick. The review looked at changes in other provincial governments including the government of Ontario. According to the review, the government of Ontario in 2007 increased minister salaries based on the recommendation of the Integrity Commissioner; one of the responsibilities of the commissioner is to review the Member of Provincial Parliament's compensation (New Brunswick, 2007). As a result, the minister salary in 2007 increased by 36 percent from 2006.

Third, the ranking of minister salaries also varies over the period of 2000-2010. In 2000, Quebec and the federal government were in the group with the highest pay, reporting $117,527 and $ 112,095 respectively. British Columbia, Alberta and Ontario followed next, with pay ranging between approximately $103,000 and $106,000. Saskatchewan, Manitoba, New Brunswick and Nova Scotia followed in a lower group, paying their ministers under $100,000. In 2001, the ministers in the federal government received a large raise (70 percent increase). Coupled with a steady increasing rate of minister salary, the federal government records the highest paying jurisdiction throughout the time and the pay gap between federal and non-federal ministerial salaries remain fairly large. By 2010, this gap is close to $100,000. Between 2006 and 2007, several governments experience large hikes in minister salary. The minister salary in Ontario increases by 35.6 percent, moving its ranking to the Quebec level around $170,000.

Figure 4.3. Real Minister Salary, Federal and Provincial Governments, 2000-2010



Manitoba and Nova Scotia experience hikes in ministerial salary, moving up from lowest group to the midrange group. Hence, the midrange group is rearranged, now consisting of British Columbia, Alberta, Saskatchewan, Manitoba and Nova Scotia and varying between $130,000 and $150,000. In 2009, British Columbia increased minister salary and became the leading jurisdiction among the midrange group. By 2010, the federal government payed their ministers approximately $270,000. Ontario and Quebec stayed in mid to high range, paying salaries of approximately $193,000. British Columbia and Alberta follow, with salaries ranging around $170,000, followed by Nova Scotia, Saskatchewan, Manitoba. New Brunswick stayed in the lowest group recording compensation of $117,000.

Lastly, similar to DM salaries, minister salaries are affected by economic events. Although it is not easily discernible in Figure 4.3, minister salaries tend to stagnate from time to time due to economic conditions. According to the Report of the Commissioner on Salaries, Allowances and Retirement, Benefits for Members of the Manitoba Legislative Assembly (Werier, 2012), due to economic downturn only the cost of living was reflected in minister salary adjustments in 2008 and 2009, with a freeze in MLA salaries implemented in the latter part of 2009. The result was that after a large increase in 2007, minister salaries grew at 2.3 percent increase in 2008 and 0.3 percent increase in 2009. In Ontario, minister salaries were frozen from 2003 to 2006, only receiving inflation based increases (i.e., 1.9 percent increase in 2005 and 2.2 percent in 2006) (Ontario, 2006). Figure 4.3 shows almost no change between 2003 and 2006.

A comparison of DM salaries with cabinet minister salaries can be carried out by examining Figure 4.4 and Table 4.2. Two patterns can be observed from the data: (1) the relatively modest growth rate of DM salaries compared to a fairly strong growth rate of minister salaries; and (2) the tendency of DM and minister salaries to move together in all jurisdictions with exception of Alberta.

On the first point, DM salaries increased over the 2000-1010 period at a much lower rate than minister salaries. On average, DM salaries increased 2.85 percent, whereas minister salaries increased 6.16 percent. Looking at the different jurisdictions, the average annual growth rate of DM salaries is between zero percent and 4 percent range (with exception of New Brunswick which reported 6.7 percent). In contrast, the annual growth rate of minister salaries ranges from a minimum of 3.69 percent to a maximum of 10.62 percent.

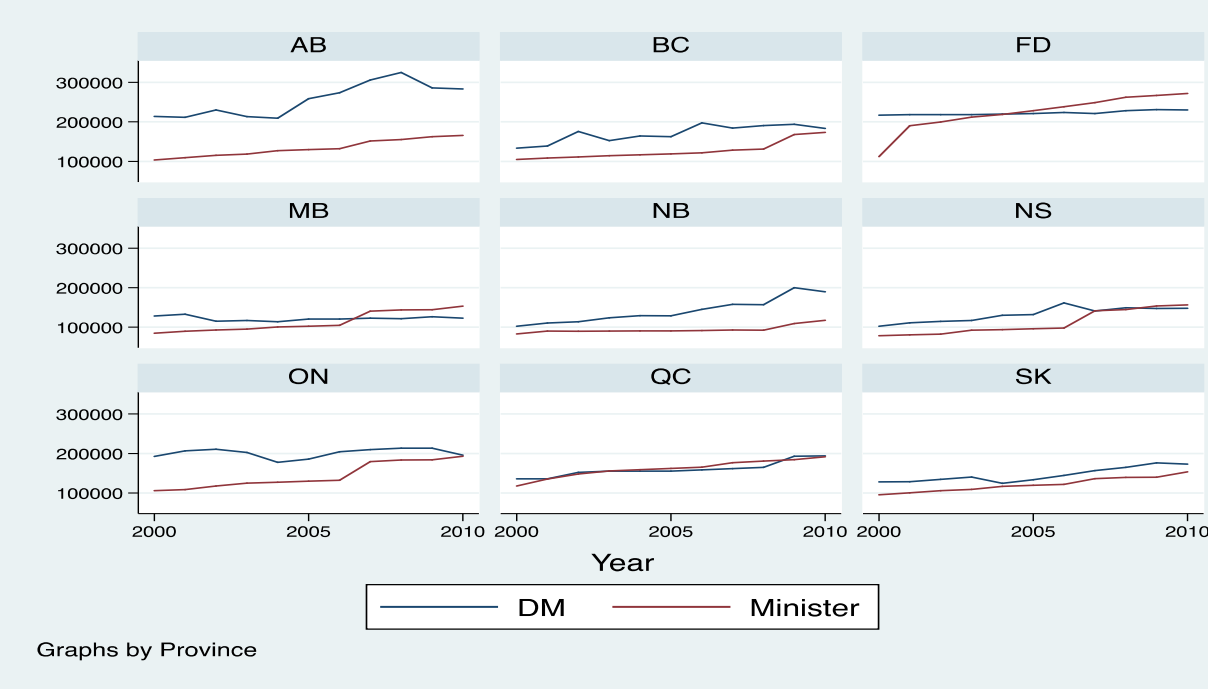
Second, DM and minister salaries appear to have converged by the late 2000s. In all jurisdictions, minister salaries are lower than DM salaries in 2000. Due to the higher growth rate of minister salaries, the gap between the minister and DM salaries is reduced over time. The exception is Alberta, where DM salaries grew sufficiently rapidly to remain above minister salaries. For British Columbia and Ontario, the levels of the minister and DM salaries are very similar by 2010. For the federal government, Manitoba and Nova Scotia, the minister salaries are above DM salaries after 2005.

Figure 4.5 presents a scatter plot of DM and cabinet minister salaries across all nine jurisdictions and over the period 2000-2010. Overall, this figure indicates that there is a positive association between DM and minister salaries. Moreover, since the slope of the trend line is less than 45 degrees, a dollar change in ministerial salary is associated with less than a dollar change in DM salary. Since ministerial salaries on average started out in 2000 being less than DM salaries on average, and since there was a growth in ministerial salaries over time, the result is that, on average, ministerial salaries were greater than DM salaries in 2010. The one exception of this pattern is Alberta, where DM salaries have kept pace with minister salaries. Ontario, British Columbia and New Brunswick are clustered above the regression line, implying higher DM salaries than is predicted by the regression model. Of course, there are other jurisdictions that have DM salaries lower than the regression line – these jurisdictions include the federal government, Quebec, Saskatchewan and Manitoba.

