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Canada

Regulation, Deregulation and labour relations in the airline industry
A comparative study of the U.S and Canada

by

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ABSTRACT

This dissertation deals with the changes which have intervened since the inception of deregulation in the US and Canadian airline industry, in the 'effort bargain'.

It deals first with the role of economic, institutional and legislative conditions, in each country, on labour, through a comparison of aggregate labour outcomes from 1960 to 1990. It subsequently assesses the impact of carriers' strategies to lower costs through an analysis of the collective agreements of pilots, flight attendants, mechanics and agents. This part of the research covers two airlines in each country.

Collected data indicate that deregulation decreased average earnings in both countries but the decline was greater in the US than in Canada. The US's greater decline was found to be linked to the economic context and competitive unionism, which had previously helped unions increase earnings above competitive levels. In the period of deregulation, this system caved in to pressures from the carriers and labour market conditions.

In Canada, the combined outcome of government monetary controls and labour negotiations, patterned after the conditions negotiated by the state-owned airline, kept earnings at more competitive levels. During deregulation, the decline was modest and approximately the same or slightly larger than in other industries.

The comparative analysis across carriers and crafts shows that competitive markets led to an elaborate pattern of contract changes which undermined the previous bargaining pattern as well as the system of labour relations. All airlines sought to cut costs through moderation of wage increases, two-tier wage structure, and work rule and fringe benefit changes. These concessions varied across carriers, work groups, labour market conditions, and the specificity of these jobs. Mechanics, with alternative fields of employment and with a centralized union structure, made the least concessions.

Although there were wage variations in the two countries, due to different pay scales, wages for senior workers have remained almost unchanged since deregulation. The small increases were exchanged for substantially lower wages for new employees and employment-productivity gains. In 1990, top wages were 10% to 20% higher, but those at the entry level were significantly lower in the US than in Canada.

These findings suggest that while competitive markets exert an important influence on labour relations, their influence is best understood historically and in the context of each country' specific circumstances.

Synthèse

Ce travail cherche à définir l'incidence de la déréglementation sur la main d'oeuvre syndiquée dans l'industrie aérienne aux états Unis et au Canada.

La recherche tente d'abord d'établir si les conditions économiques, institutionelles et législatives de chaque pays ont produit des effets différents sur la main d'oeuvre, et ceci par le biais d'une comparaison des résultats des négotiations intervenues entre 1960 et 1990.

Par la suite cette recherche vise à analyser les tratégies mises en oeuvre par les transporteurs en vue de réduire les coûts généreaux, Ce but fut atteint moyennant une analyse des conventions collectives des pilots, des mécaniciens, des agents de bord et du personnel d'èscale, et ceci pour deux transporteurs dans chaque pays.

Les données révèlent que la déréglementation a porté à une baisse des salaires moyens, mais cette baisse a été plus prononcée aux états Unis qu'au Canada, Pour ceux qui en est des états Unis, cette baisse était reliée au context économique et à la concurrence syndicale, qui au cours des années précédentes avait amené le coût de la main d'oeuvre au dessus de niveaux concurrentiels.

Au Canada, les résultats combinés des contrôles monétaires gouvernementaux et des négotiations syndicales, façonnés d'après la compagnie étatique, avaient retenu les salaires à des niveaux plus concurrentiels. Au cours de la déréglementation le fléchissement s'avéra faible, voir egal ou légerment superieur a celui des autres industries.

Une analyse comparative couvrant les deux transporteurs et les différents groups de travail montre que le marché déréglementé a conduit à des changements contractuels qui ont affaibli le modèle des négotiations antérieures aussi bien que le système de relations de travail. Tous les transporteurs ont essayé de réduire le coûts moyennant des augmentations salariales modestes, par une structure salariale à double échelle et par des changements dans les normes régissant le travail et les bénéfices sociaux. Les concessions variaient d'un transporteur à l'autre et à travers les groups d'emplois, aussi bien qu'à travers les conditions du marché du travail et la spécificité de chaque emploi. Par contre les mécaniciens, qui jouissent de possibilités d'emplois alternatif, tout en ayant une structure syndicale centralisée, ont fait moins de concessions que tous les autres.

Malgré la diversité des salaires dans les deux pays, reliée à des échelles salariales différentes, les salaires des employés chevronnés sont demeurés pratiquement les mêmes depuis la déréglementation, les petites augmentations étant compensées par des salaires considérablement plus bas pour les embauchés plus récents et par des ajustements entre emplois et productivité. En 1990 les salaires en haut de l'échelle étaient entre 10% et 20% plus élevés, mais les salaires des nouveaux embauchés étaient considérablement plus bas aux états Unis qu'au Canada.

Ces données suggèrent que les marchés déréglementés exercent une importante influence sur les relations de travail, mais cette influence pourrait être mieux comprise par une analyse historique, dans le contexte spécifique de chaque pays.

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CHAPTER ONE

INTRODUCTION

1.1. Introduction.

Government economic regulation, which is a form of state intervention into the working of markets and the allocation of resources, has always been viewed as an important and controversial matter. Since its introduction into various sectors of economic activity, economists and other social scientists have questioned the role of the state in the economic realm and have raised a number of important issues.

Most debates have centered on the choice and objectives of regulatory policies and on the extent to which regulation influences the structure and the working of markets, the power of unions and the distribution of benefits.

In political sociology the debate has focused on whether state intervention in general into a capitalist economy serves the capitalist class. While liberal pluralists view government policies as the result of complex interactions between organized groups, government officials and electoral pressures (Dahl 1961; Polsby 1963), elitist (Miliband 1969; Clement 1975; Domhoff 1967) and structurally oriented neo-marxists (Offe 1974, 1975, 1976; Block 1977; Poulantzas 1978) claim that the state is always biased toward actions which support the capitalist system.[1]

Sociological investigations, based on the elitist theoretical assumption that the state does what a capitalist elite tells it to do, have mostly dealt with the socio-economic characteristics of people who control regulatory policies (Domhoff 1967; Andrew and Pelletier 1978). Those based on structural premises have investigated how regulatory policies develop over time in response to the pressures generated by various socio-economic forces, and yet serve the long-term needs of capital (Mahon 1976, 1977). Socio-political studies on the regulatory process itself and how it redistributes resources have remained on the abstract level, lacking good empirical evidence.

On the other hand, in economics, numerous tests have been performed on technical issues such as rate setting, cost determination, and standards of economic efficiency (Caves 1962; Douglas & Miller 1974). Effort has also been devoted to studying the ability of organized labour to affect profits and compensation (Annable 1973, Hendricks 1975, 1977, 1980; Moore 1978; Kim 1984), but all of these studies exclude the variety of work rules and fringe benefits which make up the 'effort bargain'.

As a general rule, all theories of regulation and regulatory politics do imply that state intervention in the economic realm has economic and social effects, but these effects are matters of controversy. Thus in this thesis an

attempt is made to understand what this particular form of state interference into market forces does to organized labour, through an empirical investigation of the airline industry.

From the earliest beginning of civil aviation, national governments have committed themselves to promote and maintain a healthy transportation system. They have provided economic assistance and a mix of economic and safety legislation which has affected the industry and the system of labour relations (Kahn 1950; Corbett 1960; Baitsell 1966). However, in the late 1970s, both the United States and Canada have substantially liberalized the industry from economic regulation and subjected it (in somewhat different ways in each country) to the play of market forces.

The implementation of these reforms provides a natural experiment that makes possible a study of the effects of different regulatory and competitive regimes on the 'power' of organized labour or whether government intervention into the affairs of the industry improved the wages and working conditions of labour relative to what would have obtained under market conditions.

In this thesis I take this opportunity to investigate the effects of governmental economic controls and their removal on the wages, fringe benefits and work rules of the

labour forces in the airline industries of the USA and Canada. The results have general implications which bear on (1) the plausibility of economic and political theories as to the allocative effects of the role of the state in the economic realm particularly with respect to the shares of labour and capital; (2) the estimation of the union effect on the remuneration and working conditions of the workforce under different product market structures, or during the period of government regulation as opposed to under a competitive environment.

In the following pages, I examine the major theoretical arguments and evidence bearing on the objectives, effects and mechanisms through which regulation and its removal is thought to influence labour bargaining outcomes.

Section 1.2 presents an overview and critical assessment of the several theories of regulation, their key assumptions concerning its origin and goals, and its purported effects on capital, the users of regulated services and labour. While the focus of this study does not bear nor is intended to support the relative plausibility of these theories, their importance rests in the critical issues they raise that allow an understanding of the complexity of this phenomenon, its evolution over time and the various groups that may benefit from the regulatory process.

Section 1.3 reviews the theories and evidence on the

main mechanisms through which unions and the structure of markets influence bargaining outcomes.

The next sections examine the process of regulatory reforms or 'deregulation' and labour relations. Section 1.4 reviews the arguments made by proponents of the deregulation position and describes the enactment of the economic reforms in the two countries. Section 1.5 presents some evidence on the impact of these reforms on labour outcomes in the early years. Finally, section 1.6 introduces the research and plan of the study.

1.2 THEORIES OF REGULATION

Since the introduction of direct economic regulation of business by independent government commissions, social scientists have put forward different theories of regulation. Over time these models have undergone various revisions that have questioned their theoretical validity and reshaped the terms and direction of the regulatory debate. A review of these theories follows.

1.2.i. The 'Public Interest' tradition.

Historically, the rationale for the necessity of government intervention into the private sector centered around the notion of 'market failures'.

The most common reasons given for the necessity of regulation at the turn of the century, with the emergence of oligopolistic industries, was the need to protect consumers from the anti-competitive profit-maximizing behaviour that had been made possible by the concentration of economic power; to prevent destructive competition among these firms and to control for monopoly pricing when economies of scale made 'natural' monopoly necessary or possible.[2]

Thus, at the heart of the need for regulation was the belief that regulation serves the 'public interest' - that it ensures that certain segments of the population receive adequate and needed services - and/or it protects consumers from exploitation by limiting the powers of firms entrusted

with public services (Stigler 1975; White 1981).

To serve the public interest, the regulatory agency is empowered with various types of controls: it sets prices to avoid excess profits and uses cross subsidization[3] to redistribute income and provide adequate services; it limits entry into the industry to protect firms from destructive competition.

Although the reasons for regulation varied according to the industry involved, the notion of the 'public interest' continued to dominate the rhetoric of reformers until the late 1950s.

A critical attack on the ambiguities and naivete implied by this concept came first from critics who questioned either the 'independence' of the commissions or the purported public benefits. This attack produced two different approaches, a radical 'capture' thesis and, later, a more conservative set of economic theories of regulation.

1.2.ii The 'Capture' Thesis.[4]

The 'capture' thesis (Huntington 1952;[5] Kolko 1963, 1965; Edelman 1964; Lowi 1969) in general asserts that bureaucratic agencies are responsive to their clientele group and therefore the beneficiaries of regulation are the same firms that regulators supposedly regulate.

Kolko (1965) argues that early railway regulation in the US was designed to serve the interests of the railroad

owners. These, unable to privately agree to fix prices, successfully sought regulation to use the coercive power of the state for their own benefit. He further contends that regulation was created for and functions to support the interests of private business.

This notion of mutual support between business and governmental bodies to maintain the status-quo is also presented by Lowi (1969)[6] while Edelman (1964) claims that regulatory agencies are nothing other than symbolic vestiges to appease the public at large.

A similar notion appears in Bernstein's 'life-cycle' theory (1955), but the focus is on the regulators rather than the regulated. He produced a study of the independent regulatory commissions in the US in which he suggested that the commissions went through a series of stages -gestation, youth, maturity and finally debility and decline. In the latter stage, the commissions zeal to protect the public wears out and, as they become co-opted by the regulated, they see their prime mission as the maintenance of the 'status quo'.[7]

1.2.iii. Economic Theories of Regulation.

One of the first economic theories of regulation was developed by Stigler (1971) and expanded by Posner (1974) and Peltzman (1976). All of these theories make strong assumptions of economic rationality and reduce the

complexity of regulatory behaviour to the law of supply and demand.

Stigler views regulation as a commodity traded between interest groups, wishing to benefit from it, and politicians, anxious to be re-elected. The price consists of political votes, campaign contributions and the like. The regulated industries, by their economic resources and easy access to the political power, via party politics, supply votes and resources along with extra political payment, while the party uses the power of the state to supply various benefits such as direct subsidy, control over entry and price. Though voting does not exclude other groups, uninterested parties are excluded by the high costs of information and participation. Thus "regulation is acquired by the industry and is designed and operated primarily for its benefits" (1971:3).

Posner (1971, 1974) extending Stigler's model, stays away from a simple producer-protection model, since single regulatory commissions regulating separate competing industries may have conflicting interests (i.e. the Interstate Commerce Commission in the US and the Canadian Transport Commission in Canada regulate competing modes of transportation) and includes other groups than the regulated industries as benefitting from regulation, such as organized labour and communities at large.*

In Posner's view "regulation is designed in significant

part to confer benefits on politically effective customer groups" (1974:350) and it is partly the result of coalitions between the industry and other groups who may benefit, all at the expense of unorganized ones.

This theory, based on a pluralist view of the state, sees the state as a vehicle of private group compromise, and regulation as a kind of state sanctioned redistributive politics. The industry may obtain high rents, labour higher earnings, and some communities better services and prices (hence his view of regulation as a form of taxation) than they all would in an unregulated market - although the wider economy is likely to be worse off as a result of the regulatory commission' awards -.

1.2.iv. A Reappraisal of the Theories of Regulation.

Both theoretical models have been subjected to criticism. Critics of the capture theory argue that this view is unidimensional and fails to consider the diversity of interest groups represented in the regulatory process (Posner 1974; Peltzman 1976:217; Thomson and Jones 1982). Though some studies of industries and their agencies have failed to support the theory,* its most recent disavowal rests in the deregulation of the airline and trucking industries and the suppression of their agencies (Guandolo 1981; Derthick and Quirk 1985:92; Brown 1987).

