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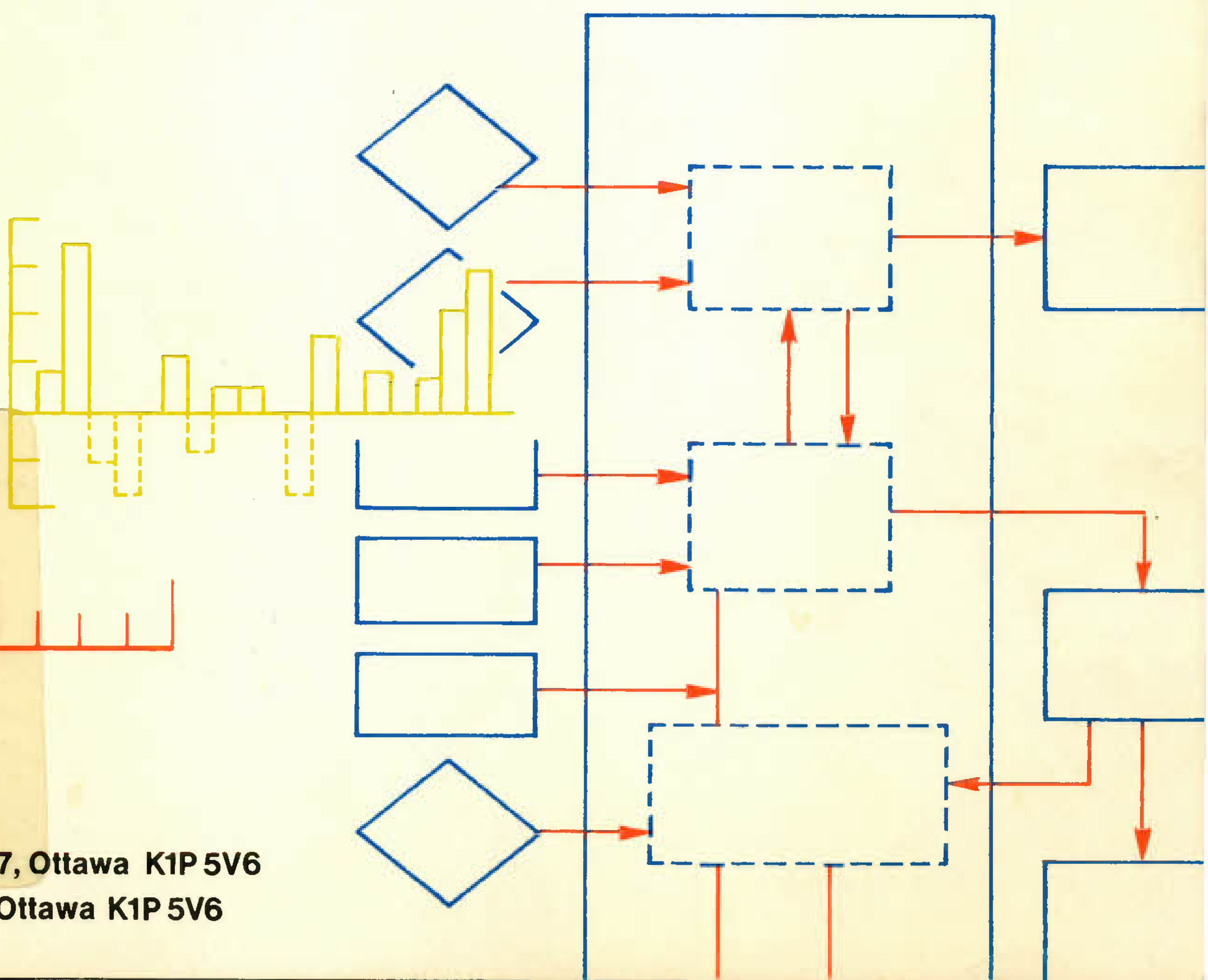

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DISCUSSION PAPER NO. 137

Wage Behaviour and Wage Control in the Public Service

by

DOUGLAS A. L. AULD*

prepared for

The Centre for the Study of Inflation and Productivity

*Department of Economics, University of Guelph

This Paper was prepared as part of the research program undertaken by the Centre for the Study of Inflation and Productivity (CSIP). It has benefited from comments by independent outside experts who were asked to referee an earlier version of the manuscript, and is being made available in limited numbers and in the language of preparation.

These results are the personal responsibility of the author, and, as such, have not been endorsed by the members of the Economic Council of Canada.

Centre for the Study of Inflation and Productivity
Economic Council of Canada

November 1979

TABLE OF CONTENTS

RÉSUMÉ

Selon une opinion, peut-être pas très répandue mais certainement très discutée, les employés et les syndicats du secteur public sont "différents" de ceux du secteur privé, à tel point que les salaires et autres formes de rémunération doivent y être contrôlés. Sans contrôles, les salaires dans le secteur public grimperaient continuellement, quelle que soit la situation économique, à des taux qui mettraient en danger la stabilité des prix. Naturellement, les syndicats se sont vigoureusement opposés à ce point de vue.

Dans une tentative de rendre le débat le plus valable possible, la présente monographie traite de diverses questions qui portent directement sur les salaires dans le secteur public. Dans le premier chapitre, l'auteur passe brièvement en revue les accords conclus entre employeurs et employés du secteur public avant la formation des syndicats. Il présente ensuite un récit bien documenté du récent essor de la syndicalisation, ainsi que du mode d'évolution des salaires durant la décennie qui a précédé la Commission de lutte contre l'inflation, puis il établit des comparaisons entre les taux de salaire de base des secteurs public et privé pour plusieurs sous-secteurs du secteur public. En moyenne, les taux de salaire de base ont progressé plus rapidement dans le secteur privé que dans l'ensemble du secteur public. Dans le sous-secteur de la santé, toutefois, la hausse des salaires a été sensiblement plus marquée que dans le secteur privé.

Étant donné l'opinion assez répandue selon laquelle le marché du travail dans le secteur public est différent de celui du secteur privé, le chapitre III est consacré à une analyse de cette question. Malgré les différences qui existent, les résultats de l'analyse démontrent que plusieurs forces économiques "conventionnelles", qui influent considérablement sur la détermination des salaires dans le secteur privé, s'appliquent également au secteur public. Dans le quatrième chapitre, l'auteur tente de résumer les plus récentes données techniques et quantitatives sur les modèles de salaire dans le secteur public. Bien que deux études importantes arrivent à des résultats quelque peu différents à ce sujet, notre examen de ces données nous amène à conclure qu'au cours de la période 1966-1975, les salaires dans le secteur public n'ont pas, en général, "échappé à tout contrôle".

Le dernier chapitre présente l'essentiel de la politique du gouvernement libéral à l'endroit du contrôle des salaires dans la Fonction publique en 1977 et 1978, et la réaction du Syndicat canadien de la Fonction publique aux contrôles proposés. Nous soulignons le fait que le contrôle des salaires n'apporte pas de solution au problème fondamental, celui des grèves dans les domaines publics offrant des services essentiels. Le concept de la comparabilité moyenne de la rémunération totale peut être un instrument utile, mais il n'est pas une panacée aux problèmes des relations industrielles dans le secteur public.

SUMMARY

There is a view, perhaps not widespread but certainly forcefully argued, that employees and unions in the public sector are 'different' from those in the private sector to such an extent that wages and other forms of compensation must be controlled. Without controls public sector wages would rise steadily, regardless of economic conditions at rates that would jeopardize stable prices in the economy. Such a view has, quite naturally, been vigorously opposed by the unions.

In an attempt to make this debate more meaningful, this monograph focuses on several issues that have a direct bearing on public sector wages. The introductory chapter is a brief review of 'pre-union' arrangements between employer and employee in the public sector. The recent growth of unionization is then documented along with the pattern of wage changes during the decade prior to the A.I.B. Comparisons between the private and public sector with respect to base wage rates are made for several sub-sectors of the public sector. On average, private sector base rates increased faster than those in the total public sector. The sub sector health, however, experienced wage increases significantly above those in the private sector.

Because the claim is often made that the public sector labour market is distinct from the private sector, the third chapter is devoted to a discussion of this claim. Differences do exist but the analysis suggests that several 'conventional' economic forces, important to private sector wage determination are applicable to the public sector. The fourth chapter attempts to summarize recent technical and quantitative evidence on wage models of the public sector. Although the results of two major studies differ somewhat, our interpretation of the results suggests that public sector wages in the 1966-75 period were not, in general, 'out of control'.

The final chapter presents the essence of the Liberal Government's policy toward public sector wage control in 1977 and 1978 and the CUPE response to the proposed controls. It is argued that proposals to control compensation do not come to grips with the basic problem: strikes in those areas of the public sector where the ouptut involves essential services. The concept of Average Comparability of Total Compensation may be a useful tool but it is not a panacea for the problems facing industrial relations in the public sector.

INTRODUCTION

One of the most controversial and least understood aspects of economic policy in Canada is the role of public sector collective bargaining and wage changes in inflation.[1] This has been the subject of more unsubstantiated 'conclusions' than most other recent economic policy topics. It would not be an overstatement to say that perhaps the most important reason for the establishment of wage and income controls in this country was the belief, in policy circles, that wages in the public sector were out of control. This theme was adopted by many and the media soon became the medium of the message - stop wage inflation in the public sector and the battle against inflation will soon result in victory.

Before proceeding with an outline of this monograph I wish to make it clear that I am not an apologist for public sector labour unions nor government as their employers. I am concerned that ignorance and misunderstanding were the keystones in the debate on public sector wages (and their impact on the economy) in the mid-seventies and that informed judgement was replaced, far too frequently, by supposition. Even after the 'cooling-off' period of the A.I.B., opinion has not altered significantly and the federal government has moved to control public sector wages, a policy measure to be considered in detail later.

The first chapter is a very brief review of the development of employee-employer relations in the federal public sector. Similar institutional arrangements exist at the provincial level while at the local government levels the pattern is 'mixed' with collective bargaining emerging in some localities prior to the federal legislation in 1967. Chapter II examines the pattern and development of collective bargaining and wage changes in the public sector and draws some comparisons with the wages in the private sector. Chapter III discusses the complex set of forces that are likely to influence the outcome of wage negotiation in the public sector. The question whether or not the traditional private sector wage model is appropriate in the public sector is examined in some detail. Chapter IV compares and contrasts recent empirical evidence on wage determination in the public sector in an attempt to answer some of the questions raised in the preceding chapter. The proposed policy to 'control' public sector wages is the topic of Chapter V.

I INDUSTRIAL RELATIONS IN THE PUBLIC SECTOR

Prior to the establishment of the Heeney Commission in 1963, employee-employer relations in the federal public sector had been governed by a rather complex set of institutions. During the inter-war period (1918-1944) federal employee organizations made their case on classification, conditions of work and other non-wage issues to the Treasury Board and the Public Service Commission, the latter having the final decision on occupational classification with the final judgement on pay matters in the hands of Treasury Board.

Between 1944 and 1963, several developments occurred which, although meritorious on their own grounds, further complicated the field of industrial relations in the public sector. First, there was the creation of the National Joint Council, established in response to public sector concerns that there was a lack of a 'forum' in which to discuss non-wage issues. It comprised representatives of the employee groups and senior federal government officials, and although somewhat altered since 1944, it continues to function today.

In 1957 the Pay Research Bureau was established and gave employees an opportunity to become more involved in the pay issue since they could recommend to the Bureau that comparative public-private sector studies be done on employee compensation. The Bureau, through the Advisory Committee on Pay Research, could advise the Public Service Commission of its findings.

The final major adjustment, prior to the Heeney Commission, was the new 1961 Civil Service Act which formalized certain procedures involving employee representation on pay issues. It continued, however, to divide responsibility for employee-employer relations between Treasury Board and the Public Service Commission.