4.3.3. DM and Private Sector Counterpart Salaries

While there seems to be a reasonably strong relationship between DM and minister salaries, this is not true of the salaries of DMs and their private sector counterparts. Figure 4.6 presents salaries of DMs and ministers, along with the private sector comparator in selected years (2000, 2005 and 2010). The private comparators are much higher than DM salaries. The highest DM salaries in 2000 are in the range of $200,000 to $220,000, which is much lower than the private sector comparator, which is close to $380,000; the difference is $160,000-180,000. Moreover, the salary gap between DMs and their private-sector counterparts is growing over time. In 2010, the median DM salary in Alberta is approximately $280,000 (the highest in Canada), while the private counterpart salary is nearly $684,000, a difference of $404,000. The annual growth rate

Figure 4.4. Real Minister and DM salaries, Federal and Provincial Governments, 2000-2010



of private sector salaries is approximately 6.2 percent, whereas the growth rate for DM salaries is close to 3 percent.

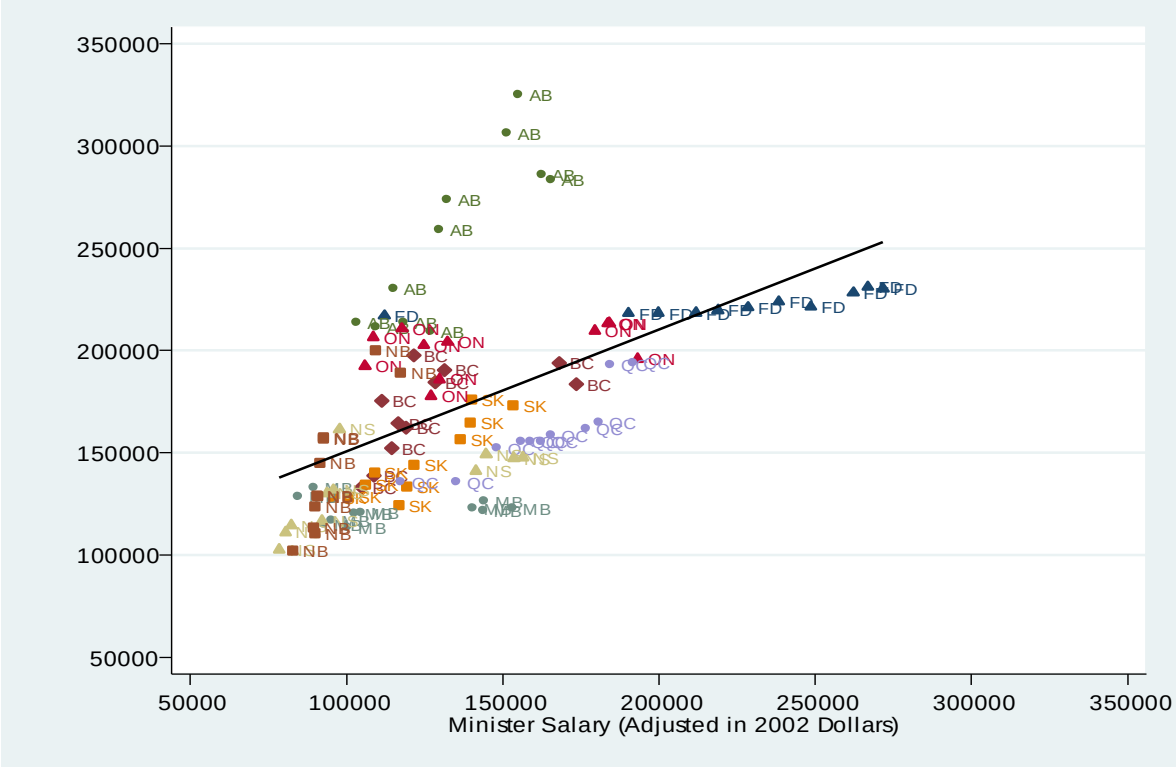
Table 4.2. Real Salaries of DM and Minister, Federal and Provincial Governments, and Private Comparator and Average Annual Growth Rate of Salaries, 2000-2010

Jurisdiction	Year	DM			Minister		
		Salary	Annual Growth Rate (2000-2010)		Salary	Annual Growth Rate (2000-2010)	
		(2002 $)	(%)		(2002 $)	(%)	
FD	2000	216,979	2000-2005	0.37	112,095	2000-2005	17.69
	2005	221,051	2005-2010	0.84	228,445	2005-2010	3.541.84
	2010	230,343	2000-2010	0.61	271,733	2000-2010	10.62
BC	2000	133,256	2000-2005	4.82	104,940	2000-2005	2.56
	2005	162,321	2005-2010	2.96	119,091	2005-2010	8.25
	2010	183,510	2000-2010	3.89	173,561	2000-2010	5.40
AB	2000	213,722	2000-2005	4.46	103,341	2000-2005	4.67
	2005	258,914	2005-2010	2.17	129,748	2005-2010	5.09
	2010	283,467	2000-2010	3.31	165,488	2000-2010	4.88
SK	2000	128,167	2000-2005	1.06	95,552	2000-2005	4.54
	2005	133,559	2005-2010	5.39	119,219	2005-2010	5.26
	2010	173,100	2000-2010	3.23	153,300	2000-2010	4.90
MB	2000	128,329	2000-2005	-1.01	84,660	2000-2005	3.92
	2005	120,456	2005-2010	0.42	102,571	2005-2010	9.03
	2010	122,859	2000-2010	-0.30	153,192	2000-2010	6.48
ON	2000	192,488	2000-2005	-0.44	105,898	2000-2005	4.18
	2005	185,908	2005-2010	1.22	129,788	2005-2010	9.02
	2010	195,920	2000-2010	0.39	193,216	2000-2010	6.60
QC	2000	135,748	2000-2005	2.83	117,527	2000-2005	6.79
	2005	155,293	2005-2010	4.73	162,315	2005-2010	3.41
	2010	193,986	2000-2010	3.78	191,771	2000-2010	5.10

Table 4.2. Real Salaries of DM and Minister, Federal and Provincial Governments, and Private Comparator and Average Annual Growth Rate of Salaries, 2000-2010 (cont'd)

Jurisdiction	Year	DM			Minister		
		Salary	Annual Growth Rate (2000-2010)		Salary	Annual Growth Rate (2000-2010)	
		(2002 $)	(%)		(2002 $)	(%)	
NS	2000	102,553	2000-2005	5.23	78,467	2000-2005	4.16
	2005	131,845	2005-2010	2.91	95,863	2005-2010	11.38
	2010	147,648	2000-2010	4.07	156,375	2000-2010	7.77
NB	2000	102,206	2000-2005	4.80	82,733	2000-2005	1.91
	2005	128,835	2005-2010	8.60	90,680	2005-2010	5.48
	2010	189,312	2000-2010	6.69	117,221	2000-2010	3.69
Private Sector		Salary			Annual Growth Rate		
		(2002 $)			(%)		
	2000	379,709			2000-2005		10.66
	2005	627,271			2005-2010		1.74
	2010	683,853			2000-2010		6.20

Figure 4.5. Scatter Plot of DM and Minister Salaries, Federal and Provincial Governments, 2000-2010



The gap between DM salaries and their private counterparts is noted in governmental discussions. At the federal level, this difference is repeatedly mentions in the reports of the Advisory Committee on Senior Level Retention and Compensation (Canada 1998; 2000; 2005; 2010 and 2011). The Committee also noticed that this difference between public sector and private salaries becomes wider at higher levels of the civil service (i.e., at the DM level).