Critics of the economic theories, as Posner himself

noted, claim that almost any form of interest group could be consistent with the empirical evidence. Wilson (1980) argues that the 'model is self-evidently true: almost any behaviour serves personal interests'. The main shortcomings are that they provide no means of identifying which interest group will prevail, nor it is clear how these groups affect the vote of politicians who, in turn, influence the behaviour of bureaucrats to implement policies favorable to them.

Wilson, in a reformulation of regulatory behaviour, described as a 'political economy perspective', attempts to reconcile the contradictions of the previous theories. He claims that economic decisions are linked to politics, thus explanation of institutional processes over time have to be tied to the underlying political process and the forces of change. On this basis, he constructs a typology of expected regulatory origin and behavior, a form of economic group interaction model, based on cost-benefit analysis. Thus, majoritarian politics dominate policy formation when both costs and benefits are dispersed (Social Security Act); interest-groups, when both are highly concentrated among competing groups and as each group works against the other's interest, the regulatory agency acts as an arbiter (labour legislation); client politics, when benefits are concentrated and costs diffused (CAB); entrepreneurial politics, when the costs are concentrated and the benefits

dispersed (Environmental Protection Agency). Each of these types affects the behaviour of the regulatory agency. However the conditions and the interests supporting political policies are also subject to the forces of change. Over time ideas, socio-political opportunities and technological innovations may change the view of the problems, the connected costs and benefits, and with it, the validity of these policies. This process, in turn, will also set in motion new socio-political forces which may strive for change.

This review of theories questions the usefulness of a single hypothesis to explain the diverse effects of regulation. It suggests that regulation is a multiform phenomenon, it may evolve over time and benefit various groups, as the costs and benefits change. Thus to understand the regulatory process and who profits from it, it is important to view it historically, to distinguish the various groups and claims made which influenced its introduction, development and subsequent changes.

1.3. REGULATION, MARKET STRUCTURE AND LABOUR EARNINGS.

The relationship between product market structure and the union wage-effect - or the 'wage gain' made as a result of unionism relative to what would exist in its absence - has been an important issue in labour economics.[10] It is hypothesized that the union wage effect is greater in firms with considerable market power, due to (a) the firms' "ability to pay" and pricing behaviour (Segal 1964), and (b) the unions' facility to organize and maintain their organizational strength in this sector (Segal 1964; Freeman and Medoff 1984:51).

1.3.i. Union 'power' and Product Market.

Empirical evidence indicates that, in general, the effects of unions on wages and benefits are higher when unions organize a large proportion of workers in a particular product market, (Freeman and Medoff 1981) and when they bargain for the entire sector rather than individual plants within a sector (Estey 1981; Freeman and Medoff 1984).

Evidence on the influence of product market monopoly power, measured by the firms' concentration ratio, is less clear. Some studies find an influence (Dalton and Ford 1977, 1978), others do not (Weiss 1966; Haworth and Rasmussen 1971; Block and Kuskin 1978; Freeman and Medoff 1981). This is not surprising in view of the difficulty in

the estimation of monopoly power and the increasing rate of import competition in every major sector of the economy (Scherer 1980; Shepherd 1982).

What seems more certain is that some government economic policies, in particular regulation, which limit competition in product markets and establish policies of price support, in the long run may alter the structure of the market and create a fertile ground for unions to grow and extract higher compensation. In this case, the union ability to organize the whole product market and the industry's protected market position and pricing behaviour, may create a bilateral monopoly in which both the industry and its workers benefit from it (Freeman and Medoff 1984). Consequently government regulation is part of a more general process that may enhance the cartelization of the industry and the ability of organized labour to affect profits and wages.

Empirical studies of prices, profits and wages in regulated industries have however revealed inconsistent results.

1.3.ii. Prices and Profits.

Investigations into the effect of regulation of public utilities on rates and profits, found that from 1907 to 1932 (Stigler and Friedland 1962), 1940s and 1950s (Jackson 1969; Moore 1970) regulation had a small or no significant impact

on lowering consumers' prices. In general it advantaged industrial or commercial consumers. The extent to which regulation affected profits was unclear. Studies on the impact of CAB regulation of the airline industry (Jordan 1970) and ICC of railroads (McAvoy 1965; Kolko 1965) and motor carriers (Hilton 1963; Sloss 1970) all found that regulation had resulted in higher or 'cartel-like' prices and long-term price discrimination based on value-of-service.[11] But again clear evidence of its effects on profits was lacking when cost 'inefficiencies' were ignored (over-expansion, service-quality rivalries).

Jordan (1972) argues that these disparities of findings can be explained by the effects of regulation on the market structure of these industries.

He claims that the public utilities are 'natural monopolies' with substantial economies of scale and, irrespective of regulation, extensive economic power, thus regulation is 'ineffective' in increasing the market power of these firms. In contrast, in firms with an oligopolistic or a competitive market structure prior to regulation (airlines and trucking industries), regulation, by helping previously independent producers to form, maintain or increase the effectiveness of a cartel (with regard to price), and impede competition (through entry control) has substantially affected the market structure and economic power of these industries. Thus he claims that the effects

of regulation in these later industries consistently support the 'producer-protection' hypothesis - that regulation substantially benefits the producers -.

However Jordan, being concerned with whether regulation protects the interests of consumers or of the regulated firms, fails to include organized labour among the groups who may possibly benefit from regulation. On the other hand, studies of regulation of the American and Canadian trucking industry (Moore 1978; Rose 1985, 1987; Hirsch 1988; Kim 1984), found that regulation had consistently and substantially raised freight rates, and that three quarters or more of these higher rates took the form of income transfers to labour and capital.

These industries differ as well in the structure of price regulation. In naturally 'monopolistic' markets, rate regulation is firm specific, regulators set rate levels as a cost of service rate, taking into consideration capital cost. A ceiling or 'maximum' price limitation is also adopted. In 'oligopolistic' markets, rate regulation is industry specific. Rates are based on a ratio of average operating costs to revenues (which include labour costs), and regulatory agencies set a floor or 'minimum price'. Usually this has been used to prevent rate cutting wars among firms with different cost levels and to protect earnings. Since minimum rates could result in price increases, thus attracting new entrants, it also required

control over entry even if rates could be no higher than justified by long-run costs in the industry (Wilcox and Shepherd, 1975:484-494).

These differences in price setting methods may also have further implications for the ways in which labour might benefit from regulation.

1.3.iii) Regulation, Labour compensation and wages.

The evidence on the impact of regulation on the compensation package is, as with the findings on prices and profits, mixed.

Hendricks (1975, 1977) reports that in the early 1970s, in industries commonly defined as 'natural monopolies', namely public utilities, only low profit firms paid higher wages while those with moderate to high profits were most resistant to wage demands. Hendricks explains these results by the ability of these firms to recuperate losses through a commission's price revision, thus making them less resistant to union wage demands than moderate to high profit firms who were able to maximize profits. Furthermore, a comparison of wages in several occupations in industries with 'maximum' and 'minimum' price regulation, with those in the unregulated manufacturing sector -holding product and labour market constants - showed that the regulation 'high wage hypothesis' appears to be supported only for those industries applying minimum price regulation and entry

restrictions, such as trucking and the airlines. A positive significant coefficient occurred only for over-the-road truck drivers and airline mechanics.

In a later study, Hendricks (1980) compared wages and fringe benefits in the CAB-regulated sector of the US air transportation industry with those in the manufacturing and the non-CAB regulated sectors.

The first comparison revealed no significant occupational differences in wages between the two sectors when controlling for concentration and unionization, but fringe benefits and work rules were superior in the regulated sector. Thus the higher wages in the air industry in the early 1970s appear to be due to the organizational strength of its workforce rather than the regulatory process per se. The comparison with the non-CAB sector produced more mixed results. Only ground personnel seemed to have higher wages and better contract terms than those in the non-CAB regulated sector.

Hendricks' results are not wholly substantiated by Long and Link (1983) and Ehrenberg (1979).

Long and Link, using Hendricks classification of regulated industries found that, in 1966, industries with 'maximum price' regulation, such as the utilities, paid lower wages, whereas in industries with 'minimum price'regulation and entry restriction, such as airline and trucking, wages were higher than those in the manufacturing

sector, controlling for concentration and unionization. This suggests that the union bargaining power in this sector was increased by regulation. They also found that fringe benefits were higher in high-concentrated and unionized firms but the effect of regulation was marginal.

Ehrenberg (1979) found that, in the New York Telephone Company, wages were lower or similar to comparable nonunion workers in the same labour market throughout the 1960s. However in the 1970s, they were above the levels that would have existed in the absence of unions. He attributed these findings to the increasing bargaining power of the union (this moved from segmented local negotiation to pattern bargaining and, in 1974, to national bargaining) which, by imposing nationwide agreements, lowered the profitability of the company. As this triggered a price review by its regulatory commission, it decreased the company's incentive to resist union demands. However, it is important to note that, by comparing union wages with those of nonunion workers, Ehrenberg does not provide an answer to the issue of the impact of regulation on union bargaining power.

Findings from the American trucking industry (Annable 1973; Moore 1978; Freeman and Medoff 1984) unequivocaly show that during the period of intense ICC regulation and after the International Brotherhood of Teamsters (IBT) negotiated nationwide agreements, wages increased over and above those paid in the unregulated transportation sector. These higher

rates took the form of income transfers to capital and labour and they were virtually entirely due to the wages of drivers and helpers, the core of the Teamsters Union.

1.3.iv. Summary Remarks.

Insights from the literature on regulation, suggest that government intervention into regulation of economic activity can take many forms and these can influence the behaviour of firms and other groups differently.

Studies on the economic performance of regulated firms point out that regulation of 'natural monopoly' (public utilities) has not had any significant impact on the behaviour of these firms with regard to prices and profits. On the other hand, cross sectional evidence of regulated oligopolistic industries indicates that while these firms consistently charged higher prices, the evidence whether regulation raised these industries' rents is rather inconclusive. Jordan explains these results in terms of regulatory inefficiencies which, by preventing price competition, led to a greater misuse of resources than would have been obtained in an unregulated market.

These studies however have only limited utility for the present research. By including only consumers and firms they neglect other possible effects of regulatory practices, such as the impact of subsidization or 'taxation by regulation' (Posner 1971) on the firms' performance, and

they assume that none of the benefits from regulation can be passed on to factors of production.

Studies on the impact of regulation on labour's compensation package produce inconsistent findings.

Studies comparing the effects of different regulatory regimes, 'natural monopolies' and oligopolistic industries, on wages, indicate that the regulation-high wage hypothesis is most likely to be supported only in those regulated oligopolistic industries, with 'minimum price' regulation and entry restriction, such as airlines and trucking. In 'natural monopolies' only 'low profit' firms paid higher wages (Hendricks 1975, 1977; Long and Link 1983).

Studies comparing regulated oligopolistic industries with the unregulated manufacturing sector reveal mixed results. In such a comparison Hendricks (1980) found that there was no significant effect of regulation on wages, when controlling for unionization and concentration. Fringe benefits and work rules were, however, superior, yet Long and Link (1983) found just the opposite.

Research comparing single industries with similar unregulated sectors, Annable (1973) and Moore (1978) of the trucking industry and Ehrenberg (1979) of the New York Telephone Company, suggest that the regulation-high wage hypothesis is closely related to the bargaining power of unions and the pricing behaviour of the regulatory

commission.

They claim that when high union wages erode the profitability of these firms, they also set in motion a commission's price review which, by allowing labour costs to be absorbed into higher rates, makes these industries less resistant to wage demands.

Thus it appears that, as Hendricks makes clear, the regulation of 'natural monopoly' may function as a countervailing force to protect consumers against monopoly pricing while inhibiting labour from appropriating these firms' rents. On the other hand, regulation that restricts entry and establishes cartel-like protection of an industry, in the long run, may alter the operation of the market, increase the bargaining power of unions and, as higher wages are passed on into higher prices, it may either make it more profitable for firms to pay higher wages or, at worst, make it less unprofitable to do so.

These studies also have methodological problems which make comparisons difficult: most of them focus on only one part of the 'effort bargain', usually wages; very few include other effects such as different institutional conditions, work rules and nonpecuniary benefits. Furthermore, they are all cross-sectional. Thus they omit the impact of important independent factors over time, such

as the variations in the regulatory commissions' price behaviour according to the economic performance of the industry. Moreover, these studies might have been more convincing if they had compared the same industry under conditions of regulation and deregulation instead of guessing what the structure of the industry might have been in its absence

The process of deregulation in the airline industry in the USA and in Canada which has occurred in the past years, provides an opportunity to study what happens to the 'effort bargain', which includes more than wages, when regulation is removed or modified. It also seems to be a particularly useful subject to study because it has taken place in countries with different industrial relations systems and in an industry with a wide array of occupations with different levels of skill and wages.

1.4 THE PROCESS OF DEREGULATION AND LABOUR RELATIONS.

While an analysis of regulatory reforms is postponed to a later chapter, this section briefly reviews the economic principles behind the regulation and deregulation movements in the airline industry.

As previously explained, regulation was applied to the air industry following the belief that it was in many respects a public utility. As such, a fairly extensive economic regulation of routes, fares, inter-carrier agreements, mergers and acquisitions, with limited immunities from the antitrust laws, was applied to ensure that all segments of the public would be adequately served. The regulatory agency was entrusted with the task of fostering sound economic conditions and stability of service and at the same time promoting competition to the extent made possible by the above conditions.

In the 1960s and early 1970s, economists published an array of studies critical of economic regulation.[12] Principal among their criticisms was that pricing and entry restrictions gave consumers excessive service and insufficient price competition, inflated costs and denied the industry adequate profits. They further claimed that airlines are in no manner public utilities, but are like other businesses. Comparable firms that provide important public services and are not governmentally controlled, charge lower prices for their products than those charged by

regulated firms. Thus subjecting the industry to the interplay of free market forces would lead to an optimum utilization of resources since the marketplace would determine the price, quality, variety and quantity of service.