The recommendations of the Heeney Commission (1965) led to a new industrial relations structure in the federal public service which in some respects paralleled private sector industrial relations in some aspects while making adjustments for the unique characteristics of the public sector. One particular feature concerns the route to be taken if two-party bargaining fails. It was felt that there are certain public sector groups which may not be able to exert much pressure on their employer through a strike while others may have no desire to strike. Thus, in negotiations, the agent may switch from one method to another prior to the next round of negotiations. Thus, if negotiations fail, the decision is made <u>ex ante</u> as to whether the dispute ends up in conciliation, strike or binding arbitration.

A second feature of the new legislation embodied in the Public Service Staff Relations Act prohibited strikes where the public's safety or security is affected but there was no clear statement which employee groups are embraced by this clause. A third feature was the absence of a lock-out clause; Parliament does not see itself preventing its employees from coming to work!

The emergence of collective bargaining in the public sector in 1967-68 led, naturally, to speculation on its impact on the industrial relations scene.

> "I have been surprised that comparatively little has been written to date about the impact this revolutionary labour relations law might have on the economic and social institutions of our nation. This "sleeping giant" will soon be awakened and I am convinced that its thundering voice will exert influences hitherto not fully appreciated."
>
> (J. J. Carson, Financial Post, October 14, 1967)

Other commentators were more direct.

> "Wages in industry are rising at an inflationary pace. What the federal government does with its own employees will set precedents for labour-management settlements right across Canada."
>
> (Editorial, Financial Post, October 14, 1967)

Whether or not collective bargaining in the public sector has worked (and to whose benefit) is a topic for a separate volume. The basic statistics for the federal government are that out of 450 collective agreements negotiated between 1967 and 1977, there were 13 legal strikes and 59 unlawful work stoppages, a large number of these occurring in the 'high profile' post office. The basic legislation was reviewed in 1975-77 and modifications to the PSSRA have been suggested. Some of these were incorporated in Bill C-28 and first tabled in early 1978. Because of the controversial nature of this proposed legislation, it will be discussed separately.

The advent of collective bargaining in the federal sector was matched by similar events in the provincial and local public sector as well. In addition, the late nineteen sixties and early seventies saw the emergence of collective bargaining in the 'quasi' public sector areas of health and education.

Collective bargaining in the public sector is a phenomenon of recent times. It has paralleled the rapid growth in the public sector labour force and reflects the general feeling that workers in the public sector were somehow being left behind as the country emerged from the 1958-62 recession. In a recent document, the Ontario Economic Council stated what was obviously on the mind of public sector labour organizers a few years back.

> "There is no reason why civil servants should be forced to make a charitable contribution to the taxpayer by securing a compensation package that is less than they could obtain elsewhere."
>
> (Ontario Economic Council, 1967)

Although the development and growth of public sector unionization did not go unnoticed, it was not until the wage explosion of 1974-75 that the public sector was singled out for attention. Indeed, the feeling was frequently expressed that collective bargaining had given public sector unions unprecedented power to extract high wage settlements from their employers, thereby driving up the price of labour throughout the Canadian economy. The skeleton of what has been called the "Pearson settlement" was again dragged from the closet as an example of what can occur when the government has to settle with unions which hold monopoly power.[2] By the end of 1975, the view was being expressed by some that the sole reason for an incomes policy was that the government could no longer keep wages within reasonable guidelines leaving the distinct impression that public sector wages were somehow "out of control". Whether this was true is a topic which will be examined later. There is no denying that such an impression was widespread.

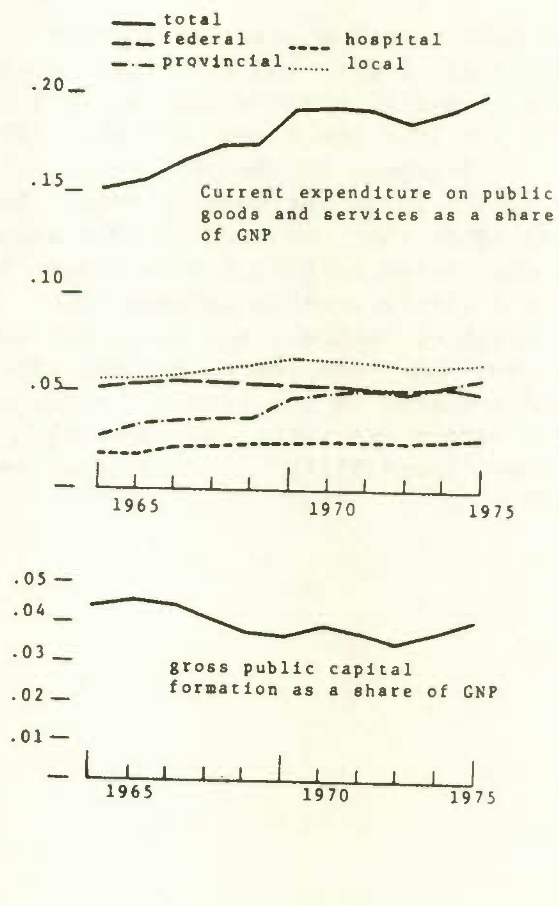
II UNIONISM AND WAGE PATTERNS IN THE PUBLIC SECTOR

Growth of the Public Sector

During the decade 1965-75, the public sector in Canada grew rapidly and with that growth, the public sector labour force increased in size. Even if we discount for the explosive growth in transfer payments in this period, the real demands of government on the economy increased at a faster rate than the economy as a whole. Current public expenditures on goods and services represented 15.1 per cent of GNP in 1965 and by 1975, this figure had increased to 20.1 per cent. Over the same period, however, public capital formation declined as a share of GNP from 4.2 to 3.9 per cent, (Auld, 1977). A sectoral breakdown illustrated in Figure 2-1, reveals that this expansion has not been proportionate across all sub-sectors of the public sector. The most rapid expansion has occurred at the provincial level with the Federal sector actually experiencing a decline in its share of GNP.

Figure 2-1

Public Sector Expenditures as a Share of GNP



In terms of public employment, the data on growth are difficult to interpret precisely because of the particular definitions that can be used. "The picture suggested by the data review ... is not a particularly clear one" (Bird, 1978). In spite of the problems, it would appear that during 1966-75 federal public employment grew at 4 per cent per annum, provincial public employment at a 6.7 per cent rate and local public employment at roughly 5 per cent per annum (Foot, 1978).

The Extent of Unionization

From the industrial relations viewpoint, the more interesting data are those dealing with the growth of unions and collective bargaining in the public sector, particularly since 1967. Between 1967 and 1977, the average annual rates of growth in union membership for the Canadian Union of Public Employees and the Public Service Alliance were 8.0 and 5.6 per cent, respectively. Of the ten major unions in the country, these two have the fastest growth rates. The average of all major unions (public and private) was 4.7 per cent (Wood and Kumar, 1978). On an industry basis, public administration showed a 13.3 per cent average annual increase in union membership between 1966 and 1976.[3] A third broad measure of public sector union growth is the coverage of unions. For non-office public sector employees, union coverage in 1966 was 32 per cent; by 1976 it was 98 per cent in the public administration category. For office workers, the respective figures are 24 and 92 per cent. In the manufacturing sector, non-office union coverage increased from 69 to 76 per cent and for office workers, the increase was 8 to 10 per cent in the 1966-76 period.[4]

The growth in public sector unionism is most dramatically illustrated in Figures 2-2(a), 2-2(b) and 2-3. Here we have the annual percentage change in the number of workers covered by a collective agreement. Between 1967 and 1968 the change was over 100 per cent with an astounding 370 per cent increase in the provincial public sector (see Table 2-1). There was also a large increase in 1969. The only unusually large increase after that occurred in 1970 when the number of employees covered by a collective agreement rose almost 300 per cent. These figures tend to be a little erratic because there is no normalization for the length of contract and hence the renewal dates for several contracts (one, two and three years) may coincide in one calendar year. Nevertheless, when compared to the private sector coverage data, the events in the public sector are rather eye-opening. It is little wonder that there was some 'instability' in industrial relations activity during this time period!

Figure 2-2 (a)

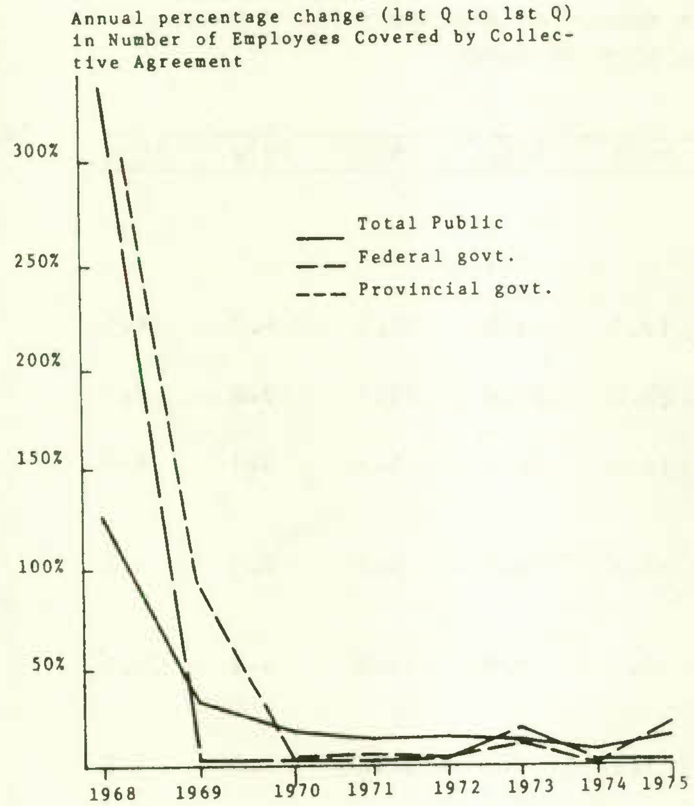


Figure 2-2 (b)

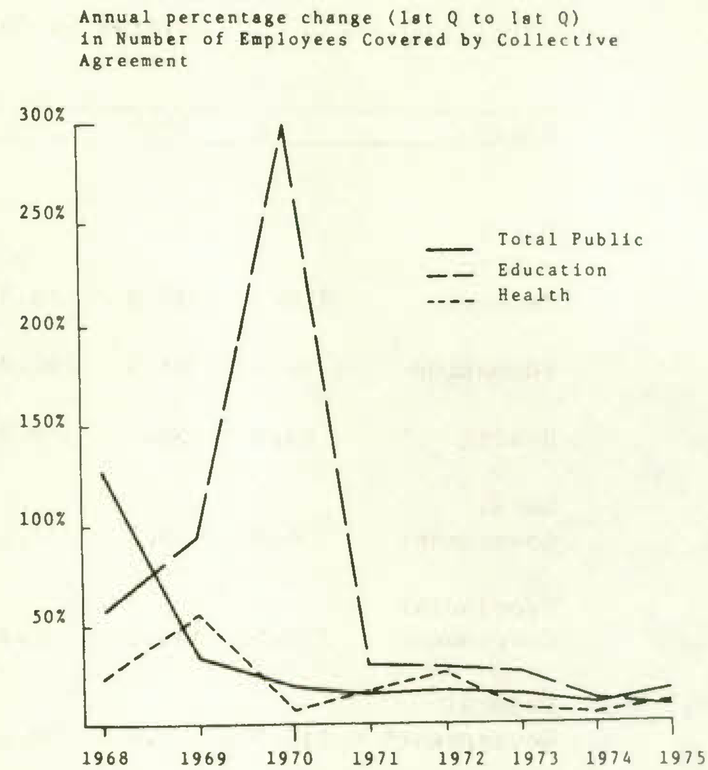


Figure 2-3

Annual Percentage Change in Employees Covered by Collective Agreement: Private Sector, Manufacturing and Total Public Sector