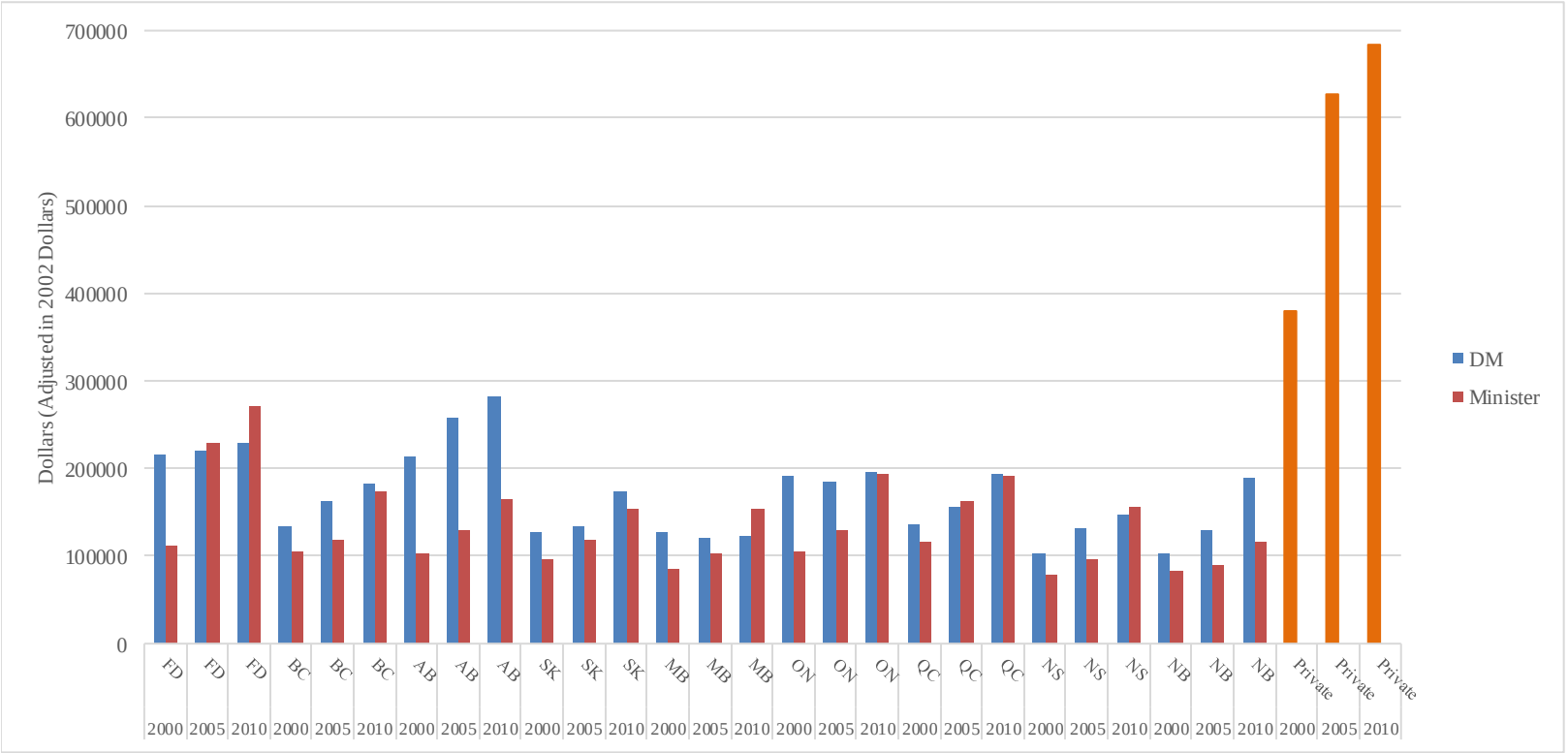
While looking at Table 4.2 and Figure 4.6, this discrepancy between private and public salaries can be discussed in terms of DM salary determination process, policy lag and financial restraint. To begin with, the federal government uses two steps in setting DM salaries. First, compensation for the lowest executive position (that is, EX 01) is set equal to its private comparator. Then, the base salary of the next senior position progresses with different job responsibilities (Canada, 2000b). However, it is argued that this salary progression does not reflect greater job responsibilities, thus creating the compression issue. At the most senior level, the compression of the salary is the greatest (Canada, 1998). Therefore, DMs are provided with

less compensated compared to their private comparators and with respect to their job responsibilities.

Secondly, the approach to the compensation policy in the public sector is more conservative. According to the Advisory Committee on Senior Level Retention and Compensation, the federal government has implemented a "lag policy" in which adjustment of the salary range in the current year is based on changes in the private market in the previous year. This conservative compensation policy by nature falls behind with salary adjustment in the private sector. The seventh report by the Advisory Committee states that its salary recommendation is based on private salary data that is at least 15 months old (Canada, 2004). In the same report, the Committee recognizes the limitations of this approach: it does not effectively reflect the Canadian labour market condition. However, on the opposite side, it means that public sector compensation policy is more "prudent" and less affected by the economic conditions.

Thirdly, the compensation in the public sector is often influenced by budgetary restraints. For example, the federal government froze the base pay during 2011-2013 due to the economic downturn. Although the government recognizes that the salary of senior positions is falling behind compared to the private sector salary, they also acknowledge that senior officials need to be an exemplary of public servants through restraining their salary level. These three aspects of compensation policy in the public sector derive from the political nature of the public sector.

Figure 4.6. Salaries of DM and Minister, Federal and Provincial Governments, and Private Comparator, 2000-2010



4.4. DM Salaries and Pay-for-Performance

The comparison of DM salaries with their public masters – namely, cabinet ministers – and their private counterparts showed two points: first, there is a growing gap between DM salaries and private comparator salaries; and second, DM salaries and minister salaries are positively related. These two patterns suggest the highly political nature of DM salary determination. DM salaries appear to be strongly determined by a desire to hold spending down during tough economic times and to have DM salaries more or less in line with the salaries of cabinet ministers, the people for whom DMs work. The evidence for the first of these factors is found in the slower growth rate of DM salaries during tight fiscal periods, while evidence for the second is found in the fact that the growth in minister salaries was not subject to the same degree of dampening during tough economic times as DM salaries.

Although many jurisdictions acknowledge the importance of keeping DM salaries competitive with their private counterparts and their public counterparts in other governments, this acknowledgement is often muted. According to the report from the Advisory Panel on Management and Non-Bargaining Staff Recruitment and Retention (Ontario. 2016), CEOs' objectives are described as less vague and hence more readily determined, and their responsibilities often derive from a single source – i.e., profit. In contrast, the objectives of DMs are more vague; DMs also have multiple objectives and responsibilities. Therefore, while the report points out that private sector salaries should be referenced when considering DM compensation, it should not be weighed heavily. The government of British Columbia also discusses the need for a cautious approach to private sector salaries. In the 2014 compensation review, it is indicated that the government's compensation philosophy should consider the federal and other provincial governments as more important in determining compensation, even though private sector salaries are a factor to consider (British Columbia, 2014).

In addition to the two trends identified above, the data analysis also highlighted a third point, namely the growing importance of pay-for-performance schemes, with governments across Canada linking DM pay with performance. The introduction of pay-for-performance suggests that higher performing DMs might be able to earn a higher salary, thus potentially offsetting some of the relative salary decline that DMs as a group have experienced. Given the apparent political nature of DM compensation determination described above, the implication is that pay-for-performance schemes might be introduced as a part of a new political-economic

equilibrium that sees DMs subject to more political control in exchange for higher salaries (Atkinson, Fulton and Kim 2014).

To examine this question of higher reward for better performer, Figure 4.7 presents DM salaries for jurisdictions that either have or do not have pay-for-performance systems in place over the period 2000-2010. As can be seen, there is a substantial difference in the average salaries across these two types of jurisdictions. In jurisdictions with pay-for-performance systems, the average DM salary is approximately $190,000, whereas DM salaries in jurisdictions without a pay-for-performance system are on average $130,000. Figure 4.8 further breaks down DM salaries across the two different categories of pay-for-performance systems. DM salaries are higher on average in jurisdictions with either passive or aggressive pay-for-performance schemes, with the aggressive jurisdictions having the highest DM salaries. To be specific, DM salaries with aggressive pay-for-performance schemes are approximately $222,000 on average and DM salaries with passive type are around $149,000 on average. Both figures 4.7 and 4.8 suggest the implementation of pay-for-performance allows DMs to receive higher salaries on average, with the more aggressive form of pay-for-performance generating more pay than the passive form.