The movement in favor of a reduced government intervention in the airline industry gained support first in North America and later on in most European countries. A review of these major changes in the USA and Canada follows below.

1.4.i. The economic reforms in the USA.

In the United States, Congressional consideration of deregulation legislation started in October 1975 when the CAB began relaxing control on entry and fares. When the Airline Deregulation Act of 1978 (ADA) was enacted, the CAB moved rapidly to implement it. The Act provided for a three year transition period (1978-1981) during which all carriers: i) could select one new route annually without CAB approval; ii) could designate one of their certified routes as immune to new competition during each of these calendar years; iii) could secure 'dormant' route authority of other airlines; iv) were given discretion to exit unprofitable markets and to shift resources from less profitable to more profitable markets; v) were permitted to lower fares 50% or raise them 5%, in non-monopoly markets, above the 'Standard

Industry Fare Level' (defined as the fares in effect on July 1977,SIFL) adjusted on the basis of industry cost changes between that date and July 1, 1979 when the legislative provisions took effect. Afterward, the CAB was obligated to raise or lower the SIFL semi-annually for changes in reported airline costs, without any adjustment to those costs.

In addition a subsidiary program for service to small towns (Small Community Program) to be maintained for a ten year period, with local subsidies to be phased out within six years, and a labour protection program (EPP) providing federal payments and hiring rights to dislocated employees when deregulation was the major cause of a carrier's contraction, were also included.[13] The Board authority over routes ended in December 31, 1981, and the 'public convenience and necessity' requirement for entry was replaced with the 'fit, willing and able' criterion. Authority over fares ended on January 1, 1983. The Board ceased operations entirely on January 1, 1985, and authority over domestic mergers, intercarrier agreements, interlocking directorates as well as international negotiation and small community air service was shifted to the Department of Transport. (Kahn 1980; Moore 1986; Meyer and Oster 1981; Bailey, Graham and Kaplan 1985)

1.4.ii. The enactment of regulatory reforms in Canada.

In Canada commercial air transport policy evolved through three phases. From 1936 to about 1960, the Canadian government was exclusively concerned with developing a commercially viable air transportation system. To this end, Air Canada, as the Crown Corporation, was given a protected monopoly. During the 1960s and early 1970s, Canadian Pacific Airline (CPA) was allowed limited competition with Air Canada on high density markets and a regional carrier policy became effective. Since the 1970s some restrictions have been relaxed: charter class fares were allowed on regular flights, CPA was given more freedom to compete with Air Canada and, in 1977, the new 'Air Canada Act' placed Air Canada on an equal footing with other carriers, being directed to be market and profit oriented. In 1979, capacity restrictions on CPA's competition with Air Canada were removed, and both airlines were able to compete freely. In March, 1984, the Government introduced the 'New Canadian Air Policy'. It abolished the distinct roles of national, regional and local carriers; it gave airlines 'substantial liberalization' to lower fares, unlimited entry into round trip charter markets and favored competition. In July 1985, a policy proposal 'Freedom to move: a Framework for Transportation Reform' formulated further changes and amendments of the National Transportation Act (NTA). It proposed: i) complete freedom to all carriers to enter any

domestic routes and to exit at will, subject only to minimal advance notice on some routes; ii) complete price deregulation, except in the case of appeal (to increase or 'overturn' increases) by any interested parties concerning 'unreasonable' increases in the 'basic fare' (defined as the lowest one-way fare without restriction, or the highest fare where this is dependent upon time of the day, day of week or both restrictions) in monopoly routes; iii) to abolish the Canadian Transport Commission (CTC) and to replace it with a smaller agency to perform the tasks deemed necessary.

The proposal still retained some economic controls over services in the Northern regions and it made entry into the domestic industry and proposed acquisitions subject to strict qualifications.[14] The deregulation bill (C-126) was passed into law as the National Transportation Act of 1987 and enacted in January 1988. At the same time, the government passed legislation to privatize the Crown Corporation, Air Canada.

Thus, unlike the United States, deregulation in Canada has come gradually and the carriers adjustments to the new market structure (new routes authority, acquisition and mergers) have tended to precede as well as to follow liberalization (Gillen, Oum, Tretheway 1985; Barone et al. 1986; Gillen, Stanbury and Tretheway 1987; Stevenson 1987).

1.5. Deregulation and Labour Relations: Issues and Evidence

Evidence on the impact of deregulation on labour relations comes mostly from the United States, where deregulation started in 1978.

A review of studies in the airline (Hendricks 1980; Kahn 1980; Northrup 1983) and trucking (Rose 1985, 1987; Hirsch 1988) industries suggests that changes in labour relations did not take place before 1981. In the airlines, that year coincided with the air-traffic controllers strike and limitation on traffic in major airports but also with a major recession (1981-1983) and a rise in import penetration which affected the whole US economy and the labour force. The same year witnessed front-page news stories citing wage cuts, givebacks and concession bargaining that clearly departed from the pattern so far established in unionized settings (Business Week, May 11th, 1981).

These same events raised questions among labour relations scholars. The issue was whether the changes were part of a temporary adjustment (Freeman and Medoff 1984) or a more fundamental transformation of the industrial relations system (Cappelli 1983; Kochan, McKersie, Cappelli 1984; Kochan, Kutz, McKersie 1986).

The first group claims that concessions, while unusual, are not unprecedent and are a trade-off to save senior members jobs in the face of adverse labor and product market conditions.[15] They were given only in certain industries

(meat-packing, newspapers, tires, steel, motor vehicles, air transport and trucking) where union wage differentials had increased faster than normal union-wage premiums.

Proponents of the 'transformation' of labour relations took two divergent paths. One group argued for a 'new era' of collective bargaining, in which outcomes would be less affected by institutional forces (bargaining structure and pattern bargaining) and more related to firm-specific economic conditions (Freedman & Fulmer 1982). The others, in addition to the above components, include the role of 'strategic choices' available to management, unions and government as 'an important additional and intervening variable'[14] (Kochan, McKersie and Cappelli 1984:35). They claim that the product market competition and economic pressures of the 1980s, forced management to divise market strategies whose success was contingent on their ability to lower labour costs and to change work practices. Thus managerial strategies now exert a more direct influence on bargaining goals than they once had. This explains the diversity in bargaining outcomes across otherwise similar situations.

To prove this point, Cappelli (1983) focused on concession bargaining. He found that the economic instability of the 1980s changed management and unions' goals. Firms needing flexibility and competitive prices sought wages and contract rules 'rollbacks'. Unions, faced

with an elastic labour demand and non-union competition, traded concessions for employment security and 'quid pro quos'. Concessions varied among firms and industries. This resulted in an erosion of industry or company wide agreements and bargaining tailored to the employment prospects in each case.

In later studies of the airline industry (1985; 1987), he contends that the adverse effects of deregulation on unions' wage and working conditions may have more to do with the fragmented and decentralized structure of bargaining prior to deregulation than to low-wage nonunionized competition. Nonunion firms cover only 7% of the total transportation market.

During regulation the structure of pattern bargaining benefited unions greatly. Under this system, regulation took wages out of competition since high costs uniformly could be passed on into higher fares without increasing the number of competitors. Under deregulation, this structure became dysfunctional since it prevented unions from taking wages out of competition through collective bargaining and enforcing uniform conditions through the establishment of industry-wide contracts. Consequently, collective bargaining became sensitive to the forces of competition and the firms' strategies.

Concessions varied among carriers, occupations and unions. 'Strong' and 'near-bankruptcy' trunks received more

labour cost concessions (the first exchanged work rule revisions for job security and employment growth; the others traded off wage concessions for equity provisions, e.g. membership on the board of directors and Employee Stock Ownership Plans) than 'vulnerable' carriers (those with potential job losses in the long run and that could not offer job security). Those without severe financial difficulties did not experience changes in labour relations.

Among labour categories, concessions were higher in industry specific occupations and in decentralized unions. Pilots made most of the concessions followed by flight attendants and mechanics. Two-tier wage scales, which began in 1984, varied among airlines and occupations, as carriers with no expansion plans benefited only as far as they experienced labour turnover. The large number of concessions made by pilots is probably related to their greater losses from layoffs. Though they are the highest paid group in the industry, their skills are not easily transferable outside it, their licence is tied to flying time, advancement in their carreer is closely related to the seniority they accrue in the carrier for which they work, and their union (ALPA), while facing almost no competition, is highly decentralized.

Flight attendants are represented by eleven different unions. This intense inter-union competition may make it difficult to extract concessions from this group.

The mechanics union, on the other hand, covers most of the industry (IAM represents 63% of airline mechanics and represents mechanics in related industries) and is highly centralized (the central can nullify local agreements). Mechanics skills are basically transferable to other related industries at roughly comparable wages. From an employer's side, concessions from this group are also less significant since major airlines contract maintenance work for smaller nonunion carriers at union rates.

Curtin (1986) and Cassell and Spencer (1986, 1987), studying recent trends in the air industry, argue that major changes in the industry structure and in labour relations indicate a shift toward stabilization of the status quo, after a period of transition, rather than a transformation as previously predicted.

Curtin claims that amendments to the Bankruptcy Code,[17] a shortage of pilots (due to route expansion and a reduction in military training) and ALPA's new centralized structure and tougher policy concerning concessions,[18] has decreased the carriers' ability to seek unilateral changes or to exact concessions, at least from ALPA.

Curtin, Cassell and Spencer also report that new developments in the industry have slowed the downward spiral of concession bargaining. A tight labour market for pilots has created a market equilibrium between organized and unorganized carriers. Control of product markets through

the computer reservation system, 'hubs', monopolization of gates at major airports, and feeder line alliances seem to have ended the number of new entrants while mergers and acquisitions have increased the industry's concentration level. Although these transactions create new problems concerning the restructuring of jobs, the merging of seniority systems and job security, leaving the parties alone to solve them through collective bargaining or litigation, this concentration is likely to benefit unions and, consequently, a re-emergence of pattern bargaining if the economy remains stable. Furthermore, Cassell and Spencer claim that recently there appears to be a narrowing of wage dispersion in the industry.

Evidence on aggregate wages and employment gives a different and more complex picture.

Card (1986), analyzing annual data on employment, wages and output of airline mechanics for the period 1966-1985 in the trunk carriers, shows that the pre-deregulation wage uniformity across these firms persisted until 1983 (except for some wage cuts given to financially stricken airlines); employment dropped as a result of both productivity growth, changes in output and a shift of five to seven thousand jobs from the trunks to the other carriers in the industry.

Moore (1986) and Andriulaitis et al. (1986), using aggregate data, suggest that wages during the period 1976-

1982 increased while employment began to decrease after 1980. Andriulaitis et al., taking into consideration the entire industry and airline subgroups (major, national, former interstate, new entrant and commuter or regional carriers) in the USA, show that during 1980-1985 there was an employment loss in the major carriers but an increase in the other groups and a higher use of part-time labour (this varied from 2% to 9% in major carriers and 13% in new entrants). Average compensation for most labour categories increased steadily from 1978 to 1983 and stagnated afterwards. Yet when productivity bonuses, lump-sum payments, profit sharing and increased hours of work are included, annual earnings kept pace with inflation, exceeding that of the transport-utilities sector as a whole and nearly matching that of the business sector. The introduction of the 'two-tier' wage scale in 1983 has widen the gap between top and entrant wages, however as the seniority of new employees increases, they can expect a rapid increase in earnings.

Recent studies (Card 1989; Brown Johnson 1991) conducted at the level of the industry, firm and craft found that employment in the air industry and in major occupational groups (pilots, flight attendants and mechanics) increased considerably during 1978-1987; average earnings declined only modestly (the level of average wages during 1984-1987 was 10% below those earned during 1977-

1980) while inter-firm wage dispersion increased.

Evidence from individual crafts at eleven major carriers suggests that during 1980-1987 hourly rates for B-727 captains with 10-years seniority declined by roughly 12%; monthly earnings of flight attendants with 5-years experience decreased by 7%; while those of mechanics remained almost unchanged. Furthermore, a comparison which encompasses the pre and post-deregulation period of the average wages of airline workers as a whole with those of two comparison groups reveals that from 1978 to 1987 relative earnings in the airline industry did not decline at all compared with the earnings of nonsupervisory production personnel but declined by 6% compared to full-time, full-year male workers.[19]

A comparison of the Canadian and USA airline industry shows that Canada's total airline employment dropped during the 1979-1982 recession but, unlike the USA, in 1985 it had not fully recovered. However, average compensation in Canada increased faster than inflation.

Jordan (1987) also found that while during deregulation the number of strikes and lock-outs decreased both in Canada and in the US, their duration increased, with most carriers operating with strike-replacements.

The above studies suggest that popular accounts of the

effects of deregulation have tended to exagerate. Specifically:

i. The timing of changes in the compensation package with respect to the incidence of deregulation poses some problems for a causal interpretation. Though deregulation in the USA was implemented in 1978 and a wave of 'new entrants' appeared around the same time, wages and benefits concessions lagged deregulation by four years. This decrease in compensation appears to correspond to a general decrease in the US economy as a whole. Moreover, a drop in employment during the period 1979-1982 corresponds to a similar decline in the Canadian airline industry although the economic reforms were not implemented until 1984.

ii. Within the airline industry the non-union sector's effect on wages is limited by its small size.

iii. The long-term effects of deregulation on average wages for selected occupations seem to have been small. Only some occupations appear to have been affected while mechanics seem to have been mostly immune.

There are however several problems with these studies; specifically, there is a failure to take into account all the dimensions of compensation and the effort bargain; and some use highly aggregate data. Thus, research that includes the total compensation package and work rules ought to provide a valuable contribution to this literature.

1.6. THE RESEARCH AND PLAN OF WORK

The aim of this thesis is to assess and compare the changes in the effort bargain in the airline industry following reforms in the regulatory environment in the USA and Canada.

To test the impact of different market environments on the effort bargain a comparative approach seems the most appropriate. I have chosen for analysis these two countries because they underwent major regulatory changes, at different times, and they have different labour relations systems.