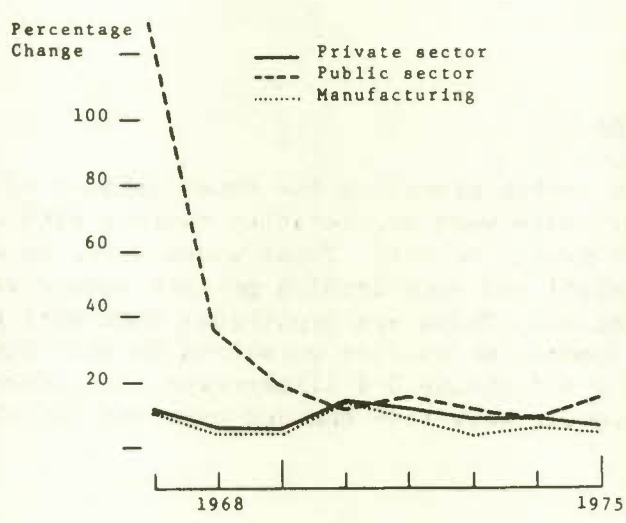


Table 2-1

Percentage Increase in Number of Employees
Covered by Collective Agreement

Group	1968	1969	1970	1971	1972	1973	1974	1975
Total Public Sector	128.7	35.0	18.3	12.7	14.9	11.0	8.7	15.0
Education	58.0	94.9	290.8	29.5	27.8	25.1	10.0	7.1
Health	23.8	55.7	9.9	14.7	26.3	5.3	3.1	8.9
Local Government	6.9	3.5	11.5	15.3	10.7	3.7	8.3	3.5
Provincial Government	370.5	101.7	8.7	8.1	5.9	11.9	4.4	22.1
Federal Government*	336.1	1.2	0.4	1.1	1.8	21.6	2.5	1.2
Private Sector	11.7	5.7	5.3	14.1	12.0	8.0	8.2	6.3
Manufacturing	10.7	4.2	4.0	14.7	8.0	3.3	5.7	4.4

* This includes all employees of the government of Canada covered by collective agreements.

Base Wage Changes

In the months preceding the establishment of the Anti-Inflation Board, wages were accelerating rapidly with some very large increases in the public sector. These wages were, it was generally felt, out of control and were leading private sector wages toward even further acceleration. These are hypotheses that will be discussed later; for the moment, we confine ourselves to what actually took place. Table 2-2 and Figure 2-4 illustrates the pattern of public-private sector wage rate changes over the 1967-75 period.

Table 2-2

Average Annual Percentage Change in Base Wage Rate:
Public and Private Sector New Contracts, 1967-75

(Weighted by number of employees in each contract)

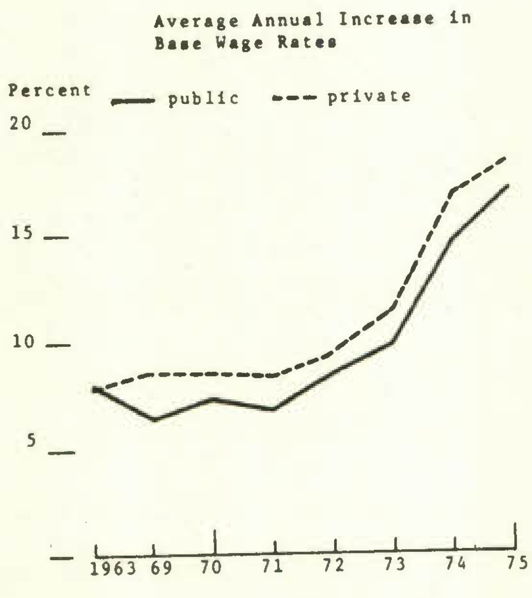
Group	1968	1969	1970	1971	1972	1973	1974	1975	Average
Private Sector	7.8	8.5	8.4	8.3	9.4	11.3	16.8	18.4	11.1
Public Sector	7.9	6.5	7.3	6.9	8.4	9.8	14.6	17.1	9.8
Components of the Public Sector									
Federal Government	7.9	5.6	5.8	6.6	8.9	9.2	11.2	14.9	8.8
Provincial & Local Government	6.9	10.8	8.5	8.5	7.7	10.1	13.6	22.1	11.0
Education	7.6	6.4	8.4	6.9	8.3	9.4	14.8	20.6	10.3
Health	10.5	7.2	9.8	9.4	8.0	12.0	28.6	26.6	14.0

Source: Auld et al., The Determinants of Negotiated Wage Settlements in Canada, Anti Inflation Board, Ottawa, 1979.

The data reveal that for the total public and private sectors, the pattern is quite similar with private sector settlements exceeding those in the public sector by roughly 1 percentage point (on average) each year. We caution the reader that this is base wage rate data only and pertains to the unionized portion of the public sector. It thus omits wage drift and other factors which may produce different average hourly earnings.[5] In addition, non-wage compensation may vary over time between two sectors, an item we will discuss in Chapter IV. The sample used to generate these data were 2,338 individual collective agreements in the private sector and

1,240 contracts in the public sector. The information was compiled by Labour Canada and includes all settlements for bargaining groups of 200 or more employees. Wage contracts including COLA clauses (representing approximately 15 per cent of the contracts) had to be excluded because of the diversity of COLA clause features. The importance of the percentage change in each contract was recognized by weighting each settlement according to the number of employees covered. For the total public sector there were some 178 federal government contracts and 1,062 non-federal contracts. A further breakdown is given in Table 2-3.

Figure 2-4



Source: Table 2-2

Table 2-3

Negotiated Wage Settlements in the Public Sector 1966-75
Used in Computing Base Wage Rate Changes

Year	Federal	Provincial Local	Health	Education	Total
1966	0	0	1	0	1
1967	0	21	8	2	31
1968	0	22	10	3	35
1969	25	35	16	12	88
1970	12	32	23	19	86
1971	37	37	30	20	124
1972	17	56	32	53	158
1973	24	48	60	94	226
1974	22	78	68	92	260
1975	41	54	60	76	231

Source: Labour Canada, Ottawa.

One of the more interesting questions that arose during the inflationary period prior to the establishment of the A.I.B. was whether or not increases in hourly wage rates in the public sector were catching-up with those in the rest of the economy. Figure 2-5 and Table 2-4 provide some insight into the issue. As noted above, although the data do not cover all employees whose wages were determined by collective agreements, the coverage is fairly extensive. In 1967, the public and private sectors, as defined at that time, had virtually identical hourly wage rates and this carried for five years, a period which saw a rapid increase in public sector unionization. The gap widened by 1972-73 and was partially closed in late 1974 with a small widening again in 1975.

Table 2-4

Average Base Rates: Private and Public Sector 1967-75 ($/hour)

Year	Private	Public	Federal	Education	Health	Local	Provincial
1967	2.21 (888,195)	2.23 (280,300)	2.48 (27,345)	2.55 (13,365)	1.93 (65,120)	2.33 (55,520)	2.25 (18,950)
1968	2.38 (917,510)	2.37 (417,255)	2.52 (126,855)	2.66 (26,750)	2.16 (106,455)	2.55 (57,945)	2.18 (99,250)
1969	2.55 (972,640)	2.54 (530,895)	2.70 (127,115)	3.13 (98,035)	2.23 (123,775)	2.79 (59,475)	2.20 (122,515)
1970	2.79 (1,113,830)	2.80 (565,795)	2.87 (126,250)	3.64 (107,790)	2.37 (134,505)	3.06 (66,860)	2.36 (131,390)
1971	3.15 (1,258,255)	2.98 (681,089)	3.10 (127,045)	3.63 (155,074)	2.54 (181,435)	3.31 (78,140)	2.52 (139,395)
1972	3.46 (1,340,035)	3.17 (756,654)	3.30 (130,670)	3.80 (196,139)	2.71 (190,290)	3.57 (86,110)	2.65 (153,445)
1973	3.80 (1,475,385)	3.42 (846,100)	3.58 (157,401)	4.01 (238,924)	2.89 (196,375)	3.85 (87,080)	2.83 (166,320)
1974	4.22 (1,537,461)	3.81 (909,711)	4.05 (158,375)	4.38 (247,644)	3.24 (209,582)	4.29 (95,235)	3.22 (198,875)
1975	4.63 (1,614,758)	4.32 (980,406)	4.53 (163,100)	5.05 (262,674)	3.67 (238,637)	4.94 (97,850)	3.68 (218,145)

Note: Number of Employees covered is shown in parenthesis.

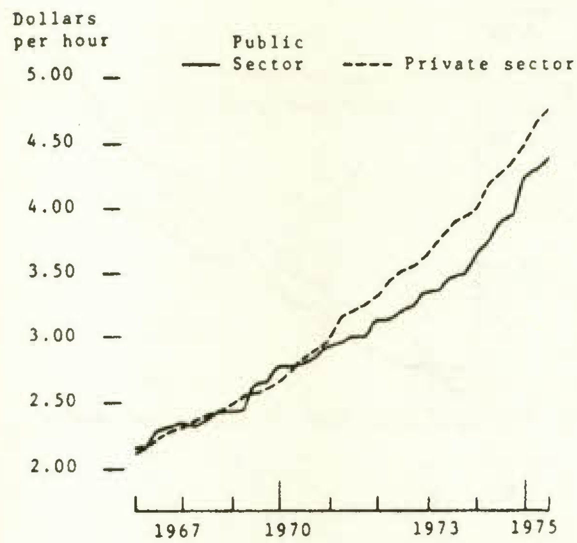
Source: Table 2-2.

In addition to the reservations noted above, these data also hide differences within the public sector itself. If we refer back to Table 2-2, we quickly see that there was considerable diversity with respect to wage rate movements for sub-sectors of the public sector. These differences are understood more dramatically when the actual hourly base rates are plotted in Figures 2-6 to 2-9. What emerges is quite a 'spread' in wage rates around the average for the total public or private sector.

Figure 2-5

Average Base Wage: Total Public Sector and Private Sector (Quarterly)

(weighted by number of employees)



Source: For calculations of this series, see Auld, et al. Chapter 1.