This evidence is consistent with the political nature of DM compensation determination discussed above. Given the close connection between pay-for-performance and NPM movement (OECD, 2005), this is also evidence that NPM has a strong political element. As was noted earlier, NPM pursues better public management (i.e., increased accountability, improved public service quality) through the use of market-like mechanisms such as contracts drawn from the private sector. In the public arena, linking performance and pay means governments can set out criteria for DMs to address, and then provide bonuses if these criteria are achieved. While each jurisdiction has different performance goals and appraisal processes, it is common that governments lay out their political agenda.

Consider, for instance, the commitments a federal DM agrees to under the performance agreement contract with the Clerk of the Privy Council. The individual component of these commitments has four criteria that can be achieved through an individual's leadership, management and influence. The corporate commitments include the government's priorities in each year that will be rewarded collectively if they are achieved. The federal government attaches different weights to each commitment, with 60 percent of risk pay based on the individual commitment appraisal and 40 percent on the corporate commitment (Canada, 2011).

Figure 4.7. Average DM Salary over 2000-2010 Period: No Pay-for-Performance vs. Pay-for-Performance

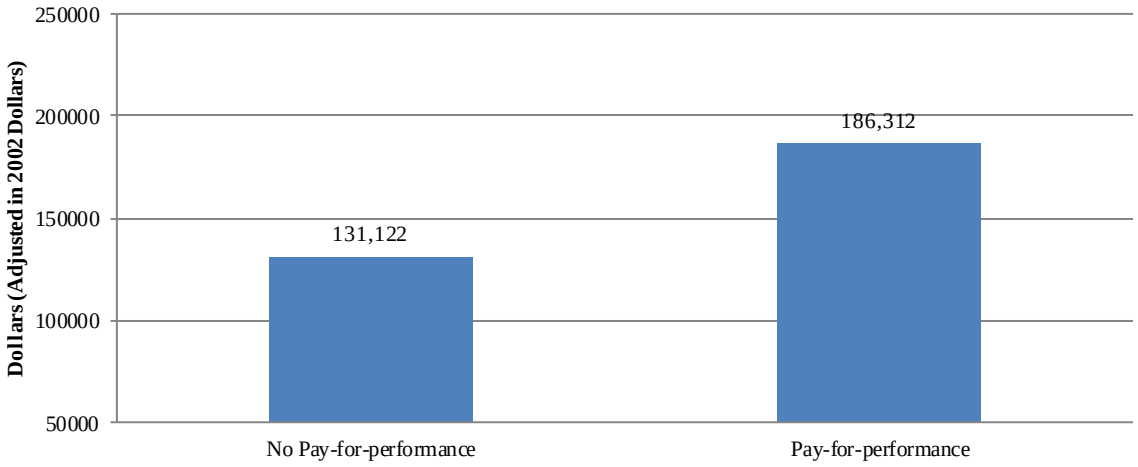
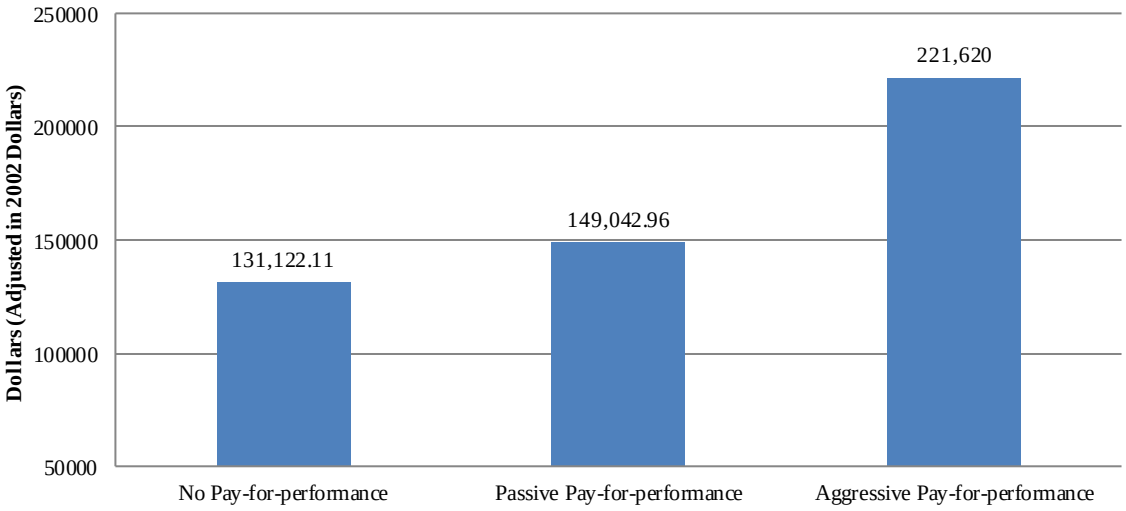


Figure 4.8. Average DM Salary over 2000-2010 Period: Types of Pay-for-Performance



4.5. Summary

This chapter analyzed the pay-for-performance schemes in Canada, as well as DM and cabinet minister compensation. Beginning in the late 1980s, pay-for-performance systems have been implemented across Canada, and currently all jurisdictions with exception of Manitoba and Prince Edward Island have adopted pay-for-performance schemes. As has been the case elsewhere in the world, pay-for-performance schemes have been adopted to improve the management of the public sector by adopting practices that have been successful in the private sector and to attract and retain highly qualitied individuals. However, due to the non-market nature of the public sector, implementation of pay-for-performance systems has been challenging.

In this study, the pay-for-performance systems in Canada are categorized into three types: (1) aggressive, (2) passive, and (3) resistant or no pay-for-performance. The federal government, British Columbia, Alberta and Ontario have adopted the aggressive type. Saskatchewan, Quebec, Nova Scotia and New Brunswick have adopted the passive type. Manitoba and Prince Edward Island have not adopted pay-for-performance schemes.

Over the period 2000-2010, DM compensation (measure in real terms) across the various political jurisdictions has generally increased, although there is considerable year-to-year variation, with DM pay declining in some jurisdictions during periods of economic downturn. Cabinet minister salaries have also increased over the 2000-2010 period, with the overall growth rate higher than for DMs. The slower growth of DM salaries relative to cabinet minister salaries means that DM salaries and minister salaries have been converging. DM salaries have also not grown as fast as those of their comparators in the private sector, suggesting that DM salaries are influenced by factors that give little weight to other economic opportunities and by political factors such as the need to appear fiscally prudent during economic downturns and the desire by cabinet ministers to be paid at a comparable level to DMs.

It is argued that the adoption of pay-for-performance schemes needs to be seen in the context of a political determination in which governments tie their priority and agenda to the DMs' performance criteria; pay-for-performance then becomes a mechanism for rewarding DMs for achieving these goals.

CHAPTER 5
REGRESSION RESULTS

5.1. Regression Models

Chapter 4 examined DM salary in Canada in relation to three variables: cabinet minister salary, private comparator salary and pay-for-performance system. A scatter plot of DM salaries versus cabinet minister salaries across provinces and time showed a positive relationship between these two variables; the slope of the trend line was less than one, suggesting that DM salaries increased less rapidly that ministerial salaries over time. A comparison of DM salaries and private sector comparator salaries showed no visible pattern between these two variables. A comparison between average DM salary across province with and without pay-for-performance schemes showed a positive relationship between pay-for-performance and DM compensation.