While comparative research has the advantage of broadening the scope of analysis and increasing generalizability of findings, it also has several problems. They include the extent of the comparability of the contexts under study, the difficulty of controlling for country-specific effects, including the importance of customs and practices in work settings, and differences in data collection. However the airline industry seems well suited for international comparison. The nature of its production process is much more similar across countries than it is in many other industries. All major carriers use the same types of aircraft and, although they are made by different manufactures, the technology is in fact very similar. Operations, maintenance and some labour qualifications and work rules of key groups (pilots, flight attendants and

maintenance workers) are governed by strict international standards. In addition, most international data are compiled by the International Civil Aviation Organization (ICAO) which has a standardizing effect on data collection and presentation.

Comparing the airline industry in two different settings is particularly instructive for several reasons.

Most research in the industry has tended to remain within national territories thus making it difficult to make broader generalizations that go beyond the country affected. These studies have also emphasized a single craft (Baitsell 1966; Khan 1980; Card 1986) ignoring the variety of labour groups, ranging from highly skilled professionals, to semi-skilled white collar workers and manual workers, that represent the totality of the labour force in the industry. Moreover, they focus only on one side of the effort bargain, mostly wages, and they offer a limited picture of the effects of regulation or deregulation, either comparing regulated and unregulated industry over a specific time period, or restricting the study to only one phase of the process, thus leaving out important processes that may affect labour relations over time.

The shortcomings of the above studies make it clear that this area of research could benefit from an analysis that incorporates a historical perspective. This study, which focuses on the period 1960-1990, does incorporate a

deregulation from trends in the business cycle and control for a whole plethora of variables. This study, which focuses on the period 1960-1990, incorporates a historical perspective, it includes all the major labour categories in the industry and, in analyzing changes in the relative advantage of airline industry labour, it focuses on the total 'effort bargain'. Moreover, by comparing industrial relations in two different settings,there is the possibility that it may uncover whether different systems of labour relations further affect bargaining outcomes over time.Thus, this study could be a valuable addition to the literature.

The thesis is organized as follows. Chapter two (2) describes the process of regulation and labour relations in the two countries, as well as the issues and the controversies entailed by the deregulation process. Chapter three (3) explains the mixture of quantitative and qualitative methods used in the research, and states the hypotheses to test. Chapters four (4) and five (5) present an analysis of outcome variables at the aggregate level in the USA and Canada. Chapters six (6) examines the changes in the effort bargain accompanying deregulation in two major carriers in each country for selected occupational groups. Chapter seven (7) compares labour outcomes, at the aggregate and disaggregated level, in the two countries. Chapter eight (8) concludes the thesis with a reconsideration of the main theoretical issues under analysis.

NOTE TO CHAPTER 1

1. These two neo-marxist models are based on different theoretical assumptions. The elitist or 'ruling class' thesis claims that domination is exercized through the unity of economic and state elite. The mechanisms of influence is through personnel characteristics, - industry and regulatory officials are drawn from the same social class and are part of the same network associations- business resources, - campaign contributions to favorable conservative parties-candidates- their effective control of mass media, and the state dependency on the process of accumulation. These factors lead to policies biased toward business.

'Structurally' oriented theorists reject the 'ruling class' thesis. They claim that the demands and contradictions created by the emergence of monopoly capitalism place the state in the role of arbiter among unequal socio-economic forces. To carry out its mandate the state must exercise some degree of autonomy from any specific interests. In fact, the theory argues, it is only because the state is autonomous yet structurally dependent on capital accumulation that it can best serve the long term interest of capital. On the one hand it has to safeguard industries from the distabilization effects of market forces, on the other, to serve the interest of capital, it has to act against specific interests, by socializing more social costs and setting up institutions of social controls. Thus state 'apparatuses', such as regulatory agencies, arise from contradicting systemic demands to safeguard capital accumulation and to secure political legitimization.

For a critical analysis of state theories see Van Den Berg, 1988.

2. Historically, public interest theory went through two main phases. In the early phase, late 19th century when corporate productive power began to displace small producers, farmers (the Granger movement), believing that carriers and middlemen robbed them through discriminatory rates, induced state legislation to regulate railroads, warehouses and grain elevators. Thus in this period regulation was sought to protect individual producers against monopolistic abuses. In the second phase, or the Progressive era, which coincides with the institution of giant corporations, regulation was sought to correct inequitable market practices, protect consumers and serve the general welfare through rate and profit controls.

3. Subsidization represents a form of income redistribution since in order to ensure that certain consumer groups and segments of the population receive services that would otherwise not be provided by the market, it entails that consumers in the profitable markets must pay more for their services to cover the higher costs of smaller markets.

4. In this account, radical criticism of regulatory agencies are grouped into a single category, however there are different versions of them concerning the way through which influence is exercised. Some theorists focus on 'instrumental' factors claiming that agencies fail to serve the public interest because of a 'revolving door' between industry and high level bureaucrats. Others emphasize structural arguments or the appointments of pro-business regulators to reward important regulated industries for their political support.

The capture thesis is the most influencial model and takes elements from both of the above explanations. While they all claim that regulated parties influence agencies and commissioners, the capture theory asserts that agencies are taken over or 'captured' by regulated industries and that a captured agency systematically favors the private interests and systematically ignores the public interest.

Kolko's thesis adresses a similar theme as 'capture' theorists, however his view is categorized under the term of 'conspiracy' theory. While capture theories imply a public origin of regulatory agencies, conspiracy theories argue that agencies were set up to serve the industries they regulated.

5. Huntington's study of the ICC describes the transformation of this agency over time. He claims that, the ICC, originally created by the farmers and shippers, was responsive to that constituency until World War I. Afterwards, as the power of these groups declined, the agency was forced to adapt to the new political environment and it became more responsive to the railroad industry.

6. Lowi's version of capture is based on the agencies' abstract and often conflicting goals to regulate in the public interest and on their discretionary power. This creates a source of power for interest groups to seize and manipulate. Thus as regulatory agencies confer benefits to interest group politics, they constitute centers of private power within the state.

7. Jaffe (1954) put forward a similar thesis based on the agency's age. He terms it 'arteriosclerosis process', however he never subscribed to the capture thesis.

8. Though Posner maintains that regulation could be mostly effective among numerous and less concentrated firms (these lack good substitutes, their number should maximize votes and their size exempt them from the free-rider problem) he recognizes that concentration may itself be the result of regulation or that monopolistic firms may gain from legislation which increases product demand.

9. Criticism of Kolko thesis is found in M.Keller "The Pluralist State: American Economic Regulation in Comparative Perspective, 1900-1930" in Regulation in Perspective, T.K. McCraw (ed.), 56-94; R.W. Harbeson, "Railroads and Regulation 1877-1916: Conspiracy or Public Interest?".

10. For a review of the union effects on relative wages see Hirsch B. and Addison J. 1986:116-154; Freeman R. and Medoff J. 1984:43-60.

11. Under this term, economists include various demand factors. Carriers price services high when there are no effective surface alternatives which save time-sensitive passengers (business travelers) several days' time. Thus the absence of reasonable substitutes and the price elasticity for 'on-demand' air travel cause the carriers to price the service high, perhaps above the cost of performing it (O'Connor 1989:99).

12. Some early critics of airline regulation are: R. Caves, Air Transport and its Regulators, (1962); M.E. Levine, Is Regulation Necessary? California Air Transportation and National Regulatory Policy, (1965); L.Keyes, Federal Entry Control of Entry and Exit into Air Transportation, (1951); W. Jordan, Airline Deregulation in America: Effects and Imperfections, (1970); G.Douglas and J. Miller, Economic Regulation of Domestic Air Transport, (1974). For a review of these studies see Hardaway, Transportation Deregulation (1976-1984): Turning the Tide, Transportation Law Journal, 17, 1985.
Similar economic studies were conducted on the regulation of gas pipelines and of surface transportation.

13. The EPP program was ruled invalid in 1984 due to the difficulty of separating out the near simultaneity of deregulation, fuel price increases and the recession.

14. New entry into the domestic market was restricted to Canadian citizens or permanent residents or, if a corporation, 75% of its voting shares must be owned or controlled by Canadians. Acquisitions need approval if they involve carriers with assets or annual gross revenues over $20 million and with at least 10% of the voting shares.

15. Freeman and Medoff (1984:55-56) reports that in 1908, unions reduced glass blower rates by 20% to reduce the incentive to automation; in 1930, the same occurred in the construction, printing and shoe industry; in 1950, in the apparel, textile, meat packing and plastering industries.

16. Nay (1991) tested empirically the strategic choice hypothesis. Although she found modest support for this variable, her attempt illustrated the difficulty of establishing effects of 'strategic choice' 'separate and independent from the effects of more traditional economic/financial variables' (p.320). A critique of strategic choice theory is discussed at length by Lewin (1987:18) and Lipset (1988:448-49).

17. This allowed Continental Airlines to reduce labour costs by filing bankruptcy under Chapter 11 without undertaking the steps involved in concessionary bargaining.

18. In the mid-1980s, ALPA centralized its bargaining structure and made concessions only after financial proof, provisions for wages to 'snap back', improved job security and avoidance of 'two-tier' wage system (Business Week, December 31, 1984).

19. These airline data stand in stark contrast with studies by Rose (1987) and Hirsch (1988) of the trucking industry. They found that the 1982-85 agreements covering the Teamster's freight division members represented dramatic departures from the earlier pattern of contract and led to substantial wage concessions. A comparison of union premia in the trucking industry with those for a cross-industry sample of all private industry blue collar workers indicated that between 1973-1979 trucking union differential averaged roughly 40%, whereas in the next years 1979-1984 the average trucking premium was almost identical to the average blue collar premium. Both authors attribute these radical adjustments to deregulation which while substantially eroding the industry union coverage (by the end of the 1980s the coverage rate was half its former level) through the exiting of unionized firms and nonunion entrants or nonunion subsidiaries capturing increasing market shares, it also decreased the Teamster's bargaining power.

CHAPTER TWO

ECONOMIC REGULATION, DEREGULATION & LABOUR RELATIONS IN THE USA AND CANADA

In order to understand the impact of regulation and deregulation on labour outcomes, this chapter reviews both the evolution of governmental regulatory policy and the system of labour relations in the air industry in the USA and in Canada.

The first section examines the rationale and the purpose of regulation, the creation of the regulatory body, its function and effects on the industry as well as the ground and the scope of regulatory reforms in both countries. Afterwards, it describes the main features of the system of industrial relations.

2.2. ECONOMIC REGULATION IN THE UNITED STATES.

Since its beginnings, in the early 1920s, the growth of the air industry has been aided by constant government intervention. First, the provision of air-mail contracts (Kelly Act 1925), which allowed for profitable services, and, later, the imposition of strict safety standards (Air Commerce Act, 1926), both increased its commercial viability (Behrman 1980).

The debate over whether to subject the industry to federal economic regulation began in 1935. The intense

competition which was taking place for mail-contracts, and which would intensify in the future, raised concern about the industry's financial situation and the development of a stable network of air services and safety standards.

The political debate focused on three related issues: the alleged threat of 'destructive competition', the concept of 'natural monopoly' and economies of scale, and the need to protect consumers against monopoly pricing. It was thought that regulation would give the nation a stable and secure network of services, consumers would be protected against monopoly pricing and, if only a few producers were allowed to serve given markets, the industry would acquire greater efficiency, due to economies of scale. Consequently, the creation of a few firms regulated by the government through an independent regulatory agency that oversaw all aspects of their operations - market structure, competition via route awards, pricing and profits - was seen as an effective means to deliver a public good.

The Civil Aeronautics Board (CAB) was unanimously voted by Congress (Behrman 1980:83) in 1938 (Civil Aeronautic Act 1938) with the goal to foster 'safe' and 'sound economic conditions and competition to the extent necessary' for the development of a reliable network of transportation. The Act gave the Board (i) discretionary power to determine the carriers' route structure, through a 'certificate of public

convenience and necessity', (ii) to set rates, (iii) to approve or reject economic transactions such as mergers, leasing, consolidations, acquisitions or interlocking alliances between carriers,[1] (iv) to subsidize airlines by air-mail rates based upon need rather than service and (v) to promote safety by appropriate regulations.

Berhman, in reviewing the history of the CAB, notes that the Act was a 'masterwork of either flexibility or ambiguity' (1980:85). It allowed the Board to shift policy according to the needs of the industry and still to act within the provisions of the Act. Routes had to be awarded according to the 'fit, willing and able' applicants' criterion and as required by 'public convenience and necessity'. Likewise, price standards had to be set with regard to costs, their effect on traffic, and the advantage of air services over other means of transportation, as well as the need of each carrier to maintain an adequate and efficient service.

Thus the CAB from its inception until the Deregulation Act of 1978, in accordance with its mandate, developed and sustained the industry with the objective of promoting financially sound carriers and a reliable system of air transportation.

2.2.i. Market Structure.

Starting in 1938 and throughout the regulatory years, the CAB, awarded routes according to a policy of market segregation, and service specialization (Brown 1987).

In 1938 it granted certification and air-mail contracts to all 19 carriers until then operating regularly and classified them into the 'trunk' category. This became the dominant sector of the industry and no other carrier was ever permitted to enter it until 1978 when the Deregulation Act (ADA) was passed.

In 1949, as some irregular airlines began competing with the trunk lines, the CAB tightened the norms that exempted carriers from its control and reorganized the product market.

It regulated and classified these irregular operators into two categories: a scheduled local sector, referred to also as 'feeder' or 'regional', and an unscheduled or 'supplemental' sector. The first was to provide scheduled service to short-haul, low passenger-density routes within non-overlapping geographical areas, and to feed traffic into the trunk lines' long-haul network. Later this sector was given greater freedom to compete with the trunks in order to reduce government grants and to develop a financially viable operational system (Eads 1972).