Figure 2-6

Average Base Wage: Total Public Sector Private Sector and Education

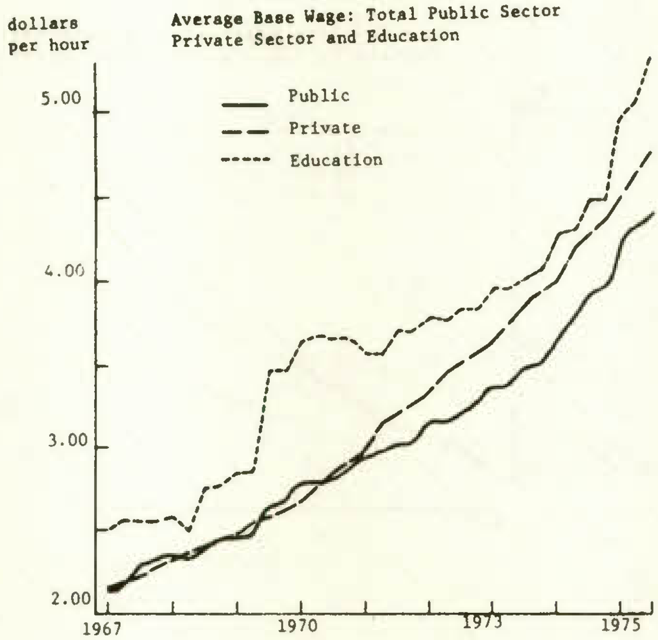


Figure 2-7

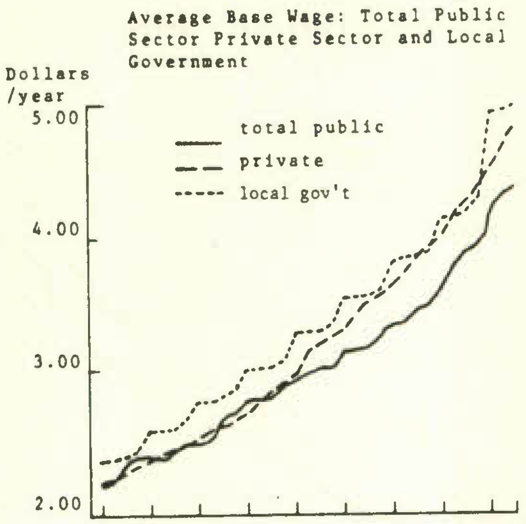


Figure 2-8

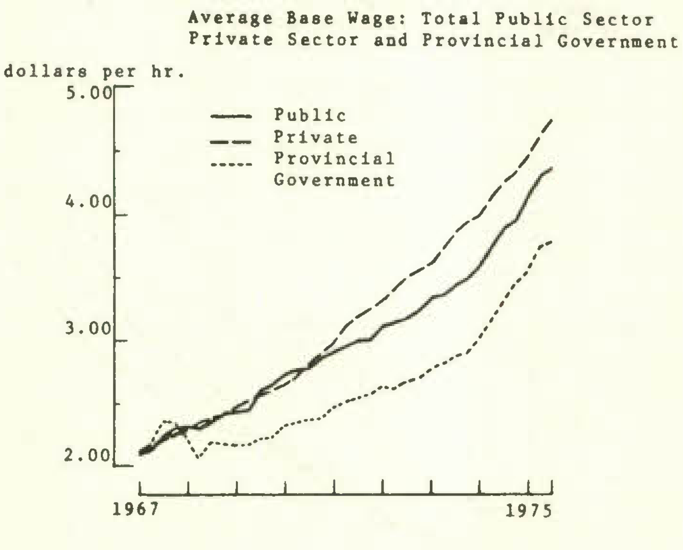
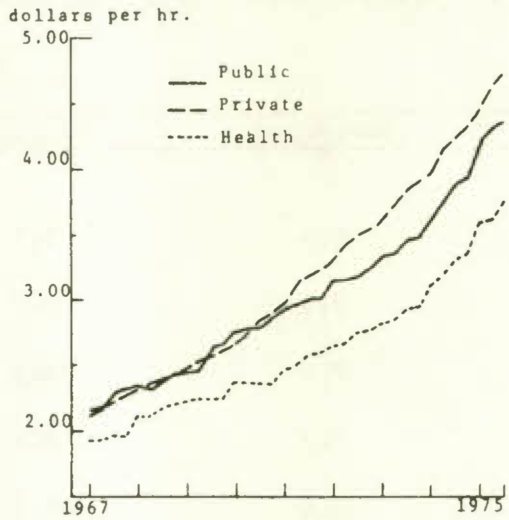


Figure 2-9

Average Base Wage: Total Public Sector
Private Sector and Health



Earnings and Total Compensation

As noted earlier, the data on base wage rates conceal a number of factors such as wage drift and what is taking place in the non-unionized as well as the unionized sector. Unfortunately, data on wage earnings by unionized sub-sector of the public sector are not available but we can at least obtain some general idea of what is taking place by examining the average income of all employees in the three sub-sectors of government (see Table 2-5). What we find is that the average annual increase over the 1967-75 period was about 10 per cent at all three levels of government which in the case of the federal government is considerably 'out of line' with the base wage rate data. The differences are highlighted below:

Sector	Base Wage	Average Income
Federal	8.8	10.6
Provincial	11.0	10.4
Local		10.2

This suggests there may have been some degree of 'wage drift' in the federal sector, unless the wage increases in the non-unionized portion of federal employment substantially exceeded those in the unionized sector. Alternately a tendency toward increasing employment in professional occupations during this period would produce such a trend.

Table 2-5

Percentage Change in Average Income for Local, Provincial and Federal Employees and Average Weekly Earnings in Private Industry

Year	Local	Provincial	Federal	Private
1967	7.3	6.0	9.0	7.1
1968	7.4	9.4	9.0	6.9
1969	7.9	7.5	8.9	7.0
1970	7.9	9.2	10.6	7.8
1971	8.5	8.6	9.7	8.5
1972	7.0	8.9	8.4	8.4
1973	9.3	10.5	11.3	7.5
1974	15.2	15.0	14.6	11.0
1975	19.5	18.3	13.6	14.2
Average	10.2	10.4	10.6	8.7

Source: Annual Taxation Statistics.

Ideally, one would like to have consistent time series data on total compensation in order to make the appropriate comparisons. The 'sketchy' data on earnings comparability using taxation statistics is not that reliable.

> "All that we really know on the basis of available data is that the value of fringe benefits has increased rapidly in the private sector and that currently they appear to be roughly comparable to those in the public sector."
>
> (Gunderson, 1977)

Additional work on this suggests for example that there are earnings differentials that are not entirely explained by differences in the characteristics of employees. In a later study, (Gunderson 1978) concludes that on the basis of his sample and method of analysis, employees in the administration category of government enjoyed a $492 (for males) and $383 (for females) surplus over employees with the same characteristics in the manufacturing sector. The percentage "wage advantage" was 6.2 for males and 8.6 for females. Because of the basis for comparison, the author cautions that the results must be carefully interpreted.

In an earlier study, the same author (Gunderson, 1977) examines wage and non-wage differentials between the public and private sector. Using the three jurisdiction levels of government, the author calculates the ratio of public sector average earnings to the private business average earnings. For the 1966-76 period these data reveal a relative steady improvement for the public sector up to 1970 and then a slight "falling-off" after that, but never to the 1966 level. As far as non-wage compensation is concerned, the data for comparison purposes is weak.

Obviously, depending upon the data source and what is meant by wages, different stories can be told about wage movements in the public sector. In terms of 'tax push' inflation, total average earnings is more relevant than base wage rates. When comparing subsectors of the public sector, care must be taken not to draw conclusions based on relative labour earnings based on base wage rates or even earnings. It is total compensation that is ultimately important since this is the bottom line when it comes to a settlement. Unfortunately, Canadian time series data on dissagregated public sector compensation is not available.

III HOW DIFFERENT ARE PUBLIC AND PRIVATE SECTOR LABOUR MARKETS

Employee/Employer Relationship

The passage in Parliament of the Public Service Staff Relations Act in 1967 placed the process of wage negotiations in the public sector on a par with that of the private sector, subject to the differences noted in Chapter I. The enactment of this legislation and its application at the federal government level (as well as the provincial and local government) did not, however, remove the inherent differences in the two sectors, both in terms of the relationship between employer and employee and the forces that determine wage settlements.

Public employees work for the public at large in the sense that the services and goods that are supplied through their labour are made available to the jurisdiction which acts as their employer. Whether this is in the form of a computer programmer streamlining the process by which family allowance cheques are sent out, a road inspector, an airforce pilot or highway engineer, the result is similar. To say that public employees work for the public good does not imply that the public must be the employer. That task is assigned to a relatively small group, the politicians who act on behalf of society as the employers, at least indirectly! Politicians approve the overall wage bill, and hence have some notion as to just what can be paid in wages. But the politicians do not make the appointments; that is left to senior public servants or management. Management also does most of the negotiating and it is usually only at the eleventh hour that an elected official will sit down at the bargaining table. It is here, of course, that political pressure will be the greatest. Although economic conditions may warrant a restrained wage package, the political cost of a prolonged work stoppage in an "essential" service may be sufficiently strong for management to agree to a higher than warranted wage increase. There are a limited number of local governments where contracts may be negotiated directly with an elected official, but such a process is not widespread.

In the case of the federal government and some provincial governments, the 'management' team assigned to negotiate with the employees is one step removed from the supervisory management with whom they associate on a day-to-day basis. This is the case where the union negotiates with Treasury Board officials and it is necessary, in many instances, that it be done in this way because the organization of the employees' association rarely parallels the organization of government departments, with the exception perhaps of the post office!

Precisely how the administrative channels affect the process of negotiating is the subject of a study on institutions and industrial relations. One example should suffice to illustrate that it will affect the process and outcome. Suppose there is a federal public sector union composed of key punch operators and they are employed in twelve different departments with twelve different management 'teams'. Negotiations over a new contract take place and it must be assumed that any relevant factors regarding the relationship between employees and management in each of the twelve different departments are roughly the same. Although this will undoubtedly affect the process of wage negotiations (by eliminating certain factors that might be pertinent to the negotiations), it does 'isolate' management in each department from particular animosities that may arise during negotiations. The union deals with Treasury Board which is viewed more as an extension of the government than management personnel in other areas.

It is not only institutional and administrative arrangements that separate public from private sector management/labour relations. The set of forces that determines wages and other forms of compensation differs to some degree as well. It is useful to emphasize 'to some degree' for there is widespread agreement or at least there appears to be widespread agreement, that public sector wages are determined by a set of forces quite different from those in the private sector. Public sector wages do not, it is sometimes alleged, respond to all the market forces that determine private sector wages and hence 'controls' are needed for the public sector. In a recent study of wage determination in the public sector, J. Cousineau and R. Lacroix (1977) have suggested that if public sector demands paralleled those in the private sector, the demand for labour would move in a procyclical manner. It is their contention that public sector output is insensitive to the business cycle and may even perhaps be counter-cyclical. If that were the case, then the demand for labour in the public sector should strengthen during a recession. Keynesian fiscal stabilization policy, operated through the expenditure side of the budget, should thus stabilize long-run public sector wages. For such a pattern to occur, there would have to be little long-run relative growth in the public sector and all three levels of government would have to behave in this fashion. This has not been the case in recent history.

The secular pattern of public expenditure growth is one of the reasons advanced to explain why public sector wages do not behave in the same fashion as wages in the private sector. There are other differences, some of which form the basis for the reasons underlying the prohibition of strikes and/or control of wage rates in the public sector. It is therefore important that we discuss why the public sector is different from the private sector in an industrial relations sense. These differences often overshadow the fact that both sectors may be influenced by a similar set of economic forces.

Profit Motives and Ability to Pay: The Missing Links?

The impression gained upon reviewing the economic and labour relations literature on public sector wages is the strong conviction on the part of many writers that traditional wage theory is woefully deficient in explaining what takes place in the public sector. For example, Fogel and Lewin (1974) stated that traditional wage theory was not altogether applicable to public sector wage determination because of "the absence of a motive for profit maximization in government and the lack of a conventional demand curve for labour". (p. 414)

The existence of profit maximization or some similar market-oriented goal such as sales maximization or target market share translates itself into a wage policy (from the employer's perspective) that tends to dampen wages during a recession (to minimize costs) and allows them to rise in a period of expansion (to maintain or increase the labour force). Whereas wages follow a procyclical pattern in the private sector, they do not, it is alleged, do so in the public sector. The more 'competitive' the private market, the greater will be the influence of the profit/price constraint on wage change. 'Ability to pay' is thus based on generalized economic conditions in the economy or particular sectors of the economy.

The ability to pay constraint in the public sector is, of course, real but it is governed by (a) the ability of the government to generate revenue (both tax and non-tax), (b) the government's attitude as to the share of total revenue that should go to labour, and (c) the importance of wages as a share of total expenditure. The ability to generate revenue varies across jurisdictional levels of government and the 'quasi' public sector. Tax revenue at the local government level is rather inelastic, being derived from property taxes (whose base does not increase automatically with the growth in nominal income) and grants from the provincial government, and hence revenues do not rise in proportion to the rise in economic activity. This forces local governments to raise property tax <u>rates</u>, if they wish to raise further revenue, a politically unpopular move because of the general view that such taxes impose a heavier burden on the poor than on the rich. The other major source of funds, grants from provincial governments, are to some extent alterable at the discretion of the senior government. Federal and provincial government revenue is much more elastic and the revenue constraint on wages during expansion is less binding.