The analysis carried out in Chapter 4 is preliminary for two reasons. First, the analysis does not consider all three independent variables together. Second, there are other explanatory variables that might play a role in DM salary determination and that are correlated to some degree with the explanatory variables of interest, namely cabinet minister salary, private comparator salary and pay-for-performance system. These other explanatory variables include indicators representing labour market condition, political barriers and provincial differences. To address these two issues, multiple regression analysis was undertaken. The results of the regression analysis are provided below.

The regression analysis investigates how DM salaries are influenced by three key independent variables (cabinet minister salaries, private comparator salaries and pay-for-performance systems) while holding other control variables constant. DM salaries, cabinet minister salaries and private counterpart salaries are expressed in constant dollar terms. Private counterpart salaries are lagged one-year to reflect the fact that public sector pay levels are typically based on past values of private sector pay (the regression analysis was also carried out using current year values for private sector pay and are included in the appendix A-D). The pay-for-performance variable is a dummy variable that takes on a value of one when a pay-for-performance scheme is in place. The analysis also considers a regression with two dummy variables for pay-for-performance, one that takes on a value of one when the scheme is passive and another that takes on a value of one when the scheme is aggressive. A dummy variable is

included for the period after the economic crisis of 2008 (thus this variable takes on a value of one for 2009 onward). An interaction variable of the economic crisis and minister salary is included to see if ministerial salary has a differential impact on the DM salary level during the economic crisis. In addition to the above variables, two different sets of control variables are added: economic variables (yearly inflation rate, economic growth rate and GDP per capita) and political variables (presence of an election, political party in power and degree of public unionization). The variable *Election* is a dummy variable that takes on a value of one when an election was held in that year. The variable *Political party in power* is a dummy variable taking the value of 1 for conservative/right parties and 0 for left parties. The variable *Public unionization* is calculated as the percentage of public sector workers who are covered by a union.

Two sets of regression models are estimated: one without controls and one with controls. In each set, the first model is a regression of DM salary on minister salary. The second model regresses DM salary on pay-for-performance, while the third model is the first model with lagged private sector salary added. The fourth model adds the pay-for-performance variable, while the fifth model replaces the simple pay-for-performance variable with variables for passive and aggressive types of pay-for-performance. The sixth model adds a dummy variable for the economic crisis, while the seventh model adds the interaction variable of economic crisis and ministerial salary.

The final model in the first set with all the variables added (Model 7) can be written as follows:

$$\begin{aligned} DM\ Salary = {} & \alpha + \beta\ Minister\ Salary + \gamma\ Private\ Salary_{t-1} + \delta\ Aggressive \\ & + \theta\ Passive + \vartheta\ Economic\ Crisis + \mu\ Economic\ Crisis * Minister\ Salary \\ & + \varepsilon \end{aligned}$$

The final model in the second set can be written as follows:

$$\begin{aligned} DM\ Salary = {} & \alpha + \beta\ Minister\ Salary + \gamma\ Private\ Salary_{t-1} + \delta\ Aggressive \\ & + \theta\ Passive + \vartheta\ Economic\ Crisis + \mu\ Economic\ Crisis * Minister\ Salary \\ & + \pi\ Inflation + \rho\ Economic\ Growth + \sigma\ GDP\ per\ capita + \tau\ Election \\ & + \varphi\ Conservative + \omega\ Unionization + \varepsilon \end{aligned}$$

The main focus of attention in the examination of the results is what happens to the sign and the magnitude of the coefficients on the three independent variables of interest (minister salary, private salary and pay-for-performance) as the analysis moves from the first model to the last model in each set, as well as what happens to these coefficients when the control variables are added (set two versus set one). If the coefficients stay relatively constant across models then this provides some evidence that the relationship between DM salary and the variables of interest are being accurately captured.

5.2. Regression Results

Table 5.1 and 5.2 present the regression results for the two sets of regressions, one without control variables and one without. Tables 5.3 and 5.4 present the same two sets of regressions with Alberta excluded. As was shown in the analysis in chapter 4, Alberta is somewhat of an outlier from the other jurisdictions. As figure 4.4 showed, DM salary in Alberta remained above ministerial salary by a constant amount over the period 2000-2010; in contrast, many of the other jurisdictions exhibited a pattern in which the gap between DM salary and ministerial salary decreased over time.

The coefficients marked by asterisks are statistically significant at the 95 percent (*), 99 percent (**) or 99.9 percent (***) level. The adjusted R^2 provides an indication of the explanatory power of the variables in each model, with an increase in the adjusted R^2 indicating that the new variable that is added explains the dependent variable better than random chance. The F statistic provides a test of whether the independent variables taken together provide any explanatory power compared to an estimate of the mean.

Table 5.1 presents the regression results for the analysis without control variables and Alberta is included. The estimated coefficient on minister salary is positive and statistically significant at the 99.9 percent level in Models 1, 3 and 4; this estimate is not statistically significant when the Aggressive and Passive pay-for-performance variables and the economic crisis variables are added (e.g., Models 5-7). The estimated coefficient on minister salary decreases when the pay-for-performance dummy variable is added in Model 4 (notice the change from 0.596 in Model 1 and 0.577 in Model 2 to 0.397 in Model 4) and further decreases when the Aggressive and Passive pay-for-performance variables and economic crisis variables are added (Model 5,6, and 7).

The general pay-for-performance variable and the Aggressive pay-for-performance variable are statistically significant at the 99.9 percent level whereas the Passive pay-for-performance variable is significant at 95 percent (see Models 2 and 4-7). Model 4 indicates that the introduction of pay-for-performance increases DM salary by more than $80,000 on average (see Models 5-7). The passive type of pay-for-performance is estimated to increase DM salary on average by more than $10,000. The lagged private sector pay variable is only statistically significant in Models 4 and 5 (95 percent level). The variables associated with the economic crisis are not statistically significant.

Table 5.2 presents the regression results for the analysis with control variables and Alberta is included. The estimated coefficients on minister salary are statistically significant across all models, contrary to the first set of regressions results (Models 1-7) where they lose this significance when pay-for-performance and economic crisis variables are introduced. Models 8, 10, and 11 indicate a one dollar increase in ministerial salary is associated with an increase in DM salary of about 40 cents. In Model 12, the statistical significance of this estimated coefficient drops to 95 percent and the magnitude of the coefficients falls to around 20 cents. The private sector salary is not statistically significant when the control variables are added. While the dummy variable for pay-for-performance is statistically significant in Model 9, it loses this significance when included with minister and private salaries (Model 11). The coefficient on Aggressive pay-for-performance is statistically significant at the 99.9 percent in Models 12-14, the impact on DM salary is roughly $45,000. The Passive pay-for-performance schemes are not statistically significant in any of the models; nor are the economic crisis variables. Across all models the GDP per capita variable is positive and statistically significant.

Table 5.3 provides the regression results for the case where the control variables are omitted and Alberta is excluded. The estimated coefficient on minister salary is positive and statistically significant at the 99.9 percent level in all models (e.g., Models 15-21). Similar to the regression results for all jurisdictions when the control variables are omitted (Table 5.1), the estimated coefficient on minister salary decreases when the pay-for-performance dummy variable is introduced in Model 18 (notice the change from 0.586 in Model 15 and 0.597 in Model 17 to 0.485 in Model 18). The decrease continues when the Aggressive and Passive pay-for-performance variables and economic crisis variables are added (see 0.236 in Model 19 and

0.223 in Model 20). When the interaction variable of economic crisis and minister is added the ministerial coefficient increases slightly to 0.266 in Model 21.

The general pay-for-performance variable and the Aggressive pay-for-performance variable are statistically significant at the 99.9 percent level, whereas the Passive pay-for-performance variable is significant at 99 percent (see Models 16 and 18-21). Model 18 indicates that the introduction of pay-for-performance increases DM salary by approximately $25,000. The aggressive type of pay-for-performance increases DM salary by more than $55,000 while the passive type is estimated to increase DM salary on average by more than $12,000 (see Models 19-21). The lagged private sector pay variable is not statistically significant. The economic crisis variable is statistically significant at the 95 percent in Model 21.