The Board excluded from its control two categories of air operations: the interstate carriers (which came under

the jurisdiction of their states), commuter air services - sometimes called air taxis - and small irregular carriers serving points not served by the regular ones and not exceeding 12,500 pound maximum take-off weight. These carriers became important in the drive toward deregulation.

During these years, the CAB used entry control to balance competition, to avoid concentration of power and to strengthen the performance of the scheduled sector. The award of new routes was contingent on the adequacy of current and future traffic, the viability of the industry, the diversionary effects of these awards on competing carriers, and how the new service would tie-in with the airline's network. Route exit was less restrictive since the Board either transferred these routes to local carriers or deleted them from the scheduled service.

The CAB also had tight control over mergers. It discouraged those that would lead to a significant concentration of power and permitted them only when a carrier was at the brink of bankruptcy and a more viable alternative could take over its operations. The advantage of these mergers for the carriers was that they could acquire routes which they had little chance of obtaining otherwise. The 19 carriers originally certified in 1938 decreased to 12 in the late 1960s and to 11 by the 1970s, all due to mergers.

Throughout these years, the Board also followed a 'presumption doctrine', favoring competition on routes whose traffic could support competing services without unreasonably raising operating costs (O'Connor 1989:24). Some analysts (Brown, O'Connor, Berhman) claim that CAB policy, with respect to competition, swung between two extremes and these were correlated with the economic cycle, product demands, and the industry's overall profitability. During expansionary years (1956-1960, 1966-1969) its policy was relatively procompetitive - expanding the number of competitors and routes in most markets. During recessionary years (1946-1955, 1961-1965, 1970-1974), it reverted to protectionist practices.[2]

2.2.ii. Fares and Prices.

The CAB exerted its influence over the economics of the industry through its rate-setting power. Although the Civil Aviation Act of 1938 gave CAB full jurisdiction over prices (carriers could propose fares but the CAB remained the ultimate arbiter), fare determination became over time a controversial issue among carriers and regulators (Taneja 1976, 1981; Wyckoff 1977; Biederman 1982; O'Connor 1989).

Historically, fares in long-haul markets were based on a 'value of service' criterion rather than cost, and this excess profit was used to subsidize below-cost fares in

short-haul services which carriers were required to offer. When total revenue from all of the carrier's operations was insufficient to cover costs plus a reasonable profit, the government made up the difference via direct subsidies. By the end of the 1950s, as local carriers took over many of the short-haul routes, most of the trunks were off subsidies.

Major fare revisions were introduced in the late 1950s and 1970s with the phase-in of newer aircraft and equipments which burdened the industry with heavy capital investments and debts. Both the General Fare Investigation of 1956-60 and the Domestic General Fare Investigation of 1970-74, set fares on the basis of the industry costs and revenue and a variable rate of 'return-on-investment' (ROI). In 1971, in view of the large capital commitment for the immediate future, a projection of investment was also included, the industry'average annual ROI for the trunk lines was set to 12% and costs were calculated on an estimated 55% load factor. The Board adjusted both costs and revenue and it deducted from the total costs those which arose from operating below the prescribed load level. Thus, even if some carriers earned profits at an adjusted rate exceeding 12%, but the group was below the standard, they could still raise fares (Swann 1988:107; Wyckoff and Maister 1977; Biederman 1982:22).

Traditionally, the CAB concern has always been with the well being of the industry rather than individual carriers. It allowed fare increases when earnings declined fairly seriously, and fare discounts and route competition when the economy was booming.[3] Though fare competition was not precluded by statute and carriers could either challenge or introduce lower fares, CAB's policies discouraged it and fares were usually adjusted in unison (Breyer 1982; Bailey et al. 1985:16).

While airlines abstained from price competition, they were free to compete on the basis of flight frequencies, on-board service and by offering the newest types of aircraft. It appears that the years 1950-1970, which coincide with the massive growth of the industry, were also the most prolific in the development of new aircraft (Biederman 1982). These innovations must also have had profound effects on the industry's labour relations. Craft unions, concerned with technological unemployment, have always demanded a share of the higher productivity of new technologies through higher wages and work rules to offset any employment loss.

2.2.iii. The Civil Aviation Board and Labour Relations.

The Board was also mandated to control all aspects of air safety (this was passed to the Federal Aviation Agency [FAA] in 1958), to enforce carriers to comply with the minimum wage, maximum hours limitations of decision 83[4] and the provisions of the Railroad Labour Act (RLA) as a condition for certification. Moreover, the Board, in its role as overseer over mergers, route exchange and inter-carrier agreements, was also placed in the role of a third party in labour matters.

The CAB inherited 'labour protective provisions' from the railroad industry.[5] The Federal Aviation Act of 1958, section 408, entitled the CAB to protect employees when major transactions substantially affected employment, wages, working conditions and seniority rights. These provisions, which involved the CAB in several disputes, evolved into a formula that was consistently applied to future cases.[6] It included: seniority benefits, maintenance of pay and fringe benefits in cases of 'displaced workers', dismissal and severance pay, moving expenses and no requirement to work out of class.

2.3. REGULATORY REFORMS IN THE UNITED STATES.

The United States was the first country to eliminate the economic controls in the industry. The Airline Deregulation Act (ADA) was passed in 1978; however the economic reforms began in the mid-1970s when 'deregulation' became the 'rallying cry of observers of the federal government's regulatory agencies' (Bailey et al. 1985:1).

In the early 1930s, when regulation was first applied to the industry, the major concern was with predatory competition and market failures. Thus, virtually all prominent economists supported it (Behrman 1980:85,406-note 42). In the early 1970s, with a growing industry, the concern shifted to 'regulatory failures'. Pro-market economists (Caves 1962; Keyes 1951) and social critics (Huntington 1952; Bernstein 1955; Edelman 1964; Kolko 1963, 1965) developed the intellectual rationale against regulation and for economic reforms. While the social criticism literature, inspired by the 'capture thesis', provided little supporting evidence that a 'pro-industry' bias was imbedded in the regulatory agencies, market-oriented economists began to show that 'the social costs of regulation far outweighted the benefits' (Derthic and Quirk 1985:8). The first studies of the 1950s presented the theoretical grounds for the worthiness of competition through a liberalization of entry into the scheduled sector (Caves 1962; Keyes 1951). Those of the late 1960s and early

1970s (Levine 1965; Jordan 1970; Keeler 1972), by comparing the economic performance of CAB-regulated carriers with those operating outside its control, the interstates carriers, showed that these latter operators charged substantially lower rates while maintaining reasonable profits, adequate level of service and a good safety record. They provided evidence that regulation was no longer in the 'public interest' and that a new arrangement was due.

The issue however divided the community into two groups. Critics of deregulation claimed that a completely deregulated environment would, in the long run, highly concentrate the industry, increase fares and adversely affect labour and services to small communities. Proponents of deregulation countered that the 'contestability of markets' or the threat of new entries would keep fares at competitive levels (Bailey and Panzar 1981:125-145; Baumol at al. 1982) while price competition would reduce inefficiencies and relate fares more closely to costs. Moreover, as it was charged that labour over the years had unduly benefited from the system, by securing wages above market level and expensive work rules, they argued that open entry would raise labour output, efficiency and employment.

These studies, a changed economic and political climate,[7] bipartisan political pressures, major academic communities and economic institutions favoring economic deregulation (Dertick and Quirk 1985; Horwitz 1989) led the

CAB to loosen some of its controls. Already in 1975 it ended the 'route moratorium'; in 1976, it authorized Advanced Booking Charters and, in 1977, 'deep discounts' to most carriers. In 1978, it began to liberalize route entry,[8] and permitted carriers to set coach fares without basing them on a uniform mileage formula.

The Airline Deregulation Act was passed in October 1978 and it was a major revision of the Federal Aviation Act of 1958. It proposed a gradual relaxation of regulatory controls over a four-year period, in order to permit effective planning by both the Board and the carriers.

The Board's authority over routes ended in December 1981; over fares, acquisitions and mergers in January 1983, and the Board itself terminated in 1984. Authority over all commercial transactions was transferred to the Department of Transport (DOT).[9] DOT's authority over mergers expired in 1989, and over the small community subsidy program, in 1988.

2.3.i. Industry Structure.

Route entry and exit became liberalized according to free market economic theories. During the transition period, 1978-1981, all carriers could: (a) enter a limited number of new routes without CAB approval; (b) designate one of their routes as immune to new competition during these years; (c) acquire any 'dormant' or unused route authority of other carriers; (d) exit upon 90-day advance notice and

(e) they were no longer restricted to serve intermediate or terminal points on given routes.

These reforms broke down the concept of dividing airlines into categories and geographical areas and as they allowed former regional, interstate and commuter carriers to enter the scheduled market, they changed the previous market structure. For reasons of clarity, the deregulation era can be divided into three phases: the experimental period (1978-1981), the recessionary years (1982-1985) and the market consolidation phase or the post-1986 years to the present.

2.3.i.a. The experimental phase: 1978-1981.

During these years, all carriers moved into one another's territory, adding new markets and backing away when these failed to give any substantial gains. In 1979, new carriers, favored by a recessionary economy that created a buyer's market for labour and used aircraft, began to serve short and medium-haul routes, offering low-cost, 'no-frills' services and employing non-unionized labour.[10] To keep track of these shifts, in 1981, the carriers became reclassified in terms of gross annual revenue, as 'Major', 'National' and 'Regional' Airlines (Brenner 1985:17-23).

In 1981, most trunk carriers began to realign their route structure into a 'hub-and-spoke' network* in contrast

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* A 'hub system' feeds passengers from various cities into a centralized airport, a hub, which serves as a connecting center.

with the pre-1978 linear structure, to devise 'customer loyalty' or 'frequent flyers' programs[11] and to use central reservation systems to protect their market position.[12]

2.3.i.b. The recessionary years: 1982-1985.

This phase was characterized by the bankruptcy of two major airlines and the expansion of the other carriers. In 1982, Braniff filed for bankruptcy and, in 1983, Continental filed for protection under Chapter 11 of the Bankruptcy Code. This procedure allowed Continental to unilaterally abrogate all labour contracts, enforce emergency work rules and resume operations the next day as a 'low-cost' carrier.[13] At this time, the major airlines entered into code-sharing alliances** and ownership interests with commuter carriers. This marketing tecnique permitted the former trunk lines to boost the efficiency of the 'hub-and spoke' system without the need to expand internally, to use larger aircraft, thus lowering unit costs by spreading them over more seats, and to contain rival competition[14] (Brenner et al. 1985; Oster and Pickrell 1986; Rosen 1988).

2.3.i.c. Market Consolidation: 1986-present.

In 1986, the industry expanded through a series of

**. This practice consists of recording an allied commuter's service under the major jet carrier's code in the computerized reservation system.

mergers and acquisitions. Between 1985-1986, 25 carriers were involved in 15 mergers (Rosen 1989:30). The most important were: United's acquisition of PanAm's Pacific routes, American Airlines-Air California; Northwest-Republic; TWA-Ozark; Texas Air, which acquired Continental in 1981, acquired People Express and Eastern; USAir-Piedmont and Pacific Southwest, while Delta merged with Western (O'Connor 1989; OECD 1988). During this period, 80% of the regional carriers had alliances with a major or national airline (Rosen 1988:30). In 1990 United acquired PanAm's London routes and in 1991, with the collapse of Pan-Am, Delta merged the remaining European routes of Pan-Am into its network.

Thus, if in the first years of deregulation the major carriers had to face intense competition from one another and new entrants, in 1983 they implemented operational and marketing practices which, by creating new barriers to entry, enhanced their position and limited new competition. The development of 'hub-and-spoke' networks combined with 'code-sharing' alliances gave these carriers dominance of major airports, control of vital feeder services and protection from new competition. In 1986, the mergers of competing carriers with major successful airlines and route acquisitions led a few of the former trunk lines to dominate the market.

2.3.ii. Rates and Fares.

The pricing provisions of the new Act, during 1978-1983, allowed carriers to increase fares without CAB's control by 5-10% above the Standard Industry Fare Level (SILF) or the coach fare in effect July 1st, 1977, depending on the competitiveness of markets.[15] In 1979, following several events which affected adversely the industry's profits (e.g., a long strike at United, the grounding of the DC-10s, and the doubling of fuel prices), the CAB raised the upward zone of fare flexibility by 30% over the SILF level while it made the downward zone, unlimited. The Act also allowed carriers to charge differential or discount fares to promote or develop new markets. These provisions ended on January 1983, when the CAB terminated its control over fares.

Overall, it appears that in the years 1978-1981, the pattern of oligopoly pricing prevailed in most markets (Biederman 1982: 14,120). This situation changed in 1980-1982, as the economy weakened and the price of fuel increased. At first carriers used deep discounts and 'fare-wars' to fill empty seats and recover, at most, marginal or variable costs.[16] The mileage related fare structure was replaced by market determined fares with each airline responding to varying competitive pressures on different routes. At first carriers matched any competitor's fare cuts.[17] However by 1983, the degree of matching depended

on the size and market power of the competition. In general the variance of prices across markets increased from the previous period. A 'two-tier' pricing pattern developed, with lower fares on long-haul and in denser markets and higher ones on short-haul and less competitive routes (Bailey et al. 1985:54-56; Moore 1986; Morrison and Winston 1986:22-24). By 1984, as competing smaller airlines collapsed and the major ones regained most of their market power, widespread fare-cutting abated.

The concentration of the market in the post-1986 period and the high economic cycle which followed led to a higher but more stable price structure. However this situation changed in 1990. Carriers, faced with a new recession and fuel price increases, experienced falling demand, surging costs, overcapacity and financial losses. This led weaker airlines to seek bankruptcy protection (Eastern, Pan-Am, Continental, TWA, American West and Midway Airlines) while the more successful ones began a new round of 'fare wars' to drive weaker competitors to the ground.

2.3.iii. Labour Protective Provisions.