Revenue elasticities obviously differ but the salary proportion of the total public budget also varies across jurisdictions. For example, at the federal level wages and salaries are a much smaller share of the total budget than at the local government level, largely due to the substantial proportion of the federal budget that accounts for transfer payments. An eight per cent rise in the base wage rate thus has, proportionately, a much greater effect on local governments than provincial or federal governments. Thus, depending upon the importance of wages within the total budget, public sector employers at different jurisdictional levels may exercise different degrees of restraint for a given level of excess demand in the labour market.

<u>The Demand for Labour</u>

The demand for labour in the public sector may, it is argued, be much more inelastic than in the private sector and this feature will render public sector wage increases very costly. Rather than being able to 'cut back' on employment as wages rise and offset the rising wage bill by using more capital the public authority must simply contend with ways to raise the money to pay the bill.[6] How true is this in the public sector? One suspects that there is a good deal more potential substitution than is generally believed. The Post Office is one good example of this point; substitution of labour by machines is possible and is being instituted but the potential will only be realized over the long-run due to the obvious pressures to prevent such changes from occurring too fast. Contracting out to the private sector (and perhaps to small competitive units where cost minimization is of paramount importance) has taken place and will likely expand. This permits public employers to maintain the quality/quantity of service supplied but with less 'direct' public employment. One must be very careful not to confuse a shift in the demand schedule of public service labour with a rotation to a more 'responsive' schedule because of substitutes. New techniques using computers, clinics and audio visual materials may reflect an increase in quality of the service with the substitution perhaps taking place at the margin only.

The major reason suggested for the unresponsive nature of the demand for labour is the nature of the public service or product; it is not only essential to the public but there is no close substitute. Both of these reasons are true only in part. Police and fire protection are essential <u>in some quantity and quality</u>, but is the current <u>level</u> absolutely essential? Unfortunately, services like these are not divisible into small units so one can choose between a little more or a little less. Private sector substitutes are not always readily available but a number of government services could be provided, if necessary, by the private sector.

As long as members of society are prepared to pay the increasing price (tax) for public goods, (and thereby place these goods in the same category as basic food and shelter), the demand for labour inputs will be highly unresponsive to wage level changes. This assumes that members of society are fully informed and, at the margin, make a choice of public over private goods, a choice that is immediately met in the public goods market. Nothing could be further from the truth. To a considerable extent, individuals are grossly misinformed about the public sector; fiscal awareness is very low (Auld, 1979). In addition, there is no organized, costless market that translates preferences into resource allocation. The public goods marketplace is imperfect. There has been a growing resentment of higher taxes and public employment for the past five years and it is only now that this is being translated into a realignment of the public/private goods mix.

Regarding the importance of wages as a share of total public spending, it can be argued that if wages constitute a small part of the total cost of production, wage increases add little, in percentage terms, to total cost and price. If the firm is highly labour intensive, the reverse is true. Thus, one might expect a much more elastic demand in the latter than in the former case. In terms of the public sector, this suggests that federal labour demand (where wages constitute 10-15 per cent of the total budget) would be less responsive to wage changes than labour demand at the local government level (where labour costs are close to 60 per cent of total current spending).

The empirical evidence on demand elasticities is limited but it does confirm that for a broad range of categories of state/local employment in the U.S., the 'measured' elasticities range from - .28 to -1.00; that is, a ten per cent increase in the real wage of an employee results in a 2.8 per cent reduction in employment (Ehrenberg, 1973). In a later study, Ashenfelter and Ehrenberg (1975) estimated that public sector elasticities were clustered around -0.4 compared to a range of -0.5 to -1.0 for most of the private sector with some as high as -1.5. Simply translated, this means that the 'deterrent' of unemployment in the public sector if real wages get too high is clearly less than that of the private sector.

Unionization

There is widespread agreement that the unionization of a sector of the labour force is likely to have an impact on wage rates and/or total compensation. Precise measurements of this effect are difficult to make and one must be careful to ensure that any model to measure union impact is correctly specified (Lewis, 1963). If the growth in public sector unionization (the number of employees covered by collective agreements) had paralleled the growth of the total public sector labour force in the sixties and seventies, there would be little point in discussing the impact of union growth on wages in the public sector. However, absolute union membership growth far outstripped the growth in the total labour force and in addition, the size of industrial unions has altered the relative power structure considerably. The statistics are impressive.

Total employment in Canada, in the 1967-75 period, grew at a rate of 2.7 per cent per year. Total public sector employment rose at a rate of roughly 4.5 per cent per year while the growth in the number of employees covered by collective agreements averaged 68.1 per cent per year. It is true that a large share of this took place in 1967-68 but excluding that year, average annual growth was still 26 per cent.

Perhaps just as important as the growth figures are the data related to the size of an average bargaining unit. By 1975 the size of a public sector unit was twice that for the private sector. Union structure thus became much more centralized in the public than in the private sector.

In terms of wage determination, what do these statistics imply? First, the rate of increase in union growth implies the emergence of new bargaining units and the addition of 'blocks' of employees to existing unions. It also implies that public sector employers were for the first time involved in direct negotiations. This was likely to be a highly unstable system in its initial stages; new unions 'flexing' their muscles, testing the government and the government perhaps not wishing to see the first contract negotiation end in a strike suggesting a breakdown in labour management relations in the public sector.

The reasons for the unionization of the public sector are manifold and complex and detailed analysis is beyond the scope of this paper. It is generally accepted, however, that among the varied reasons for collective action, an important one is to raise the level of wages. In their recent study of wages in Canada, Cousineau and Lacroix (1977) stated that it was their belief that unionization of the Canadian public sector " ... had an impact on the wage level of each group. It is the establishment of the well-known differential between unionized and non-unionized workers that, for some, constitutes the raison d'être of unions" (p. 45). Our data, shown in Chapter II, reveal that in some sections of the public sector, base wage rates did catch-up somewhat. It would appear, however, that not all parts of the public sector experienced the same change.

The Role of Conventional Determinants of Wage Changes

Theoretical as well as empirical studies of private sector wage determination have incorporated numerous variables into their hypothesis, some of which (e.g. unionism) have already been discussed. For the most part, these models have all recognized the importance of labour market conditions and price movements in determining wages. Empirical studies of wage determination in the public sector suggest the notion that prices are an important explanatory variable, but on the basis of the theoretical work the notion that broad or even disaggregated labour market conditions influence wages has been rejected for the most part. In its place, concepts such as the 'prevailing wage principle' (Fogel and Lewin, 1974) and 'the tendency for ... elected officials to support the wage preferences of government employees' (ibid., 415) become the critical components.

For all of the reasons given, the process of wage determination may be different in the public sector in the sense that factors not evident in the wage determination process in the private sector may influence wages in the public sector. That does not mean, however, that more conventional market forces should be abandoned.

If the labour market is such that vacancies are high, competition for employees places upward pressure on wage rates. Unless the public sector is declining in its size or not growing, the government must also compete for labour; and provided there is an element of competition in the market, public sector wages will rise. The public sector will then expand its labour force along with that of the private sector.

In a period of recession there will be unemployed labour with a corresponding downward pressure on wages. Government, even if it is attempting to stimulate the economy through public employment, will not have to bid high for the services of labour. Consequently, public sector wages should respond to broad labour market conditions. Precisely how they will respond will depend also on the relative growth of the public sector. If it is growing faster than the growth in the total labour force (regardless of the economic cycle) then labour will have to be bid away from the private sector (unless the unemployed match the needed public sector skills), adding an element of upward pressure on wages throughout the growth period. Even if wages are not highly sensitive to broad labour market forces, they may well respond to specific labour market forces such as the relative growth rate of the public sector.

It was noted earlier that there may be a revenue constraint which could 'hold down' wages. That is likely to be true for the local government sector, but at the provincial and federal level, revenues move in a pro-cyclical manner, permitting an increasing share of public expenditure to be allocated to wages during expansion and rising prices. In a recession, the decline in revenues could put pressure on public employers to limit wage rates so as to provide more jobs in total. Although governments have the power to raise taxes and borrow money, there are political limitations on the extent of such action.

It is generally agreed that the rate of wage change in the private sector is highly responsive to anticipated price inflation. There is little reason to expect that negotiations in the public sector will behave in a different manner. Labour will undoubtedly bargain to include all future expected price inflation in wages ex ante. There is, of course, uncertainty about future prices, and it may turn out that actual inflation exceeds anticipated inflation over the life of the contract. In such circumstances it seems reasonable that employees will bargain for the 'uncompensated' portion of past inflation over the previous contract.

Some researchers believe that " ... wages in the public sector will be more responsive to anticipated inflation than those in the private sector." (Cousineau & Lacroix, 1977, 46). Their position is based on the following reasons:

1. There is no direct relationship between the selling price of the public service and the wages that can be paid to employees. Ability to pay is based on anticipated public resources, not anticipated prices.

2. The elasticity of public revenue with respect to price changes is greater than unity.

The second point is obviously true in the case of the federal and provincial governments, especially in the period prior to indexing the tax system in 1973. Local governments and the 'quasi' public sector are more dependent on either grants from other levels of governments or an inelastic tax system. Under such circumstances they will be forced to resist high ex ante price level change compensation and be more willing to make compensation after the inflation has materialized. Thus the nature of price level change compensation (expected or catch-up) may well differ by political jurisdiction. One must also bear in mind that a significant number of public sector contracts required third party intervention, and in such cases awards for 'catch-up' may be significant. The first point, that ability to pay is not related to inflation directly suggests that wages would be less responsive to expected inflation.

Finally, governments may well 'believe' in the traditional Phillips curve trade-off between wage change and generalized excess demand in the economy and instruct negotiators to behave accordingly. A hard line stand in a period of economic downswing may also be justified if there is a suspicion that public sector wage settlements have a tendency to set the pace for settlements elsewhere in the economy.

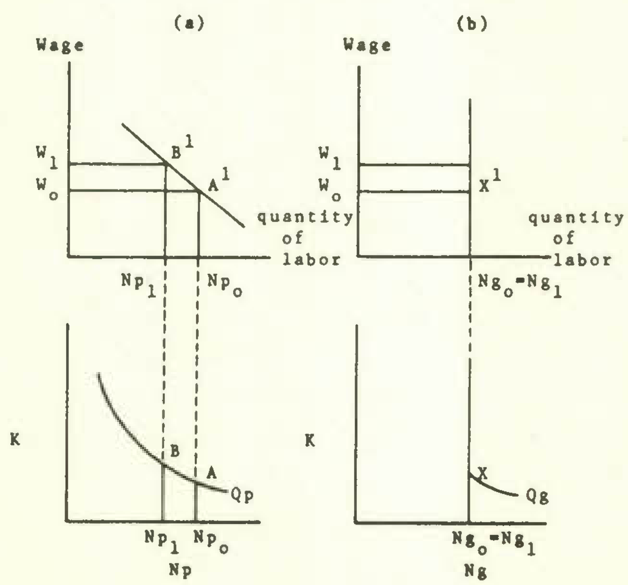
In summary then, there is no reason to reject the hypothesis that conventional market variables are important in the determination of wage rate changes. There is, however, reason to believe that differences with respect to the relative importance of these variables could well exist, a possibility that must be empirically tested.

APPENDIX TO III

Any inherent tendency for the demand for labour to be inelastic because the product demand is inelastic will be reinforced if there is little scope to substitute capital for labour in the production process. The following diagram may help to explain this. In the bottom half of panel (a), a given output of private goods (Q_p) can be produced with various combinations of capital and labour (N_p). Suppose N_{p0} is being used in conjunction with capital to produce Q_p. This corresponds to the amount of labour demanded in the demand for labour schedule in the top half of panel (a). The wage rate now rises from W_0 to W_1 and if capital is substituted for labour, we move from A to B in the bottom panel and A' and B' in the top of panel (a). Output is unchanged and the demand for labour falls.

In the bottom half of panel (b), which describes the production of a public good, labour can be replaced by capital (for a given output, Q_g) up to N_{g0} or point X where Q_g is being produced. Reducing labour further implies a reduction in output. Point X in the bottom half of the panel (b) corresponds to X' on the top half on the demand for labour schedule. If the wage rate rises to equal that of the private sector, there can be no reduction of labour and substitution of capital; hence the inelastic demand schedule for labour.