Table 5.4 provides the regression results with the control variables included and the observations for Alberta excluded. The estimated coefficients on minister salary are statistically significant across all models. The magnitude of the estimated coefficient on ministerial salary are similar to those when Alberta is included (see Models 8-14 in table 5.2); the magnitudes are also similar to the case where Alberta is not included and the control variables are omitted (Models 15-12 in table 5.3). Models 22, 24, and 25 indicate that a one-dollar increase in minister salary results in an increase in DM salary of approximately 40 cents. In Model 26, the ministerial coefficient drops to 20 cents. The private sector salary is not statistically significant in any of the models.

While the dummy variable for pay-for-performance is statistically significant in Model 23 at the 90 percent, it loses its significance when included with minister and private salaries in Model 25. The coefficients on Aggressive pay-for-performance are statistically significant in Models 26-28; the impact of this variable on DM salary is approximately $50,000. The Passive pay-for-performance schemes are statistically significant at the 95 percent level in Models 26-28 and the passive type of pay-for-performance is associated with an increase in DM salary of $10,000 on average. The economic crisis variable is statistically significant at the 95 percent level in Model 28; otherwise it is not statistically significant.

The focus of the discussion in the next section will be Model 12 and Model 26. There are at least three reasons for this focus. First, the models with the control variables included result in larger adjusted R^2s. Second, the economic crisis variables in Models 13-14 and Models 27-28 are not statistically significant and thus do not add anything to the explanatory power of the

Table 5.1. Regression Results of DM Salary, No Control Variables, Alberta Included

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Independent							
Minister	0.596***		0.577***	0.397***	0.0782	0.0636	0.117
Lagged Private			0.0163	0.0112	0.0687*	0.0596*	0.0526
Pay for Performance		59196.7***		40628.3***			
Aggressive					83786.8***	84210.2***	83316.5***
Passive					15655.8*	15508.3*	13818.9*
Economic Crisis						7074.3	48017.7
Economic Crisis * Minister							-0.245
Constant	90932.4***	129323.0***	84519.6***	82383.2***	86016.6***	91710.3***	89388.1***
Adjusted R^2	0.300	0.300	0.294	0.405	0.726	0.725	0.729
F statistics	42.98	43.01	21.38	23.20	65.83	52.76	44.93
df_m	1	1	2	3	4	5	6
df_r	97	97	96	95	94	93	92
N	99	99	99	99	99	99	99

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5.2. Regression Results of DM Salary, Control Variables, Alberta Included

Variable	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Independent							
Minister	0.391***		0.417***	0.393***	0.188*	0.181*	0.229**
Lagged Private			-0.0371	-0.0379	-0.0384	-0.0391	-0.0393
Pay for Performance		19666.5**		6361.2			
Aggressive					45823.9***	45597.3***	44206.2***
Passive					6743.7	6727.9	5256.4
Economic Crisis						3655.6	38568.7
Economic Crisis * Minister							-0.207
Control							
Inflation	-173.1	84.49	58.24	81.29	671.5*	624.6*	543.1
Economic Growth	-1780.6	-2828.2*	-1891.7	-1761.7	-1710.3	-1543.0	-1539.0
GDP per capita	5.062***	5.460***	4.928***	4.782***	2.824***	2.882***	2.915***
Election	1790.6	3858.4	2218.1	2207.4	3561.3	3932.8	2686.8
Conservative	8256.3	7392.0	7420.0	7207.1	5959.7	6207.2	7941.6
Unionization	-228670.0***	-81712.3	-230801.4***	-217674.0***	-42825.1	-41651.7	-46360.5
Constant	123037.0*	11454.1	121310.9*	113242.0*	1481.2	3920.9	9324.6
Adjusted R^2	0.800	0.726	0.801	0.801	0.834	0.832	0.835
F	57.02	38.04	50.21	44.82	50.15	45.26	42.34
df_m	7	7	8	9	10	11	12
df_r	91	91	90	89	88	87	86
N	99	99	99	99	99	99	99

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5.3. Regression Results of DM Salary, No Control Variables, Alberta Excluded

Variable	Model 15	Model 16	Model 17	Model 18	Model 19	Model 20	Model 21
Independent							
Minister	0.586***		0.597***	0.485***	0.236***	0.223***	0.266***
Lagged Private			-0.0104	-0.0159	0.0231	0.0151	0.00957
Pay for Performance		47102.5***		24871.5***			
Aggressive					59951.0***	60454.1***	59802.7***
Passive					14060.4**	13936.2**	12539.7**
Economic Crisis						6161.2	39646.3*
Economic Crisis * Minister							-0.199
Constant	81704.5***	129323.0***	85945.3***	87117.1***	92981.6***	97963.3***	96052.5***
Adjusted R2	0.532	0.337	0.527	0.598	0.802	0.803	0.808
F statistics	99.73	45.14	49.44	44.11	88.98	71.74	62.15
df_m	1	1	2	3	4	5	6
df_r	86	86	85	84	83	82	81
N	88	88	88	88	88	88	88

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5.4. Regression Results of DM Salary, Control Variables, Alberta Excluded

Variable	Model 22	Model 23	Model 24	Model 25	Model 26	Model 27	Model 28
Independent							
Minister	0.419***		0.420***	0.389***	0.204**	0.188**	0.238**
Lagged Private			-0.00193	-0.000415	0.00202	0.000881	0.00119
Pay for Performance		19632.4**		10198.8			
Aggressive					55703.4***	53860.3***	51715.8***
Passive					12225.1*	12066.1*	10412.5*
Economic Crisis						9127.3	46554.5*
Economic Crisis * Minister							-0.219
Control							
Inflation	-634.0**	-466.9	-621.1*	-610.9*	137.2	-35.51	-154.6
Economic Growth	-984.9	-2124.7	-995.2	-692.4	-663.6	-257.2	-272.7
GDP per capita	4.799***	6.360***	4.797***	4.374***	1.053	1.406	1.546
Election	2972.6	5667.8	3010.6	2922.9	4596.2	5299.6	3749.5
Conservative	8916.4*	11490.7*	8885.2*	8119.1	3592.1	4791.5	6932.3
Unionization	-222298.9***	-103279.2	-222484.4***	-198213.9***	19006.1	14471.0	6162.4
Constant	171636.8***	53581.2	171369.7***	162771.2**	43463.6	53881.0	62019.8
Adjusted R2	0.732	0.607	0.729	0.737	0.799	0.802	0.809
F	34.99	20.22	30.24	28.09	35.63	33.11	31.74
df_m	7	7	8	9	10	11	12
df_r	80	80	79	78	77	76	75
N	88	88	88	88	88	88	88

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

estimated equation. This lack of additional explanatory power is reflected in the lack of any major increase in the adjusted R^2 from Model 12 to Models 13-14 and from Model 26 to Models 27-28. In contrast, Model 12 provides a higher adjusted R^2 than Models 8-11, while Model 26 provides a higher adjusted R^2 than Models 22-25. Third, the addition of the Aggressive and Passive variables instead of the general variable for pay-for-performance (Model 12 versus Model 11 and Model 26 versus Model 25) results in a major drop in the magnitude of the estimate on the minister variable; along with the statistical significance of the Aggressive pay-for-performance variable, this suggests a correlation between ministerial pay and Aggressive pay-for-performance that would result in a bias of the coefficient on ministerial pay if the Aggressive variable were not included.