In labour relations, the Act outlawed the airlines' Mutual Aid Pact, or the carriers'mutual aid insurance during strikes, and provided a special protection plan for employees (EPP).[18] This plan, which applied when deregulation was found to be the primary cause of a

carrier's contraction, was never enforced due to the difficulty of separating the near simultaneity of the reforms and the effects of the recession (Bailey et al. 1983:37; Northrup 1987:415)

The Act also altered CAB's labour protective policy. While these provisions were applied in four merger cases during the transition period because labour had not been given time to bargain for its own security,[19] the policy was abolished for the future. The DOT, which took over some of CAB's functions, refused to impose LPPs and the courts endorsed its refusal as being consistent with congressional policy to let the industry be governed by market forces (Northrup 1987:404).

2.4. THE SYSTEM OF LABOUR RELATIONS IN THE USA.

This section first reviews the legislative and legal system of labour relations, it then describes the growth and the structure of union and management organizations in the industry.

2.4.i. Governmental Labour Relations.

The legal framework of labour and industrial relations in the airline industry evolved during the 1930s, primarily as a consequence of effective lobbying by the Air Line Pilots Association (ALPA). In 1936, ALPA, supported by the

American Federation of Labor, the Congress of Industrial Organization and the Railway Labor Executive Association, succeeded in bringing the industry under the Railway Labor Act and in including compliance with the NLB decision 83, first as a condition for holding air-mail contracts and later, in 1938, for carrier certification.

Since 1936, labour relations in the industry have been governed by the Railroad Labour Act, Title 11 and, except for a few changes, it still remains today the basic framework of labour relations. The industry is also, to some extent, controlled by the CAB and the FAA, through provisions within the Navigational Act, and while the first has already been described, the second will be discussed later.

The National Mediation Board (NMB), the agency which administers the RLA, mediates over union representation and any types of major disputes concerning wages, working rules (except safety issues, which are the responsibility of the FAA and are non-bargainable), and labour emergencies.

The Act requires employees to be represented by 'craft or class' on a carrier-wide basis, while the craft chooses its representative. Thus each specific labour category employed by the various carriers can be represented by different unions.

The mediation function requires both parties to follow a lengthy procedure. They are first required to bargain

directly. If a bargain impasse occurs, mediation is mandatory and the Board mediates until a settlement is reached or it becomes evident that its efforts are useless. It may then offer binding voluntary arbitration. If this is refused, the parties can resort to 'self-help', a strike or unilateral change, within 30-days, unless the Board believes a dispute 'threatens to substantially interrupt interstate commerce'. In this case a Presidential Emergency Board is established to examine the issue and make recommendations. These are non-binding and if refused, the parties can use any legal means to settle the dispute, including economic force (BLS 1971:13-14).

A distinctive feature of the NMB is that its functions are limited to rule-making and mediation, thus the parties can turn to the judicial system to protect their rights.

Minor disputes or those concerning interpretation of contract rules are handled through the grievance procedure, and this varies by carriers and unions. Usually these disputes are settled through the company machinery or are submitted to the System Board of Adjustment which produces a final settlement. Though the RLA does not require the decision to be binding, this has been mostly the case (Taneja 1976:ch.8).

2.4.ii. Government Safety Regulations.

Safety regulations since 1958 are under the authority

of the Federal Aviation Agency (FAA). The FAA controls all safety aspects of aviation through the issuance of safety certificates. It prescribes standards for aircraft air-worthiness, maintenance procedures and it influences labour relations through its certification mandate, aircraft manning levels, flight crew maximum duty time limitations and minimum rest periods.

Pilots, flight engineers and mechanics are required to hold a valid licence to fill their position. The Administration sets the requirements for these certificates, it ensures that these standards are met, through formal and random checks, and in cases of misuse, it may revoke them. Flight hour limitations for domestic carriers are set to 30-hours per 7-day period, 100-hours per calendar month and 1000-hours per year, with a limit of 8-hours every 24-hours period, though this can be raised to 10-hours for scheduled non-stop services. Other limits are negotiated through collective agreements (ILO:1974).

2.4.iii. Government Economic Restraints and Legislation.

Though in the United States the government has always been unwilling to apply economic controls, between 1971-1974, President Nixon imposed mandatory limits on wage-and-price increases. The program was divided into two-phases: in the first, August 1971-January 1973, wage rises in current and new agreements were limited to 5.5% plus .7% for

benefits. However these could increase to 6.2% for 'catch-up' and rises in the cost of living. In the second phase, June 1973-May 1974, compensation increases were set to 6.2%. Although the program has been termed 'successful', its success appears to have been offset by an explosion of wage increases when it ended. (Anderson and Gunderson 1982:500; Reid 1981:108-120).

2.5. UNION AND MANAGEMENT ORGANIZATIONS.

2.5.i. Airline Unions.

Pilots were the first craft to organize. ALPA was formed in 1930 and within two years it had organized 75% of the pilots in the major sector. During this time, ALPA used both economic and political means to increase its power and representational rights (Kahn 1950, 1953; Baitsell 1966; Hopkins 1982).[20]

Simultaneously, with the pilots'organization, mechanics began to organize and by the mid-1940s these were the only two highly unionized crafts. Their agreements served as a model for other labour groups. By the end of the war period, organizing activity was on the rise, mostly among occupations previously not-represented: dispatchers, stores, cargo, commissary, plant maintenance, flight attendants, and clerical employees. Most specialized groups (e.g. radio operators, flight navigators and dispatchers) created their own associations, others were organized into

associations created as subsidiaries of ALPA (flight attendants and passenger agents) while others became absorbed into existing crafts or industrial unions.

The extent of unionization varies by craft and carrier. Flight and ground crew employees were the first to unionize and have been organized for many years. Clerical employees are less unionized, though in the 1970s, several unions were staging organizational drives. Generally, larger carriers are more unionized than smaller ones. It has been estimated that by 1975, among the 'Big Four', about 60% of the workforce was unionized at American, 58% at Eastern, and 63% at United and TWA (Kahn 1980).

Most unions, with the exception of the International Association of Mechanics (IAM), are highly decentralized, including ALPA, leaving local councils to negotiate contract items on an independent basis with single airlines. However, in 1986, ALPA modified its structure, requiring local agreements to be sanctioned by the central executive.

As shown in Table 2.1, throughout the years this system of representation, based on the 'craft' principle and the 'majority rule', in a multiple carrier environment, led to a 'fragmented craft unionism'. Although explanations for this development vary,[21] it seems that this system favored the members since unions, by competing with each other at the bargaining table and through 'pattern bargaining', may have helped to escalate the wages and benefits of the workforce.

TABLE 2.1. CHANGES IN UNION REPRESENTATION: 1949-1978

	1949		1969		1978	
	UNION	CARRIERS	UNION	CARRIERS	UNION	
PILOTS	ALPA	18	ALPA	12	ALPA	10
					APA	1
DISPATCHERS	ALDA	14	ALDA	10	ALDA	1
			ADA	1	ADA	1
			TWU	1	TWU	6
					IAM	2
					PAFCA	1
FLIGHT ATTENDANTS	ALS&SA	12	ALPA	5	ALPA	1
	ALSA	3	TWU	6	TWU	2
	FP&SA	1			IBT	1
	TWU	1			IFFA	1
					IUFA	1
					AFA	3
					APFA	1
MECHANICS	IAM	8	IAM/UAW	8	IAM	8
	UAW	7	TWU	2	TWU	2
	TWUA	3	IBT	1	IBT	1
CLERICAL OFFICE/STORE FLEET AND PAX SERVICE	IAM	4	IAM	1	IAM	
	BRAC	7	BRAC	2	BRAC	
	TWU	1	ALEA	1	ALEA	

SYMBOLS

1. AFA Flight Attendants Association.
2. ALDA/ADA Air Line Dispatchers Association, AFL.
3. ALEA Airline Employees Association.
4. ALPA Air Line Pilots Association, AFL.
5. ALSA Air Line Stewardesses Association.
6. ALS&SA Air Line Stewards & Stewardesses Ass., ALPA-AFL.
7. APA Airline Pilots Association.
8. APFA Association of Professional Flight Attendants.
9. BRAC, Brotherhood of Railway & Airline Clerks, AFL.
10. FP&SA, Flight Pursers & Stewardesses Association.
11. IAM, International Association of Machinists
12. IBT, International Brotherhood of Teamsters, AFL.
13. IFFA Independent Federation of Flight Attendants.
14. IUFA Independent Union of Flight Attendants.
15. TWU, Transport Workers Union, CIO.
16. UAW, United Automobile Workers, CIO.

2.5.ii. Carriers Organization: The Mutual Aid Plan (MAP).

The recognition by the air carriers of the increasing power of the unions and of the impact of pattern bargaining in the whole industry, as wages negotiated by one airline had an effect on other carriers, compelled management to coordinate their bargaining efforts.

After a failed attempt in 1945,[22] in 1958, six trunk lines (American, Capitol, Eastern, PanAm, TWA and United) faced with a strike by the IAM, negotiated a one year Mutual Aid Pact (MAP) to protect themselves against strike losses and the prevailing 'whip-saw' techniques used by the unions.

Under this plan, the joining carriers had to remit 'windfall revenue' to the shutdown airline (or the revenue these carriers earned which was attributable to the strike, less the expenses of carrying the extra traffic) during 'unlawful' strikes or if these occured as a result of union demands in excess of those recommended by the Emergency Board. Against union opposition, the CAB approved it.

The Pact was frequently amended during 1960-1978 to include all forms of strike and more carriers joined.[23] In 1978, with the passage of the Deregulation Act, the MAP was eliminated.

There has been considerable debate whether the MAP benefited airlines at the expense of unions. Unions claimed that it promoted a tougher management posture since it enabled carriers to recoup strike-related revenue losses[24]

and that, in some instances, carriers could even benefit financially from being on strike. Though the MAP was designed to protect carriers against the bargaining strength of unions by making them more willing to risk a strike, its impact on carriers and unions is unclear.[23] Most analysts seem to agree that the MAP probably decreased the effectiveness of the unions' 'weakest carrier' strategy or their ability to get higher wages and work rules from a weak carrier and then use them as basis for negotiation on other airlines.[24]

This brief review suggests that CAB policies and the system of labour relations based on the RLA, protected the industry and its employees. The first, by promoting financially strong airlines and undue concentration of power, protected carriers and employees from the vagaries of the business cycle. The second, by promoting strong and rival unionism and the system of pattern bargaining in an industry dependent on costly technological innovations, appear to have increased the power of unions. During deregulation, with carriers no longer under CAB protection and competing against each other to keep or enlarge their product market, this system of fragmented bargaining must have become detrimental to unions and their members, mostly under economic contractions.

2.6. THE EVOLUTION OF THE REGULATORY PROCESS IN CANADA.

In Canada, regulatory policy began with the creation of a Crown Corporation, Trans Canada Airline (TCA)[27] (a subsidiary of Canadian National Railway that became Air Canada in 1964) as the state's 'chosen instrument', and the 'National Policy' (Corbet 1965; Johnson and Ritchie 1980:9-10). In this sense, regulation was established primarily for the attainment of broad social and political goals including the enhancement of national integration, economic development and an efficient alternative to US service (part of the Canadian 'syndrome of defensive expansionism', Schultz 1985:38).

As in the United States, Canada established a regulatory agency responsible for civil aviation both at the national and regional level (this differs from the CAB which regulated only inter-state aviation). The air regulatory body, in Canada, mainly because of different political institutions and culture, has always been much less 'independent' from other organs of the state than its American counterpart. It was subordinated to the Minister of Transport, the Governor-in-Council and required to follow government policies (Schultz 1977; 1981). Thus it changed over time as the government modified its aviation policy.

The Transportation Act of 1938 designated the Board of Transport Commissioners (BTC) to oversee both rail and air services. The Board, independent from the minister, was

charged with licencing, route-awards and conditions of service based on criteria of 'public convenience and necessity', to set 'just and reasonable' rates and to 'harmonize the activity of carriers'. While the Act provided for automatic certification of all those carriers who had provided service during the last 12-months, the Board was instructed to foster the growth of TCA. To this aim, TCA was granted monopoly on all east-west routes between major cities while supplementary routes were left to private carriers. These were thought to provide a field of activity in which private entreprises could participate.

In the late 1940s, Canadian Pacific Air Lines (previously Canadian Airways and, in 1969, Canadian Pacific Air), a subsidiary of Canadian Pacific Railways, after absorbing ten smaller carriers, became the largest independent operator. Thus TCA and CPA grew to become the two major Canadian airlines.

This new configuration also brought pressure from CPA for a fair division of the market. The government, in favor of maintaining TCA's special status, since its monopoly over transcontinental routes served to cross-subsidize its unprofitable services to small communities, and dissatisfied with the Board's occasional bouts of independence against ministerial preference,[28] denied CPA's request and replaced the BTC with a new regulatory agency, the Air Transport Board (ATB).

The Air Transport Board. established in 1944, was charged with instituting a reliable network of scheduled services across Canada, to ensure the profitability of these service by licences which protected monopoly positions, and to create a system of cross-subsidization for others. In practice, with the exception of awarding CPA a limited licence to operate a daily trans-continental flight with stop-overs along the route, regulation served to organize the industry according to government policy.

In the mid-1960s, following the recommendation of the MacPhearson Royal Commission on Transportation,[27] the New National Transportation Act centralized all transportation modes (rails, air, water and roads) under a single regulatory agency, the Canadian Transport Commission (CTC) with the aim of providing alternative and competitive services at the lowest cost and with regard to both 'efficiency' and 'adequacy'.

With the advent of the CTC, transportation policy became viewed not primarily as a 'tool of government' but rather a sector subject to the laws of economic efficiency (Gillen et al. 1985:8).

In 1966, with the implementation of the government's regional airline policy', the CTC widened its regulatory role. It became charged, in addition to its supervisory and promotional duties, with the planning of a regional network for those local and regional carriers designated by the

government as 'preferred vehicles' for regional development (Schultz 1985). Thus the CTC became a planner, deciding each carrier's network, and an arbiter of competing demands, as carriers tried to advance their expansionary plans.