Figure 3-1



IV EMPIRICAL FINDINGS ON THE DETERMINANTS OF PUBLIC SECTOR WAGE CHANGES

In the previous chapter, we outlined a number of reasons that have been advanced in support of the hypothesis that wage changes in the public sector are influenced by a set of conditions which to some extent are different from those in the private sector. We also pointed out the role that traditional variables can play in determining wage changes in the public sector. Some light can be shed on the debate concerning determinants of public sector wage changes through empirical analysis and we now turn to a discussion of two recent empirical studies. It should be emphasized that both the following studies concentrate on what factors determine the rate of change in base rate wages. They do not address the question of what determines the differences in wage levels between the two sectors.

Cousineau and Lacroix Study

The study of J. Cousineau and R. Lacroix (1977) seeks " ... to study in depth the wage determination process for major collective agreements ... ". The analysis is wide-ranging, covering a number of specific topics such as price expectations, excess demand and work stoppages. What is important from our viewpoint is that it draws attention to wage determination in the public sector separate from that in the private sector. As we have already seen, Cousineau and Lacroix, like others, have put forward a series of hypotheses suggesting how wage determination in the public sector is different from that in the private sector. Without going into a detailed discussion or criticism of the model, the basic 'wage equation' tested by these researchers took the following form:

Table 4-1

Dependent Variable	Explanatory Variables
Annual average per cent change in base wage rate	1. economy-wide vacancy rate
	2. rate of change in consumer price index (lagged)
	3. a variable for the existence of COLA clause
	4. jurisdictional 'dummy' variable to represent federal, provincial or local government
	5. a variable to represent the first collective agreement
	6. the ratio of the minimum wage to the base rate in the last contract signed

Each of the explanatory variables was significant except for the 'dummy' variable representing the local government sector. Excluding for the moment the price and labour market variables, the more important conclusions reached were (with the reference page number in brackets):

1. " ... a wage settlement (that) was part of a first collective agreement was found to be a significant factor in the average annual percentage increase in the base rates." (51) In fact, such an event was 'worth' about 4 percentage points on the base rate.

2. " ... recent unionization in the public sector ... brought about reduced wage disparities in that sector." (53)

3. " ... agreements with a COLA clause ... the average annual percentage increase in base wage rates is 1.57 percentage points lower than for agreements without COLA clause." (55)

4. "The federal subsector is significantly different from the rest of the public sector in that its average wage increase is 2.6 percentage points lower." (55)

The public sector is but part of the above study and the authors have examined the determinants of wage changes in the private sector using a somewhat similar model. Both models contain, as explanatory variables, the vacancy rate to capture generalized labour market conditions, and lagged price changes to capture price expectations, both of which are consistent with virtually all conventional wage determination models. The results for the two models in the Cousineau-Lacroix study are shown below:

		Estimated Coefficients on Labour Market Conditions and Price Expectations in Public & Private Sector Models*		
Sector	Constant Term	Vacancy Rate	Price Expectations	$\bar{R}^2$
Public	1.85	.00013 (3.5)	.070 (11.6)	.53
Private	8.37	.00025 (10.3)	.042 (10.1)	.38

t-scores are in the brackets below the estimated coefficient.

* The other explanatory variables are omitted here.

The above table strongly suggests that (a) wages are more responsive to labour market conditions in the private than public sector, (b) wages are more responsive to expected inflation (as defined in the study) in the public sector. The private sector model also included a variable to represent the ratio of the base rate of a given contract to the minimum wage (in the province where the contract was signed). For the private sector, " ... the effect of this variable on the percentage change in the wage rate (was) found to be quantitatively negligible ... " (63).

Cousineau and Lacroix also study the phenomena of "catch-up" - whereby employees, whose previous contract incorrectly anticipated the rate of inflation attempt to make up those losses in the current contract. The interest in such phenomena is obvious: what impact do such real income losses have on wage settlements? There is no question that such losses occurred in the public sector where future inflation was incorrectly anticipated in the first half of the nineteen seventies. "Between 1973 and 1975 out of a total of 298 agreements that were renewed in the public sector, 140 (47 per cent) followed agreements where there had been losses in real wages" (75). The average loss in the year 1974 was 4.89 per cent and in 1975 it was 4.83 per cent.

By examining and comparing the wage increases in those contracts, those where there were losses and those where there were gains, the authors conclude:

> "All the data clearly indicate that those union members in the public sector and para-public sectors who were most affected by incorrectly anticipated inflation did not subsequently obtain the greatest wage increase ... it is difficult to see how the rise in wages in the public sector could be explained by the desire of workers in this sector to catch-up." (81)

The final conclusion by the authors for both the private and public sector is that catch-up had no effect on new wage agreements and that price expectations were the driving force in explaining the rate of change in base wage rates.

The results of this study, in terms of the 'conventional' determinants of wage changes, can be summarized in the following way:

1. Price expectations are a more important explanatory variable in the public than private sector.

2. The public sector does not respond strongly to labour market conditions.

3. The desire to recoup past real wage losses is not an important determinant of wages in the public sector.

Auld, Christofides, Swidinsky and Wilton Study

At the same time that the Cousineau and Lacroix study was being done, a somewhat parallel analysis was being conducted elsewhere (Auld, Christofides, Swidinsky, Wilton, 1979). This analysis (hereafter referred to as ACSW), is more detailed than the previous study discussed and arrives at conclusions which in some respects differ from those of Cousineau and Lacroix.

The study for the most part concentrates on the explanation of wage changes in the context of a conventional wage determination model with four particular 'twists'. First, the possibility of wage catch-up due to unexpected inflation is analyzed and a wage model is developed to capture the possibility of this effect. The second feature pertains to the public sector only. It is postulated that because of the substantial differences among various levels of government and quasi government sectors, the explanation of wage change may differ among sectors. Hence, a disaggregated analysis of the public sector seems useful. Third, the fact that the process of reaching a settlement (third party intervention, strike) may affect the importance of explanatory variables is studied in both the private and public sectors. Finally, the possibility that negotiated wage rates spill over from one reference group to another is explored in detail.

Starting with the first point, the authors consider the rationale underlying the notion of catch-up. First of all, it is unrealistic to expect that future inflation can be forecast in an accurate and consistent manner over the life of all contracts. Second, employees have some notion of a just wage which relates to real, not nominal wages. As Eckstein and Wilson (1962) have put it,

> "When inflation is rapid, the sense of inequality creates strong member support of union leaders' wage demands or pressure on the leaders to 'catch-up'." (p. 391)

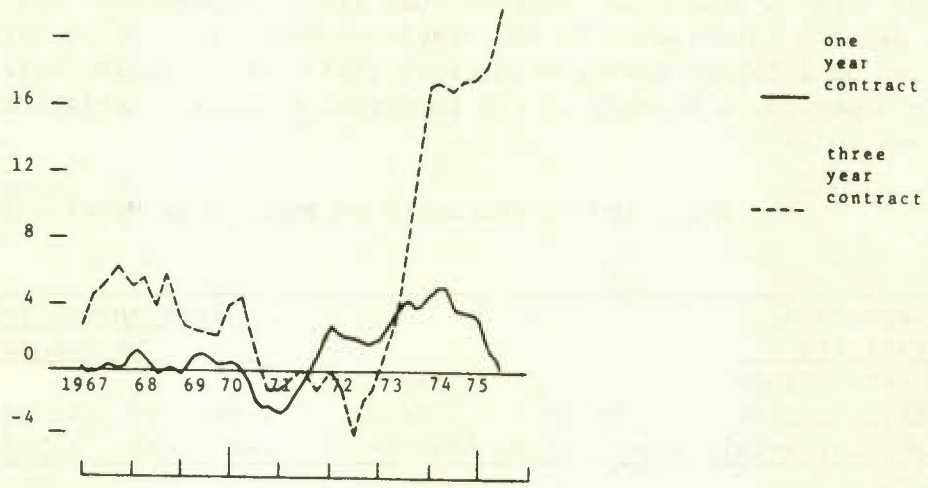
Third, if the actual rate of price increase exceeded the expected rise in prices, the short-run windfall gains to employers would place the latter in a vulnerable position when employees bargained for the loss in real wages over the past contract period.[7]

Just how important is the question of catch-up? Figure 4-1 plots the difference between actual and expected inflation based on the estimate of PE used in the study. At the beginning of 1975, for example, this variable was equal to 3.5 per cent and 17 per cent for one and three year contracts, respectively.

> "It would be surprising indeed if this variable did not exert an independent direct influence on wage rate changes over and above whatever influence was exerted by the price expectations variable PE and the proxy for excess labour demand." (ACSW, 63)

Figure 4-1

Actual Rate of Inflation Minus Expected Rate of Inflation



Source: Auld, Christofides, Swidinsky, Wilton(1978)

Like the Cousineau-Lacroix study, price expectations are also incorporated into this study as well. When signing a contract, even over a short period of one year, workers are anxious to ensure that real wage earnings, stemming from their wage rate plus future inflation do not decline. Consequently, some anticipation of future inflation is built into the settlement. Employers cannot ignore this fact, of course, because they too have expectations as to what future prices will be and hence their ability to pay in the future. This is also true of the public sector; employers are aware of future (albeit uncertain) revenues and the political/economic constraints that exist at any given time. It would be most interesting to see whether or not future prices can be more correctly forecast than future public sector revenue. There is, of course, no reason to expect a perfect correlation between expected prices in the market and expected revenues; the determinants are quite different. There may be considerable political pressure to hold the line or even reduce taxes placing public sector employers in a position of resisting *ex ante* price compensation. This would be true in the case of a downturn in economic activity. Employers may be able to 'persuade' the union to accept lower *ex ante* compensation on the strength of a commitment to provide *ex post* compensation which may be politically easier to sell. There is, consequently, no reason to expect *a priori* that the public sector is much more willing to incorporate price expectations into the wage determination process than the private sector.

The ACSW study also tests for the significance of changes in the degree of excess demand in the labour market on wage rate changes. Three labour market variables were used; the inverse of the unemployment rate, the vacancy rate and the help-wanted index. Each was on a regional basis; that is, if a contract was signed in Prince Edward Island, the labour market variable pertaining to that region was employed. For federal government contracts, the national labour market variable was used because many unions in this sector tend to bargain nationally.

Before examining other unique 'twists' of this study, let us summarize the basic model used and the results obtained. The rate of change in the base wage rate for non-COLA contracts (on an annualized basis) depends upon price expectations (PE), compensation for inflation that was not anticipated in the previous contract or price catch-up (PCU) and regional labour market conditions (RL). Using 1,240 contracts for the 1967-75 period, a summary of the important results (statistically) is as follows:

Estimated Coefficients on Basic Wage Model

Dependent Variable			Independent Variables		
			Labour Market		
Wage rate change in public sector (1,240 contracts)	Price Expectations	Price Catch-up	Unemployment Rate	Vacancy Rate	Help-wanted Index
I	.521	.771	6.99		
II	.367	.709		2.92	
III	.267	.648			2.94
Wage rate change in private sector (2,338 contracts)					
IV	.371	.570			2.03

Note: The complete results including constant term, standard errors, S.E.E. are found in Auld, et al, op. cit. All coefficients shown above are significant at a 95 per cent confidence level. Private sector equations using the unemployment rate and vacancy rate were also estimated with similar results to IV except the unemployment rate proved to be statistically insignificant. The results for all three labour market variables are included here to underscore the robustness of this variable.

The first conclusion based on these results is that the private and public sectors are not that much different in terms of the forces that explain the rate of change in base wage rates.[8] The second conclusion is that the role played by price expectations in the public sector wage model is not that much different from the private sector. In fact, a comparison of equations III and IV suggests that price expectations were of less importance in the public sector! Thirdly, price catch-up is important; in fact, price catch-up is the most significant variable explaining changes in base wage rates in both the public and private sectors.