5.3. Discussion

The estimated coefficients on ministerial pay in Model 12 and Model 26 are statistically significant at the 95 percent level and 99 percent level, respectively. The positive coefficient predicts that an increase in minister salary will lead to an increase in DM salary. More specifically, a dollar increase in minister salary can be expected to result in an increase in DM salary of 18.8 cents on average (20.4 cents if the results of Model 26 are used). Since this value is much less than one, DM salary and minister salary will converge over time, assuming that DM salaries are initially above ministerial salaries (which is the case over much of the period under examination). The tendency of ministerial salary to rise up toward DM salary is consistent with the importance of political considerations when ministers decide on the level of DM salary. The conceptual model of DM salary presented in Chapter 2 argued that the cabinet ministers' willingness to pay for DMs is influenced by their own compensation level due to their perception of the DM's job and their concerns about public outrage over government spending. It was argued that cabinet ministers regard the DM's job as similar to theirs and if DMs are to be well-compensated, then DMs have to be undertaking activities that are beneficial to them as ministers.

In addition to this political pull coming from the demand side, the regression results provide no evidence that private sector salaries have an influence on DM salaries, since the coefficient on the private sector comparator variable is not statistically significant. One reason for this result may be a reliance on public sector motivation as an incentive to get people to work

as DMs. The model of DM salary points out this motivation, a desire to serve for the public, allows for DMs to be less susceptible to the level of their private counterpart's salary.

The estimated coefficients on the Aggressive pay-for-performance variable is statistically significant and positive; on average the introduction of an aggressive pay-for-performance scheme will increase the DM salary by $45,824 in Model 12 and by $55,703 in Model 26. This result suggests that linking pay and performance in the public sector can be viewed as part of a political process where principals (i.e., ministers) lay out their political objectives to their agents (i.e., DMs) in the hope that DMs' actions will be aligned with their interests via financial rewards. In this interpretation, pay-for-performance schemes can be interpreted as a way of implementing a political anchor; while cabinet ministers are willing to pay their DMs more, this will only occur if the DMs are working towards goals established by the ministers.

CHAPTER 6
CONCLUSION

6.1. Summary

Since the late 1990s public attention has become more focused on the compensation of government officials as a number of provinces, and most notably Ontario, have made the salary information of civil servants publicly available. Public sector compensation has also become more important for governments since the 1990s due to the aging of senior public sector management and the need to hire and retain qualified individuals to fill positions as people retire. New Public Management has also brought greater attention to public sector compensation as federal and provincial governments have taken steps to improve accountability.

This greater attention to the compensation of senior public servants has resulted in reviews of and changes to compensation policy across Canada. Compensation reviews by the federal and some provincial governments acknowledge that senior government officials are paid less than their private sector counterparts, with this difference becoming larger at the most senior – i.e., DM – level.

One of the outcomes of these compensation reviews was the introduction of pay-for-performance systems for DMs. Although pay-for-performance systems were introduced in some provinces as early as the 1980s, the late 1990s and early 2000s saw the introduction of much more aggressive forms of pay-for-performance in which a larger portion of salary is tied to performance. Currently, all of the governments in Canada, with the exception of those in Manitoba and Prince Edward Island, have a performance pay component.

In addition to not keeping up with private sector compensation, DM compensation has not been as fast as the compensation paid to the DM's political masters, namely cabinet ministers. As the data presented in Chapter 4 showed, the growth rate of DM salaries have been lower than the growth rate of the ministerial salaries, with the result that ministerial salaries and DM salaries have been converging over time.

The purpose of this thesis was to examine the factors determining the compensation of DMs in the federal and provincial governments in Canada. Of particular interest were ministerial salaries, private sector salaries and the nature of the pay-for-performance scheme that is in place. In addition, economic growth, GDP per capita, inflation, the 2008 economic crisis, the presence

of an election, the political party in power, and the degree of public unionization were examined to see if they have an influence on DM salary levels. To address this question, the thesis had three specific objectives: (1) to present descriptive data of compensation for senior government officials (namely, DMs) in both federal and provincial governments; (2) to examine whether political pressure and market force are linked to the compensation of senior public servants; and (3) to investigate the impact of pay-for-performance schemes on the compensation of senior public servants.

The thesis started by looking at literature on the executive compensation in the private sector since there was little literature on the salary determination of senior government officials. The dominant approach to the executive compensation in the private sector is optimal contract theory. The theory suggests that a close linkage between pay and performance would effectively motivate agents. Alternatively, the managerial power approach argues that executives have power to influence their own compensation. While optimal contract theory shows the importance of a firm's profit as a salary determination factor, the managerial power approach sheds light on other aspects of salary determination such as managerial power and public outrage.

Contrary to the executive compensation decision process in the private sector, the salary determination process of senior officials is more complex due to the features of the public sector. The characteristics are multiple principals, multiple tasks and public service motivation. As well, economic and political forces simultaneously influence the salary determination of DMs.

To provide a conceptual structure in which the factors determining DM compensation could be understood, a theoretical model of DM salary determination was developed. In this model, DM salary emerges as an equilibrium outcome of supply and demand forces. On the supply side, the amount a professional is willing to accept to join the public sector depends on the salary paid in the private sector and the degree of public service motivation that the professional possesses. On the demand side, the amount a cabinet ministers is willing to pay a professional to join the public sector depends on the quality of the services that the professional provides, on the cabinet minister's own compensation level and on the political cost that the minister believes will be incurred.

The price of the professional's services (i.e., DM salaries) depends on the balance between these supply and demand forces. Based on the behaviour that is captured in the model, DM salaries are expected to be positively related to private sector salaries, positively related to

cabinet minister salaries, positively related to factors that increase the value of the services provided by the DM (e.g., economic growth) and negatively related to factors that increase the political cost incurred by the minister (e.g., the economic crisis). The model also shows that the introduction of pay-for-performance allows ministers to recognize DMs with better performance and thus to offer them higher level of compensation.

After developing a model of DM salary determination, a descriptive analysis of DM salary was undertaken. This analysis showed a growing gap between DM salary and private sector salaries, while on average the gap between DM salary and ministerial salaries narrowed, suggesting that DM salary determination appears to be strongly influenced by political factors. The descriptive analysis also showed a positive relationship between DM salary and the presence of aggressive pay-for-performance schemes.

The descriptive analysis, however, only looked at pairwise comparisons of the private sector salary, ministerial salary and pay-for-performance with DM salary, and did not consider other economic or political factors. To consider these factors together, a regression analysis was undertaken. The regression results indicate that private sector salaries have little impact on DM salary, and that while DM salaries are positively related to ministerial salaries, the impact is relatively small (the estimated coefficient on ministerial salary is in the range of 0.19 to 0.20, which indicates that a dollar increase in ministerial salary increases DM salary by 19-20 cents on average). The estimated coefficient on the pay-for-performance variable indicated that DM salaries are positively related to the presence of aggressive pay-for-performance schemes. DM salaries are also positively related to GDP per capita.

The regression results from the thesis are not consistent with optimal contracting theory, since DM compensation was not linked to either economic performance (GDP per capita) or economic growth. Instead, the most important determinants are ministerial pay and the presence of an aggressive form of pay-for-performance. The results of the analysis are also not consistent with the managerial power hypothesis, since DMs do not appear to have the power to maintain their salaries relative to either executives in the private sector or to cabinet ministers. Instead, the results require some other theoretical underpinning – one of these possibilities is the political-economic model developed in the thesis.

6.2. Policy Implications

The regression results are consistent with the view that salary determination for senior civil servants is becoming more politicized. The evidence to support this conclusion comes from an examination of the DM salary determination process. During the performance appraisal process, the performance criteria, in which the political direction is embedded, are set out in advance for DMs. The DMs who follow those performance criteria and are able to meet the performance targets receive higher level of compensation. Thus, DM compensation is more closely linked to this political direction of the government (Atkinson, Fulton and Kim, 2014). The regression results are consistent with this characterization of the salary determination process. These results show that DM pay is heavily influenced by the presence of pay-for-performance schemes. As well, the analysis indicates that in the absence of pay-for-performance, DM salaries and cabinet minister salaries are being pulled together. Thus, it appears that political considerations are paying a greater role in the compensation paid to DMs.