In the mid-1970s, the Estey Commission on Air Canada combined with the perceived 'failure' of the 'regional carrier policy'[39] changed the government's policies.

Taking into account the commission's critical stance on the crown corporation's organization and finances, which had captured public attention, the government severed the historical link of Air Canada with the Canadian National Railroads and left the corporation free to compete as a commercial entreprise.

In 1977, the New Air Canada Act placed the carrier under the regulatory control of the CTC. The Act, while changing the goals of Air Canada, also meant that markets as well as other carriers no longer needed to be controlled to allow the crown airline to carry out its social mandate that is the enhancement of national integration and as an alternative to US service. By 1979, the industry had 'matured' and, like its American counterpart, was ready for the introduction of a more liberal aviation policy.

2.6.i. The Market Structure.

The industry's market structure evolved through three phases and in accordance with government policy.

Between 1936-1964, the Canadian government was mostly concerned with the development of a viable network of air transportation. Thus, Air Canada, as an 'agent of government' and an 'internal regulator' with the goal of providing a comprehensive network of services across Canada, was the dominant airline while the other carriers were cast in the role of 'feeders' to the Air Canada network.

In the years 1965-1975, with the advent of the CTC and the regional policy, the Commission organized the industry through a policy of controlled competition and 'administered market shares'.

Air Canada and Canadian Pacific, as 'first level carriers', were awarded mainline and regional services with limited competition among them.[31]

Regional or 'second level' carriers were confined to five regional markets with minimum overlap[32] and to proving complementary services to the nationals' routes. They were however encouraged to enter the charter market and had monopoly on all routes over their territory.

Local or 'third level' carriers were to provide commuter service to remote locations in competition with surface transport and as feeders to the other carriers' network.[33]

In the post-1975 period, with the New Air Canada Act, political pressures and a major recession, the market structure began to change and the government gradually set

the framework for the economic liberalization of the industry.

In 1979, CPA had its capacity restrictions removed and was awarded routes in competition with Air Canada. This meant that the AC monopoly in the most profitable sector was cracked and as CPA was allowed to compete freely with AC, it became a powerful force in the industry. Moreover, with the breakdown of the regional policy, regional carriers were allowed some competition on high-density markets with the major airlines.

Thus, by the end of the 1970s, the demarcation line between national and regional carriers became blurred as regional boundaries weakened and carriers began to engage in new aquisitions to consolidate their position.

Like the CAB, the CTC used mergers as a mean of handling failing carriers, and if these were not detrimental to other airlines, they were allowed to ensure the adequacy and stability of service (CTC 1984:84).

The regional carriers emerged out of a series of consolidations.[34] However the mergers of this period had political overtones, since some carriers were owned by their respective provincial governments. In 1977, PWA, owned since 1974 by the Province of Alberta (Tupper 1981), acquired 73% of Transair which was about to fail, and became the third largest carrier in Canada, while AC acquired

Nordair. Although some of these take-overs were denied or restricted by the CTC, they were later approved by the Minister upon appeal by regional governments more concerned about local employment and development than with regulated competition.

2.6.ii. Fares and Prices.

Like the CAB, the regulatory commission was charged with regulation of fares. Although the commission could disallow proposed tariffs and substitute them with more appropriate ones, fare regulation has traditionally been more permissive than the regulation of entry into markets.

In the 1950s, the rate structure was based on a fixed price per mile (Baldwin 1975:133). Later, as in the USA, a 'value of service' as opposed to cost-based pricing was applied to long-haul routes in order to subsidize fares charged on small communities routes.

Until the late 1970s, the CTC adopted a 'laissez-faire' approach in rate regulation. It dispensed with any formal rules or criteria in establishing their 'reasonableness' and it did not establish any rate of return on investment. It did however disallow fares that would be detrimental to other carriers (CTC 1981:23). It is possible that the existence of a publicly owned airline with the mandate to promote national integration and a vehicle of government policy, may have discouraged the Commission from playing a

major role in setting fares and thus profits.

Throughout the 1950s and 1960s the domestic fare structure remained fairly constant. Two major revisions came in 1970 and in the 1980s.

In 1970, Air Canada, faced with increasing competition from the other carriers, introduced the 'Air Canada formula' to standardize fares. It consisted of a fixed charge to reflect the carrier's terminal costs plus a mileage charge which was proportional to the distance flown. The CTC endorsed this formula and enforced it on carriers serving routes in competition with Air Canada.

In the later years, fares became based on the industry's rate of return on investment, costs and efficiency levels (CTC 1981:77).

2.6.iii. The Canadian Transport Commission and Labour Relations.

Unlike the CAB, labour issues were never included within the CTC regulatory power. Although labour does not seem to have played any direct part in regulatory proceedings, it may have influenced the process indirectly through the fact that Air Canada and most regional airlines were publicly owned and because of the political cost of industrial conflicts in the industry.

2.7. REGULATORY REFORMS IN CANADA.

In Canada, the liberalization measures of the 1970s, the New Air Canada Act of 1977, the American Deregulation Act of 1978 and the disenchantment of the West with the allocation of transportation resources, built up pressures for change.

As in the USA, the driving force behind reforms was 'the strength of evidence for a market efficient allocation of resources' which set in motion pressures for similar reforms in Canada.

In the early 1980s, the industry fell into a deep recession which slowed growth, depressed demands and profits. It also felt the diversion of traffic to the US 'deregulated' carriers (Jordan 1983; Oum and Tretheway 1984) and to charter airlines which were awarded limited scheduled services. These events combined with studies from the US deregulated industry (Baley and Panzar 1981; Bailey et al. 1985; Morrison and Winston 1986; Jordan 1986) demonstrated the public benefits of reforms and renewed pressure for change in Canada (Ellison 1984; Gillen et al. 1985, 1986).

In 1984, in a divided house,[35] the conservative government introduced the New Canadian Air Transport Policy and began to gradually liberalize the industry.

This policy, attributed the industry's problems to regulation. It claimed that regulation had 'hindered innovations', 'reduced the flexibility of management' to

market opportunities, increased labour and suppliers costs since 'management was free ..to pass along cost increases' to customers, thus it 'contributed to unsatisfactory earnings of the industry as a whole' (DOT 1984:2). It was also part of a plan to deregulate the industry over several years so that carriers and employees could adapt to the new climate without any major disruptions (DOT 1984:4).

The policy immediatly removed restrictions over frequency, aircraft size and scheduling on existing licences, it exempted domestic charter carriers from the test of 'public convenience and necessity', it introduced greater price flexibility and streamlined the CTC administrative procedures. It also would, over two years, give carriers operating in southern Canada:[34] i) freedom over prices and fewer restrictions over discount fares, with price increases based on a national weighted average change in input prices, which excluded labour costs; ii) free entry to the charter market and easy exit to carriers unable to compete; iii) equal treatment to new entrants in the share of airport slots. It would also repeal the Regional Policy, and bar Air Canada from initiating predatory practices unless these were first launched by private carriers.

The importance of these guidelines is that they emphasized the benefits of competition, constrained carriers to be more efficient in their 'input choices' including labour, since labour costs would no longer be considered a

basis for setting fares.

In 1985, the policy paper 'Freedom to Move' instituted a 'de facto' relaxation of economic controls. It was passed into law as the National Transportation Act of 1987, and, with minor changes, enacted in January 1988.

The Act introduced in Southern Canada an environment akin to that of the US since 1978: i) it repealed regulation defining carrier roles and it authorized new or existing airlines to acquire licences for any type of service, route and aircraft; ii) it allowed carriers discretion over fares without CTC approval. However, unlike the US, the National Transportation Agency could disallow 'unreasonable' fare increases in non-competitive markets; iii) mergers and other transactions came under the jurisdiction of the General Competition Act of 1986. In 1989, the government began the privatization of AC, thus removing any 'supposed' advantages of this carrier over private ones.

2.7.i. Market Structure.

In Canada, the phase of liberalization preceeding the legal deregulation gave Canadian airlines warning of the new policy and time to adjust to the new conditions, with the American experience as a model.

In 1984, the two major carriers maximized the benefits of the reforms by structuring their domestic route patterns into 'hub-and-spoke' systems and by buying or establishing

equity in regional and local carriers to feed traffic into these networks. In 1984 CP acquired EPA and in 1986, it acquired 20% of Air Atlantic and a 99% holding in Nordair, resulting in a formal merger the next year.

With deregulation approaching, new changes followed that drastically changed the market structure.

In 1986 CP was bought by PWA and the merger took place in 1987 under the trading name of Canadian Airlines International (CAIL). As a product of an earlier merger with Nordair, this gave CAIL a 35% interest in Quebecair (now Inter-Canadian). Still, in 1986 Air Canada obtained 75% of a holding company owning Air Ontario and Air Austin. It also acquired Air BC, 49% of Air Nova and 79% of Air Alliance. Both CAIL and AC, by acquiring these local carriers, ensured a strong network of regional feeders serving their major hubs. Thus if in 1984 there were two national and five regional carriers, in 1986, two carriers, AC and CAIL, dominated the market. Wardair, which was gradually becoming an important third force, in 1989 was taken over by PWA Corporation. Overall, in the short term, deregulation seems to have benefited the major carriers, and, with the exception of the absence of entry of new carriers with innovative practices,[37] it created an environment quite similar to the USA.

In 1987, both AC and CAIL initiated their own 'frequent flyers' programs and joined to establish a single computer

reservation system.[38] In 1990 they also developed marketing alliances with US and international carriers to protect and develop their market.

2.7.ii. Rates and Fares.

Liberalization of prices in Canada began in 1978, with the amendment to the Air Canada Act. At first the major carriers introduced 'Charter Class Canada' and discount fares[39] on transcontinental and high density markets within Canada, with some travelling restrictions that over time became less restrictive.

In 1979, with the removal of the capacity restrictions on CP's transcontinental service, the two major carriers offered 'seat sales' and deep discounts on most competitive routes across Canada on a 'capacity controlled' basis. The introduction of 'Skybus' by CP, offering one-way reduced fares and no advance-booking requirements on overnight flights between eastern and western Canada, initiated a period of unfettered competition and fare-wars in the industry. In 1981, Air Canada cut the standard coach fare by 35% and in 1982, by 50%. In 1982, with all carriers operating at a loss, the CTC prohibited one-way fare reductions and put restrictions on discount tariffs. However in 1984, the New Air Transport Policy reversed these guidelines. It removed most restrictions on reduced fares and gave airlines more freedom to set lower fares.

In the post-1984 years, from 1984 to 1986, price competition was mostly used on competitive routes resulting, as in the US, in a 'two-tier' pricing pattern. However in the following years, CAIL, AC and Wardair, which at this time was given freedom to compete with the national airlines on high-density routes, began intense price competition and 'fare-wars' to acquire a larger market share. Although in 1989, after CAIL took over Wardair, most air fares increased, the 1990 recession produced new fare wars among AC and CAIL that led both carriers into financial losses.

2.7.iii. Labour and Management.

In Canada, with the exception of a few charter companies, such as Nationair and Transair, there was no entry of low cost carriers to undercut labour costs of the sort that had occured in the USA (Baley and Williams 1988). Likewise, there never was any mutual pact among these carriers to counteract the power of unions. Although the impact of deregulation on labour has so far been unclear (but this project is going to shed some light on it) the actual structure of the market suggests a favorable situation for labour. However, the sharpening of market forces after 1984, the fare wars and their impact on the carriers' profits may have stiffened the orientation of management to cut labour costs in order to stay competitive and to provide for growth opportunities (Jordan 1987).

2.8. THE SYSTEM OF LABOUR RELATIONS IN CANADA.

2.8.i. Governmental Labour Relations.

Public transportation fall under federal labour relations regulation, governed by the British North America Act, the Industrial Relations and Dispute Investigation Act, later superseded by the Canadian Labour Code. Thus, private collective bargaining principles and procedures apply.

The Canadian Labour Relations Board (CLRB) is charged with certification and mediation functions. Representation, as in the US, is governed by the majority rule and the 'craft or class' principle. In mediation matters, the parties are first required to bargain directly. If they fail to reach an agreement, the Canadian Labour Code, in contrast to the situation in the US, requires compulsory conciliation or third party assistance before they can turn to 'self-help'. Under federal statutes the Minister of Labour may appoint a conciliator and, in the absence of an agreement, a Conciliation Commissioner or a Conciliation Board. If these officials fail to solve the dispute over a specific time period, the parties will be in a legal strike or lockout position after 7-days from the Minister's decision or from the release of the Conciliation report.[40]

Contract interpretation or 'rights' disputes are usually resolved by arbitration as specified in individual contracts. In all cases, arbitration is binding upon both parties.

2.8.ii. Government Safety Regulations.

Safety regulations are handled by the Minister of Transport (DOT). The Department controls all safety aspects of the industry including those related to labour relations, and these are similar to those applied in the US.

2.8.iii. Government Economic Restraints and Legislation.

The Canadian government, in the name of the public interest, has often dealt with national emergencies by enacting special legislation, either in the event of strikes that paralyzed 'essential services' or in wage settlements that were deemed detrimental to the country's economic stability.

In the first case, the special geography of Canada, its distances and dispersed economic centers and the monopoly of Air Canada in transcontinental markets until the late 1970s, made air service an essential public service, since a strike could cripple the whole country.

In the second case, the government intervened, through direct legislation, to control inflationary trends. In December 1975 it passed the Anti-Inflation Act, which lasted 3-years. In 1982, it passed the Public Sector Compensation Restraint Act which subjected all federal employees to a maximum 6% wage rise in the first year and 5% in the second one, on all new and existing agreements negotiated by public service unions.

2.9. UNION AND MANAGEMENT ORGANIZATIONS.

2.9.i. Airline Unions.

The pilots were the first craft to organize. In 1937, shortly after the creation of the crown carrier, the Canadian Airline Pilots Association (CALPA) was formed, and by the end of the war it was certified as the official bargaining agent of pilots.