The main conclusion to be drawn from this broad look at the public sector is that the process by which wage rate changes are determined in the public sector was not 'out of line' relative to the private sector. The same set of economic forces was important in both sectors.

The second 'unique' feature of the ACSW study was to disaggregate the public sector into jurisdictional divisions. The authors agree that different jurisdictions in the public sector not only face dissimilar revenue constraints, but the wage bill as a proportion of total spending varies by jurisdiction. Furthermore, the budgetary uncertainty with regard to future revenue is not the same in each jurisdiction. This suggests that a wage model of the total public sector may mask some important structural features of public sector wage behaviour. The earlier data in Chapter 2 showed there are substantial annual differences in the percentage change in base wage rates among hospital, education, provincial/local and federal employees. These considerations suggest that wage analysis in the public sector should be conducted at a more disaggregated level. Since federal government wage settlements have received considerable attention, a separate wage model was estimated for that sector and another for the combined provincial/local government sector. Separate models are to be preferred over the use of dummy variables in the aggregate equation because the latter method constrains the structure of wage determination with respect to price and labour market variables to be the same in both sectors.

Estimated Coefficients for Basic Wage Model:
Federal and Non-Federal Sectors

Dependent Variables (Number of Contracts Shown in Brackets)	Independent Variables		
Wage Rate Change in Public Sector	Price Expectations	Price Catch-up	Labour Market (Vacancy Rate)
Federal (178)	.803	.236	-2.055 (1)
Non-federal (1,062)	.322	.843	1.891
Non-federal (2) less policemen and firemen (926)	.345	.898	2.891

Notes: (1) The labour market variable was insignificant at a 95 per cent confidence level for this equation.

(2) This variation was carried out because in the case of firemen/policemen, many of the negotiations ended in binding arbitration. Their exclusion substantially increased the significance of the labour market variable.

A summary of the results of the basic model for the federal and non-federal jurisdictions are shown in the table above. The most striking features of the two equations are the reversed importance of the price expectations and price catch-up in the two sectors, and the weaker effects for the labour market variable in the federal sector. In the non-federal sector the labour market coefficient is correctly signed and significant, whereas in the sample of contracts in the federal sector it is perverse in sign but insignificant. It is interesting to note the increased size of the coefficient for the labour market variable in the non-federal sector excluding the 136 wage contracts involving policemen and firemen. These were separated from the total subset because of the very high number of contracts that were settled through third-party intervention.

Although employees in both federal and non-federal sectors receive roughly similar compensation for fully-anticipated price inflation (84.9 and 89.3 per cent, respectively), the form of compensation is quite different.[9] In the federal sector, compensation for price inflation is primarily ex ante based on price expectations, whereas in the non-federal sector it is primarily ex post based on price catch-up. This finding is consistent with the view expressed in Cousineau and Lacroix that jurisdictions which are, not relatively speaking in a position to set the level of their own revenues are likely to be more cautious in compensating their employees for anticipated inflation ex ante. That is, they may be willing to compensate for actual past inflation but are less willing to compensate for uncertain expectations of future inflation.

The third 'twist' in this study is an examination of wage changes in terms of how the settlement was reached. Wage settlements in the public sector it is argued, are made under a variety of institutional settlements (i.e., direct bargaining, mediation-conciliation, or strike). Thus, the aggregated public sector wage equations may also be influenced by the distribution of contracts according to the method of settlement. In their sample of public sector wage contracts a high proportion of contracts were settled through third-party intervention (i.e., conciliation, mediation and arbitration). The authors argue the case in the following manner:

> "The arbitration process relieves public officials of decisionmaking responsibility to the public. That is, arbitration eliminates the political considerations that are so crucial in public sector wage settlement by delegating authority (and thus responsibility) to individuals not accountable to the public. In place of the political process, arbitrators may substitute their own political biases or their own self-interests. Even when the arbitrator focuses on economic factors he may

emphasize relative wage structures and comparable wage increases rather than generalized labour market conditions. Also, the arbitrator may regard economic information differently than either labour or management. For example, if ability-to-pay is an important decisionmaking criterion, the arbitrator may not show the same concern for a government's fiscal constraints as would the political authorities. Thus, the normal price and labour market determinants of wage change may be modified, supplemented or even replaced by other economic and non-economic factors."

(ACSW, pp. 207-8)

To test the hypothesis that the structural features underlying the wage equations are not invariant to the settlement process, the authors estimate the basic equation separately for each negotiation process (direct bargaining, mediation-conciliation and arbitration).[10] The results are presented in the table below. The most interesting observation is that the labour market variable, which is relatively large, significant and positive for bargained contracts is of similar size (significant but negative) for arbitrated contracts. The price variable coefficients are rather mixed but tend to suggest a stronger influence of catch-up in the case of third party intervention.

Estimated Coefficients for Basic Wage Equation:
By Method of Contract Settlement

Dependent Variable Wage Rate Change in Public Sector	Price Expectations	Price Catch-up	Labour Market (Vacancy Rate)
Bargained	.785	.390	5.94
Mediated/Conciliated	.142*	.878	2.95
Arbitration	.445	.639	-4.05

* Not significant at 95 per cent confidence interval.

In summary, these results suggest that the binding authority exercised by the arbitrator is clearly inconsistent with prevailing economic conditions and labour market conditions cannot be expected to moderate public sector wage settlements that are arbitrated. In the words of the authors:

"In fact, the perversity of these arbitrated contracts offers a possible reason why the labour market variable in the bargaining equation may not be as strong as one might have expected. The threats of arbitration may cause public sector employers to settle prior to arbitration to avoid such a non-economic or perverse wage settlement. Thus, some of the structural characteristics of the arbitrated category may permeate down to the bargaining category as public sector employers attempt to 'head-off' arbitration."

(ACSW, p. 211)

The fourth unique feature of this study is an investigation of spillovers; the transmission of one wage settlement to a subsequent settlement or settlements. Such an effect can be justified in terms of the labour demand schedule in one firm/industry depending on that firm's wage rate and wage rates elsewhere. It may also simply reflect institutional and historical forces. As discussed earlier, there was certainly some sentiment in Canada that public sector wages were setting the trend in wage negotiations not just within the public sector but between the public and private sectors.

The authors of this A.I.B. study contend that wage spillovers can best be uncovered by using micro data on wages thus clearly identifying the bargaining group and the time of the wage settlement. This latter feature is clearly superior to aggregated quarterly time series data.

The basic hypothesis is straightforward. The actual wage rate increase for a given bargaining group ($\dot{W}_j^a$) is equal to the wage increase that would have occurred were there no spillover effects ($\dot{W}_i^*$) plus the spillover effect. The precise modelling of this is somewhat complicated by two factors; what reference groups does one choose as exerting a 'spillover' effect and what importance (weights) does one attach to past settlements of this reference group?

Micro data permits reference groups to be chosen both geographically and by sector. Although several possibilities are analysed in the study, the two most important would appear to be spillovers within the public sector and from the public to the private sector. In addition, there has been some feeling that arbitrated public sector settlements within a given region were "pace setters" for subsequent public sector wage increases.

The importance of past settlements on a contract settlement can be dealt with in several ways; the 'weights' can be freely estimated as past settlements are added as explanatory variables; the 'weights' can be constrained to be equal or the 'weights' can be assigned to reflect less importance the farther back in time the reference group. In the empirical work, the authors found that the weighting scheme used did not affect the general qualitative results. What were the results?

First of all, in testing for spillovers within the public sector, the authors found considerable evidence to support spillovers on a narrowly defined regional and sectoral basis; a health contract in Ontario is affected by the past several health contracts in the same region for example. On a broader basis, where the reference group could be any past public sector settlement there was little evidence of spillovers. Second, the authors found no evidence that public sector contracts in a given region spillover to subsequent private sector contracts in the same region. Third, there was only little evidence that arbitrated public sector contracts affect subsequent wage settlements.

The ACSW study of public sector wages in Canada can be summarized in the following manner:

1. The estimated wage equation for the total public sector is structurally the same as that for the private sector. Price catch-up, price expectations and broad labour market conditions all influence the rate of change in wage rates in a manner that conforms to theoretical expectations.

2. There are substantial differences, however, if the contracts are separated for purposes of estimating wage equations according to method of settlement. Most important of all is the 'perverse' effect that labour market conditions have on wages in those settlements subjected to arbitration.

3. The rate of change in base wage rates in the federal public sector is insensitive to labour market forces; it is the responsiveness in the non-federal public sector that results in the overall expected and positive relationship in the public sector as a whole. The importance of the role of price catch-up and price expectations is reversed in the two sectors.

4. There is a high degree of wage rate change interdependency in the public sector provided the reference group is appropriately specified. No evidence of public to private spillovers was uncovered.

Summary

The conclusions of these two major studies differ in several respects. Some of the difference is due to the data base and to methods of analysis. A large part of the difference appears to be a matter of interpretation. For example, the March 1978 issue of the Economic Council of Canada Bulletin stated, in reviewing the Cousineau-Lacroix study,

> " ... wages in the public sector and quasi public sector are primarily determined by political rather than economic factors."
>
> " ... since wages in the public sector are not restrained by market conditions and are very sensitive to inflation they rise by more than in the private sector. Because this puts pressure

> on business to meet excessive wage demands, it increases strike activity and unemployment ... the traditional trade-off relationship ... breaks down and both prices and unemployment rise."

First, this is not what Cousineau and Lacroix said, nor is it what they demonstrated in their empirical work. Perhaps their interpretation of their own work led to this further interpretation, but there is nothing in the study that demonstrates that public sector wage inflation leads to a general rise in unemployment. The labour market variable in the Cousineau-Lacroix study was only mildly significant which may well have resulted from using an economy wide measure of excess labour demand when many contracts were at the regional level.

A strict interpretation of the ACSW study indicates that wages in the public sector are no more responsive to price expectations than in the private sector. Differences between this result and that of Cousineau-Lacroix probably reflect different methodologies in constructing a price expectations variable and the fact that Cousineau-Lacroix did not specifically model price catch-up in their study. Like wages in the private sector, they do respond to labour market conditions. Furthermore, there is no evidence that wages in the public sector were spilling over into the private sector in a consistent observable fashion.

V CONTROLLING THE PUBLIC SECTOR

It is reasonable to assume, as we have noted earlier, that a major reason for wage controls in 1975 was to place a 'lid' on public sector wage inflation. But controls were temporary; a time to reassess fiscal, monetary and other public policies. The rapid rise in public sector unionization, the lack of market forces to control wages in the public sector and the essential services nature of some public goods led the government to seek alternative ways to control wages in the public sector.

The Initial Proposal

Early in 1978, The Honourable Robert Andras introduced in Parliament a Bill which caused a major outcry from labour organizations, especially the Canadian Union of Public Employees (CUPE). The Bill was withdrawn for redrafting and appeared later (House of Commons, 1978 (b)). The initial Bill had proposed changes to limit membership in a public sector union by redefining an 'employee' to eliminate anyone with a salary in excess of $33,500 and a person,

> "who is determined to have or exercise senior professional duties and responsibilities or is determined to have or exercise managerial duties ... " (ibid, 1 (I)(i))

This was eliminated in the second draft of the Bill.

The more contentious issue was that related to aggregate compensation and comparability to the private sector. In the original proposal there was to be " ... a comparison of the aggregate of compensation for similar or analogous occupations of work ... ". In the revision the word 'equitable' precedes the word 'comparison'. The initial proposal ignored any agreement made by the disputing parties prior to arbitration. That was included in the November Bill. Also included was a reference to using "representative selection of organizations" for comparison purposes not just "organizations". Finally, the first proposal called for an elimination of excess differentials in wages or salaries (on an aggregate comparison basis), but gave no time limit for the elimination of such. A period of three years was established in the second draft. The major difference between the revision to C-28 and the existing legislation is the notion of compensation comparison. The existing legislation requires that comparisons between the public service and outside sectors be made with respect to "conditions of employment" while in the proposed Bill (C-22) the comparison would be with respect to the narrower concept of "aggregate of compensation".