This politicization is contrary to the core idea of the Westminster model of public administration. In this model, the public employees are expected to act relatively independently from the interests of the government in power and be able to provide advice and implement policy without actively participating in the political realm (Aucoin, 2012). This model of behaviour seems to be disappearing, as pay-for-performance schemes more tightly link DM compensation to the DM's ability to work within a set of political demands. The implications of this politicization are unknown. It is possible that it could result in better public policies – this will be the case if cabinet ministers are able to effectively understand the issues facing their citizens and direct policy in a manner that addresses these issues. However, poorer public policy is possible if cabinet ministers cater to only a small portion of the citizenry (e.g., their core base) and/or if they fail to consider all the ramifications of policy choices (e.g., policies that have positive short-term political payoffs often have negative long-term economic impacts). Thus, to understand fully the implications of this politicization it is necessary to understand better the manner in which cabinet ministers make decisions.

6.3. Limitations and Ideas for Future Research

This thesis investigated the determination of the DM salary in the federal and provincial governments in Canada in terms of political and economic factors and showed that political factors are having an influence on DM salaries. As is always the case, this analysis in this thesis has a number of limitations.

First, the DM salary data collected from the different federal and provincial jurisdictions are not standardized. Jurisdictions often use different ways to report the DM salaries. Some governments, such as the federal government and the Quebec government, provide salary range whereas other governments provide the specific salaries of the individuals that are in place. This difference in reporting makes it difficult to compare DM salaries across the various governments. Rather than looking at the DM salary across Canada, a case study where one jurisdiction is selected could provide a meaningful examination of DM salary determination.

Second, the salary data presented in this thesis does not include other components of compensation. Pension and non-cash benefits are an important source of compensation for public employees and greatly influence their decision to join or leave the public sector (Canada, 2008). Therefore, a study on the total compensation package of senior government officials would be important to understanding public compensation practices, and would enhance the comparison of executive compensation practice between the public and private sector.

Third, the information on private sector compensation used in the thesis was limited. The private comparator salary used in this study was only available for specific years and was benchmarked for the federal level. The collection of more comprehensive private sector data (i.e. for more years and on a province-by-province basis) could provide a more realistic examination of private sector salaries and comparison with DM salaries.

Fourth, although a number of control variables were used in the analysis, there may be other provincial specific factors, such as cost of living or the state of the provincial budget, influencing DM pay that have not been considered.

Fifth, the examination of politicization needs to be expanded. Future research could look more closely on the performance appraisal process to investigate the degree of politicization and measurement of politicization. As well, consideration needs to be given to the manner in which cabinet ministers make decisions about the policies they decide to support and implement.

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Appendix A

Regression Results of DM Salary – No Lag, No Control Variables, Alberta Included

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Independent							
Minister	0.596***		0.584***	0.403***	0.0833	0.0668	0.121
Private			0.0129	0.00744	0.0769*	0.0656	0.0573
Pay for Performance		59196.7***		40669.9***			
Aggressive					83790.0***	84247.6***	83327.9***
Passive					15777.2*	15601.7*	13882.7*
Economic Crisis						7699.6	49258.4
Economic Crisis * Minister							-0.249
Constant	90932.4***	129323.0***	85126.1**	83421.3***	78337.7***	85706.0***	84283.2***
Adjusted R^2	0.300	0.300	0.293	0.404	0.724	0.724	0.728
F Statistics	42.98	43.01	21.32	23.17	65.14	52.34	44.62
df_m	1	1	2	3	4	5	6
df_r	97	97	96	95	94	93	92

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix B

Regression Results of DM Salary – No Lag, Control Variables, Alberta Included

Variable	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Independent							
Minister	0.391***		0.419***	0.394***	0.190*	0.183*	0.231**
Private			-0.0483	-0.0491	-0.0477	-0.0485	-0.0490
Pay for Performance		19666.5**		6362.9			
Aggressive					45654.4***	45424.8***	44024.8***
Passive					6737.5	6721.0	5241.6
Economic Crisis						3649.1	38775.3
Economic Crisis * Minister							-0.208
Control							
Inflation	-173.1	84.49	69.97	92.13	670.0*	622.3*	541.8
Economic Growth	-1780.6	-2828.2*	-1945.8	-1816.1	-1758.9	-1592.3	-1589.4
GDP per capita	5.062***	5.460***	4.928***	4.783***	2.839***	2.897***	2.930***
Election	1790.6	3858.4	2438.2	2429.0	3753.4	4125.8	2877.4
Conservative	8256.3	7392.0	7438.3	7229.6	6021.4	6272.3	8012.4
Unionization	-228670.0***	-81712.3	-228816.6***	-215643.7***	-41506.9	-40309.2	-45042.6
Constant	123037.0*	11454.1	126015.1*	118028.2*	6679.8	9204.0	14682.9
Adjusted R2	0.800	0.726	0.802	0.802	0.834	0.833	0.836
F statistics	57.02	38.04	50.49	45.07	50.37	45.46	42.55
df_m	7	7	8	9	10	11	12
df_r	91	91	90	89	88	87	86

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix C

Regression Results of DM Salary– No Lag, No Control Variables, Alberta Excluded

Variable	Model 15	Model 16	Model 17	Model 18	Model 19	Model 20	Model 21
Independent							
Minister	0.586***		0.600***	0.488***	0.238***	0.224***	0.267***
Private			-0.0155	-0.0215	0.0260	0.0167	0.0102
Pay for Performance		47102.5***		24883.0***			
Aggressive					59962.1***	60472.4***	59803.8***
Passive					14103.5**	13962.1**	12557.2**
Economic Crisis						6319.0	39908.8*
Economic Crisis * Minister							-0.200
Constant	81704.5***	129323.0***	88846.0***	90568.9***	90361.4***	96428.8***	95248.7***
Adjusted R^2	0.532	0.337	0.527	0.598	0.801	0.802	0.808
F Statistics	99.73	45.14	49.52	44.21	88.78	71.66	62.11
df_m	1	1	2	3	4	5	6
df_r	86	86	85	84	83	82	81
N	88	88	88	88	88	88	88

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix D

Regression Results of DM Salary– No Lag, Control Variables, Alberta Excluded

Variable	Model 22	Model 23	Model 24	Model 25	Model 26	Model 27	Model 28
Independent							
Minister	0.419***		0.422***	0.392***	0.206**	0.189**	0.239**
Private			-0.00732	-0.00562	-0.000523	-0.00162	-0.00177
Pay for Performance		19632.4**		10178.0			
Aggressive					55674.7***	53826.0***	51675.8***
Passive					12212.8*	12054.2*	10398.5*
Economic Crisis						9140.7	46568.0*
Economic Crisis * Minister							-0.219
Control							
Inflation	-634.0**	-466.9	-594.6*	-583.5*	153.1	-21.58	-138.0
Economic Growth	-984.9	-2124.7	-1024.4	-721.1	-677.5	-270.3	-288.2
GDP per capita	4.799***	6.360***	4.795***	4.373***	1.053	1.407	1.547
Election	2972.6	5667.8	3111.4	3021.4	4645.2	5347.9	3806.9
Conservative	8916.4*	11490.7*	8829.6*	8060.8	3555.9	4762.8	6897.5
Unionization	-222298.9***	-103279.2	-222601.3***	-198455.4***	18681.8	14188.1	5822.2
Constant	171636.8***	53581.2	171585.8***	162807.3**	43236.1	53827.6	61935.0
Adjusted R2	0.732	0.607	0.729	0.737	0.799	0.802	0.809
F statistics	34.99	20.22	30.26	28.10	35.63	33.11	31.74
df_m	7	7	8	9	10	11	12
df_r	80	80	79	78	77	76	75
N	88	88	88	88	88	88	88

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$