Both proposals also included the establishment of a pay research bureau or national pay research board, the first being set out in Bill C-28 and the second in Bill C-22 (the revised Bill). The objective in both cases is the same: to collect, analyse and research data relating to all forms of employee compensation in the public and private sector. The results of this work would be available to both parties in the case of collective bargaining. Although such analysis is presently carried out in several agencies, the proposed Bill would 'formalize' the idea of average comparability of compensation.

In the media the Bill was soon labelled the 'post-controls' control program and the line was quickly drawn between those who saw the need for controls in the public sector and those who did not. As is often the case with any complex legislation, there was considerable confusion about the method of controls. The intentions of the government shorn of legal terminology, were presented in Chapter 8 of the Agenda for Co-operation (1977) and it is useful at this stage to review these arguments:

As a basic premise, the government document states that

" ... ensure that the public is adequately protected against unlawful deprivation of services." (57)

If, of course, the service in the second quote is also essential, it matters little whether the public is lawfully or unlawfully deprived of services! The analysis in this government document points out that not only has the total wage bill of government increased substantially in recent years but (a) a number of arbitration awards in the public sector were difficult to justify, and (b) that awards in the public sector have created an impression in the country that such settlements have been 'pacesetters' in the wage-price spiral.

The policy proposed to deal with public sector wages is then carefully enunciated:

- "ensure that public sector compensation is fair both to the employee and to the taxpayer;
- ensure that public sector compensation is related in a reasonable and acceptable way to the private sector; and
- ensure that the rights of public employees to determine the particular conditions of their employment through responsible collective bargaining are protected." (59)

Roughly translated it means that when the government <u>sets</u> wages in the public sector, every care will be taken to ensure comparability with the private sector on a total compensation basis. "Public service compensation will continue to follow compensation in the private sector." It is this intention, that of following rather than leading or paralleling, that has fanned the fires of rhetoric in public sector unions.

<u>CUPE Response</u>

The response by the public sector unions was swift and predictable. A report by G. Levine (1978) listed sixteen reasons why the government's proposal should be rejected. Basically, CUPE views the method of average comparability of total compensation (ACTC) as a method to reduce the role of unions in the public sector to one of debating how the pie is to be divided, not how large should the pie be. The suggestion is not designed as a response to inefficiencies in the present methods of collective bargaining but as a scheme to " ... accuse public employees for the economic mess we are in today".

The CUPE document sets out two reasons why public sector wages should not follow or parallel those of the private sector. First, rates of pay should, among other things, be determined on the basis of the "social value of the job in the community". Those who perform services which are so essential that strikes are forbidden should not have to follow rates of private sector pay. Second, without being able to lead in the wage rate area, government will not be able to establish standards for others to follow.

The CUPE document then proceeds to outline some of the difficulties with the concept of ACTC; bias in the calculations because of the selection of only a few items that make up total compensation; bias in data; costing the non-wage items; the choice of the appropriate reference group in private sector for comparison with the public sector; and the effect of "lagged" private sector data on current public sector settlements.

Evaluating the Debate

There is no question that some of the criticisms from CUPE and public sector employees in general are valid. In certain instances they were obviously sufficiently convincing to force the government to withdraw Bill C-28 which incorporated the initial legislation to enact ACTC in the public sector. Nevertheless, a comment is in order with respect to the CUPE statement that wage rates must be based on either the social value of the job or the essential nature of the service. First, by taking this position, the union is in danger of seeing its membership decline! This could be brought about by the government simply contracting out to the private sector many jobs now in the government, which would immediately place these occupations on a par with similar jobs performed in the private sector. Second, how does one determine the social value of a job? If ACTC is difficult to cost, the social value of specific occupations would be just as difficult a task.

The second comment is directed toward the essential service concept; just because a service is essential does not mean that the labour producing that service has any special value. Its worth is related to the value that society places on the service. The 'essential' nature of the good may be due to the fact that the government created a public monopoly by forbidding competition in the same area. What is important about essential services is that there is no immediate substitute if production should cease, a phenomenon that does not have its counterpart in the private sector. The result is that both the strike and lock-out in the public sector are far more powerful weapons than they are in the private sector. It is most interesting to note that in its proposed amendments to the PSSRA, the government has introduced provisions for lock-out, an activity that was previously illegal.

The one item which neither the government nor the union has really come to grips with is the essential service fact. Canadians, the government states in one context, should receive without interruption, essential public services. This becomes somewhat modified to "adequately protected against the unlawful deprivation of services". Does this mean that continuation is not to be guaranteed if the stoppage is legal? Whether it's legal or not seems irrelevant from the consumer and taxpayer's viewpoint. If it is strikes in the public sector that government wishes to ban, the ACTC is not the procedure; although, as CUPE points out, it may weaken the union movement over the long run and make the strike ban possible in the future. Unlawful strikes suggest that improvements in the industrial relations and legal framework are necessary. A scheme to equalize public and private sector compensation is not the appropriate tool.

Government must not be permitted to shoulder all of the criticisms in this regard. Unions have failed to convince the public as to the nature of essential public services and the right to strike; two-thirds of Canadians believe that strikes should be banned in the public sector. If General Motors goes on strike, one can purchase an equal quality car at roughly the same price, but if the post office is on strike, the cost of sending a birthday card by private courier is prohibitive. If the teachers go on strike, it is very difficult to find a substitute for education in the short-run.

Just as important, however, is the fact that whenever there is a strike in the private sector, the public cannot (once inventories are depleted) buy the product produced by the striking sector. The result is that profits are affected. In the public sector, however, the public continues to pay their taxes in the event of a strike or work slowdown. Revenue, as far as the government is concerned, is not affected. If children are not educated for a month because of a strike, the public in effect receives a 10 per cent reduction in service but no reduction in cost. The result here is that the real costs rise significantly.

The hypothesis that public sector wages were out of control in the pre-A.I.B. period, and could again become uncontrollable (hence the need for controls) is a red-herring. There were isolated instances of large increases in base rates but the overall level of wage increases was not, compared to the private sector, overly excessive and out of control. Wage rates in the public sector responded to market variables. It is true that the public sector was, in some subsectors, rapidly expanding, and one would expect the wage rates to respond just as they would in the construction industry if there was a building boom. The debate over the elimination of wage rate bargaining, is and will continue to be, a bitter one. It is, however, the wrong debate. What should be debated is whether or not a work stoppage in 'essential' no-product-substitution sectors of society should be permitted, and if not, what alternative can be used to ensure that employees are treated fairly.

If total compensation in the public sector is to be tied to that of the private sector, it implicitly assumes that wages and other benefits in the public sector will not be responsive to labour market conditions in the public sector. If society is demanding less government and more disposable income, we would expect wage rates in the private sector to rise faster than those in the public sector in order to attract surplus public sector labour away from the government. That cannot take place if relative wages are fixed by legislation, in fact equalized by legislation. Even with a declining public sector, there are likely to be areas where some expansion will occur and thus there would be a short-run rise in the rate of wage change in the expanding portion of the public sector which is growing. In the initial Bill the question of the public sector's need for qualified employees did not appear, but was included in the subsequent revision. Finally, let us suppose that there is a galloping wage inflation in the private sector, brought upon us by the combination of scarce labour and an excessive level of private spending. Governments, one might argue, are supposed to set an example of restraint in such a period but if wages are tied to the private sector no such restraint could be exercised.

Basically by 'gluing' public sector wages over the long-run to those in the private sector there is no opportunity for short-run adjustments that may well be called for due to relative changes in labour market conditions (or short-run economic policy considerations). The view that public sector wages need to be controlled because there is no self-discipline in that particular market still prevails at the end of 1978. The Globe and Mail, looking to the 1979 industrial relations scene, ended its lead editorial with the following comment:

> "Most want stability. They will not get it unless workers restrain their demands, employers hold out for moderate settlements and restrain price increases, and governments firmly refuse to let public sector workers again lead the gallop to inflation."

CONCLUSION

The one singular conclusion which emerges from this analysis of public sector wages is that control of wages in the public sector by legislation will not prevent wage inflation. Certainly there were several 'high profile' settlements in the 1972-75 period, both in the public and private sector and there is no question that in the case of the public sector these settlements received a great deal of attention. But there is no evidence that these settlements ignited a round of wage inflation in the rest of the economy. There is no evidence that they were unresponsive, in general, to market forces and the data do not suggest a continual widening of public/private wages over the 1966-75 period. With the advent of collective bargaining in the public sector there was bound to be some closing of the differentials, which I suspect received the quiet blessing of union officials in the rest of the economy.

Furthermore, it is not clear from the proposed legislation that the method of total compensation comparison between the public and private sector, in the case of arbitration awards, constitutes universal wage control in the public sector. It is true that arbitration awards were on average, higher than those that were negotiated without third party intervention in the months just prior to the establishment of the A.I.B. Furthermore, estimates of wage equations involving arbitrated settlements only, did suggest that this 'class' of settlements was not responsive to labour market conditions in the traditional sense. Imposing more 'control' over these type of settlements is a response, perhaps, to these facts, but that does not translate into control over non-arbitrated settlements where it would appear that market forces will continue to operate.

FOOTNOTES

1 The term public sector is used here in the broad sense to refer to employees whose wages come directly from the public purse: employees of the three levels of government as well as those engaged in the delivery of health and education services.

2 The "Pearson settlement" refers to the government of Prime Minister Pearson which, in 1965, imposed a generous settlement on striking Seaway workers which, it was felt, set the stage for high wage settlements throughout the economy.

3 Ibid., p. 292. This, of course, does not encompass all public sector employees. Others are in the services category which shows an even higher growth rate over this period.

4 Labour Canada, Working Conditions in Canadian Industry, Annual.

5 Wage drift refers to the observed phenomena where average hourly earnings in an occupational/industrial classification increase faster than wage rates due to such factors as overtime and speed of promotion.

6 See Appendix to III for a more detailed explanation.

7 The loss in real wages can be expressed in its simplest terms as

$$\dot{W}_t/(\dot{P}_t - \dot{PE}_t)$$

where $\dot{W}_t$ is the rate of wage increase over the contract life (t), $\dot{P}_t$ is the acutal rate of inflation, and $\dot{PE}_t$ the compensated expected inflation rate. Since it is realistic to assume that all price expectations are not fully compensated by wage increases then price expectations can be expressed as $\alpha\dot{PE}_t$ where α is less than one. In a conventional wage equation, then, the catch-up variable can be expressed as

$$\beta(\dot{P}_{t-1} - \alpha\dot{PE}_{t-1})$$

where β is the coefficient to be estimated and the contract length is constant. This assumption can be relaxed and variable contract lengths accommodated (ACSW, 66).

8 In terms of parameter homogeneity, the computed F value indicated that the hypothesis that equations III and IV are structurally the same cannot be rejected.

9 Considering wages and prices only, substituting for price catch-up in the wage equation one obtains

$$\dot{w} = \alpha\dot{P}^e + \beta\dot{P}^A - \alpha\beta\dot{P}^e$$

and in long-run equilibrium, since actual equals expected inflation

$$\dot{w} = \alpha\dot{P}^A + \beta\dot{P}^A - \alpha\beta\dot{P}^A$$

The change in the rate of wage increase with respect to a change in inflation is

$$\alpha + \beta - \alpha\beta$$

The composite effect is exactly equal to unity when both expected inflation and unanticipated past inflation are fully compensated.

10 Labour Canada identifies eight stages at which a settlement can be reached. In the public sector, there were very few observations in certain stages and hence they were aggregated into three broad groups. As a result, there were 389 directly bargained settlements, 34 mediation/conciliation and 191 cases of arbitration.

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