Mechanics were the second group to organize and they joined the Airline Mechanics Association (IAM).

In 1948, the Canadian Flight Attendants Association was officially certified and by the late 1970s it represented the flight attendants of most carriers.[41]

In Canada, in contrast to the US, there has been a continuity in labour organizations for most crafts.

Pilots from the start, have been represented by CALPA, mechanics and related personnel by the IAM, flight attendants by CALFA and passenger agents by the Air Line Employee Association (ALEA) or the Brotherhood of Railway and Airline Clerks (BRAC). In the post-regulation years, the association of flight attendants merged with the Canadian Union of Public Employees (CUPE) while passenger agents moved to the Canadian Automobile Workers (CAW).

Like their US counterparts, most of these unions leave collective bargaining to the executive council which bargains with single carriers on an ndependent basis, competing with each other over wages and benefits.

2.10. SUMMARY

This description indicates that state intervention into the economic affairs of the industry and the system of labour relations exhibit certain similarities but also country-specific variations.

The review of regulatory policies, suggests that, in both countries, route and fare regulation established a product market free of most competitive pressures. Regulation, by protecting designated carriers, their markets, and their profits from the vagaries of the business cycle, by promoting competition based on service rivalry and technological innovations rather than price, and by allowing labour costs to be passed-on into higher fares, may have decreased the carriers' resistance to labour demands and raised the power of organized labour.

This review of the system of labour relations suggests that, while both countries exhibit the same system of union representation, based on the 'craft' or 'class' principle, some legislative conditions, different market environments and the existence of a crown carrier, may have produced different bargaining outcomes.

In the US, the size of the industry and the variety of private carriers providing complementary and competitive services resulted in minimum government intervention in labour dispute and during economic crisis. Furthermore, the decentralized system of bargaining under the RLA, by

prompting a great deal of inter-union rivalry with unions competing to represent occupational groups and at the bargaining table, may have helped to escalate labour's wages and benefits.

In Canada, the situation is just the reverse. The presence of a government owned carrier as an internal regulator, while it may have politicized the process of bargaining also inhibited the formation of rival unionism. Moreover, the role of the state in intervening to control inflationary trends may have further restrained the power of unions.

The next section reviews these country-specific variations and how they may differentiate and affect the outcomes of collective bargaining, especially in the context of change from a regulated to a market driven environment. It also outlines some hypotheses for testing and discusses the research methodology and data to be used.

NOTES TO CHAPTER 2

1. CAB's approval of these agreements exempted the carriers from the provisions of the anti-trust laws.

2. A study of the degree of competition among the 100 largest city pair in 1959 and 1978 indicates that where 72% of the largest domestic city pair were either one or two-carrier dominated in 1959, 65% fell into that category by 1978; those dominated by three or four carriers rose from 26% in 1959 to 33% in 1978 (Biderman 1982).

During recessionary years, with the airlines suffering financial problems and excess capacity, the CAB certified fewer carriers in only few markets and it used the merger process to stabilize the industry. In the 1960s, several mergers occured: Chicago Southern-Delta (1960), Colonial-Eastern (1960), Mid Continent-Braniff (1960), Capitol-United (1962). In the 1970s, with the airlines phasing-in the newly widebodied B-747s and the onset of the recession, which created overcapacity and financial losses, it allowed capacity reduction agreements among carriers, mergers (Northeast-Delta) and a 'route-moratorium' on all route applications, renamed in 1973 'fuel saving agreement'. (Berhman 1980:88-90; Brown 1987; O'Connor 1989:24).

3. During the recessionary years of 1971-1978, a total of 15 general fare increases were awarded compared to only 2 during the preceding 10-years period (Biederman 1982).

4. In 1933, the National Labour Board ruled (Decision 83) that pilots should be paid by a complex formula that embodied both mileage and hourly pay and limited maximum monthly flying to 85 hours. Because the hourly rate increased as the speed of the aircraft rose, it granted pilots a great share in productivity gains due to improved aircraft technology. In later years this formula was improved to include also aircraft weight. For a detailed description of Decision 83 refer to Baitsell 1966:31; Hopkins 1971:ch.7.

5. When the railroad industry was in deep decline, Congress adopted the policy of treating transportation employee relations differently from other industries. A variety of labour protective provisions (LPP) were legislated after the passage of the Emergency Railroad Transportation Act of 1933. When this law expired, unions kept alive these devices. Subsequently, the Interstate Commerce Commission has continuously applied them during leases of one carrier's facilities, abandonments, etc., and these have served as model in the airline industry. For an estimated cost of LPP

in the air industry and how these provisions benefited various classes of employees refer to Northrup 1987.

6. Labour protective provisions were first applied in the merger of Capitol with United Airlines in 1962 and of Mohawk with Allegheny (now USAir) in 1972. For the Board's role in labour-management disputes during the period 1940-1950, see Kahn 1952; for the integration of seniority lists prior to deregulation, see Mater and Magnum 1963.

7. The 1975 Report of the CAB on Regulatory Reforms; the Ford Administration's proposed Aviation Act of 1975; the Hearings of Senator Kennedy during 1975; the appointment of a pro-deregulation charman at the CAB, A. Kahn, and the report by the General Accounting Office in 1977, all of these were important political events favoring deregulation.

8. The Board abandoned its policy of protective entry control based on comparative selection among competing carriers and it began to grant route authority to all 'fit' applicants without any need to justify it in terms of traffic and revenue.

9. Merger approval authority was originally transfered to the Department of Justice, effective January 1, 1985. Subsequently it was decided to transfer it to the DOT. According to the DOT, both it and the Department of Justice 'generally opposed' this transfer (Keyes 1988:739).

10. To show the difference in operating costs between the trunks and the new carriers, an internal TWA study showed that while TWA costs per seat mile were roughly .10 to .13 (cents), these were six cents for Southwest and People Express Airlines (Wall Street Journal, Oct. 13, 1983:23).

11. Under these programs, travelers enrol in the program of one or more airlines and become eligible to 'earn' future free or reduced fare travel in proportion to the amount of mileage they built up on trips with these carriers. Usually passengers favor large airlines because it is easier to earn bonuses due to their extensive route network. New and smaller carriers are thus placed at a disadvantage because they serve fewer cities compared to Major carriers and a lesser number of attractive vacation spots that most passengers look forward to as a reward. These programs act as 'barriers to entry', and are thought to have played a large role in the trend back to oligopoly.

12. American Airlines' Sabre and United Airlines' Apollo are the largest computer reservation systems and together account for 80% of the domestic market. While these systems make reservations simpler and allow the airlines to adjust

capacity, discount fares etc. according to seats availability, they are also open to abuses. Accusation of bias in favor of the host carrier have been frequent. For instance, the system can present informations in such a way that the parent airline's flights are favoured. In addition, the parent airline can get informations on the demands for rivals' services booked through the system.

13. Braniff became the first carrier to seek employees concessions. During the early years of deregulation, Braniff quickly expanded and leased planes at high costs just before the fuel crisis. Although in 1980, it ousted its management, cut back in routes, sold planes and all unions agreed to a 10% pay reduction, in May 1982 it ran out of cash and filed for bankruptcy. On the other hand, the biggest upheaval to traditional collective bargaining in the industry emerged from Continental. This carrier faced with low cash reserve, a IAM strike and upcoming negotiations with the other unions, it resorted to an opening in the bankruptcy law. This allowed Continental to abrogate costly union contracts and resurface as a low cost airline (Northrup 1983:175).

14. Inter-carriers affiliation between major and commuter airlines benefits both carriers. Long-haul carriers get feeder service without establishing their own operations. Feeder airlines get sales, operational support and the prestige of the larger airline since, in the computer reservation system, their flights are indicated with the code designator of the larger carriers. The legality of this procedure has been appealed by independent operators however the CAB and the DOT have refused to outlaw it.

15. Fare raises of 10% were allowed in markets served by four or more carriers; 5% in those served by two or three and a maximum of 5% for 58 days, each year, in monopoly markets.

16. Fares are established within a 'broad spectrum' of costs. These include marginal, variable and fully allocated costs. At marginal cost, the problem is how to price an empty seat on an already scheduled flight. Since the basic costs are not affected, its cost is almost zero. Thus any revenue is preferable to none. The variable cost is the next level of cost recovery and it is the cash out of pocket operating costs (meal, extra fuel, etc.). In this case, fixed and overhead costs are not likely to be affected if the flight operates or not. Thus pricing related to only variable costs is sometimes more acceptable than grounding the aircraft and keeping other resources underutilized. The fully allocated costs, seek recovery of all costs.

17. To keep track of discount fares, most carriers set up 'yield management programs' and increased sales staff due to reservation overwork. Bailey and Williams (1988) report that in 1978 Delta's tarif department had 27 employees, by 1984 Delta'staff had grown to 147 employees monitoring 70.000 fares offered by Delta and its competitors, with the goal of optimizing some 5000 price changes per day.

18. The plan granted temporary federal assistance aid in the event of a 15% or more reduction of the labour force. It gave also workers employed on/before October 24, 1978, and laid-off after four years of employment with a certified carrier, hiring rights to any airlines seeking new labour.

19. These cases concerned the control of Western Airlines by AFSI; the acquisition of Seabord by Tiger International, Airwest by Republic and National by Pan-Am.

20. This is evident in the passage of Decision 83 and its enforcement in two legislative acts. Furthermore in 1932, following the competition for air-mail contracts which led to the Capitol Air pilots strike, Congress put the air industry under the Norris-LaGuardia Act. This Act asserted the rights of workers to join unions, declared 'yellow dog' contracts illegal and put limits on the power of the courts to issue injunctions against unions. Baitsell (1966:33) notes that part of ALPA success in the legislative area can be explained as a reaction of Congress against the carriers' collusive agreements that made necessary to include Decision 83 in the new Act.

21. Some argue that the vigurous competition and different operating systems (e.g. costs, routes, equipments, investments and debts) have inhibited the development of a multi-carrier bargaining or that unions found this pattern of bargaining more advantageous. Though these reasons are valid, single craft unionism has always been favored by the RLA and CAB interpretation. In the RLA statute no reference is made to multi-unit bargaining, while the CAB has always considered multi-bargaining as being detrimental to the public interest, since this could have resulted in nation-wide strikes. Thus it has always ruled against imposition of it on any party involved in negotiation.

22. In 1945, a number of carriers formed the Airline Negotiating Conference to reach a collective settlement over ALPA demand to revise Decision 83 following the introduction of larger planes. This attempt proved useless since ALPA refused to bargain with the industry (Baitsell 1966).

23. In 1962, 'supplemental payments' were added to 'windfall profits'. Under this provision, if 'windfall' payments were insufficient to cover 25% of the struck carrier's 'normal operating expenses attributable to the operation shutdown', each pact member was legally bound to provide up to .5% of their revenue of the previous year.

In 1970, the level of supplemental payments was increased to 50% of the normal operating expenses during the first two weeks of the strike, the rate declining to 35% at the end of the 4th week of the labour dispute.

In 1978, the pact was amended after two questionable strikes at Northwest Airlines (in 1970 the Brotherhood of Railway and Airline Clercks striked for 160 days and in 1978 ALPA for 109 days) which absorbed a considerable share of payment and benefits of the member carriers (Kahn 1980:356). Payment for struck carriers was lowered to 35% of operating expenses for the first two weeks. Thereafter, the amount of payments was lowered and no payment was made after the tenth week of walkout. Only 'windfall' payment would continue beyond that period and for the duration of the strike.

24. In 1973, ALPA legally challenged CAB approval of the MAP on the ground that it violated national labour policy, namely the RLA, the Antitrust law and the public interest. The case was dismissed because of lack of evidence that employees welfare had been eroded by the pact.

25. The period 1958-1970, with the introduction of the new jet aircraft and the expansion of commercial aviation, was a tough period for the industry and labour relations. During these years, which saw the simultaneous introduction of the 'jets' and the enactment of the MAP, there was an increase in the number and in the duration of strike actions. During the MAP period, 1958-1970, there were 59 major strikes lasting 2.198 days and averaging 35.5 days versus 38 strikes, with a duration of 575.5 days, averaging 15.1 days, before the MAP. While, during these 12 years of the jet age and MAP, strike activity significantly increased, it is hard to separate the single impact of the introduction of the jet aircaft and the MAP (Wells 1984:426-428).

26. For a debate on the merits of the MAP, see Northrup, and Unterberger and Koziara 1977:364-379.

27. The government, after attempts to have the two major railroads, Canadian National and Canadian Pacific, build a national airline, and believing that the low traffic density of most canadian centers would inhibit the development of a complete private system of air transportation, in the mid-1930s set up a regulatory system for the establishment and development of the Crown Corporation, Trans Canada Airline.

28. The Board in 1943 awarded the Vancouver-Victoria route to Canadian Pacific against the government preferential policy of developing Trans Canada Airways network. This decision was later reversed by the Minister in favor of TCA.

29. The Royal Commission of 1961 was primarily concerned with surface transportation and the financial problems of the railroads in the face of increased competition from the trucking industry. Neverthless the Commission placed most of the blame on the failure of private and public agents to adjust to the realities of competition.

30. See Stevenson (1987): chapter seven and eight.

31. In 1966, CPA was allowed to gradually increase its market share until it reached 25% of the total transcontinental capacity in 1970, subject to some restrictions concerning 'turn-around points'.

32. Pacific Western (PWA) was awarded routes within British Columbia and western Alberta; Transair, the Prairie provinces and northwest Ontario; Nordair, the reminder of Ontario and northwest Quebec; Quebecair, all of Quebec east of Montreal; and Eastern Provincial, the Atlantic provinces.

33. The most prominent local carriers which emerged in the mid-1970s were: In Ontario: Austin Airways, Bradley Air Services, Great Lakes Airlines (Air Ontario in 1982), Atonabee Airways, Pem-Air, Torontair and Norontair. In British Columbia: Air BC (after absorbing 7 minor carriers), British Columbia Airlines, Nanaimo Airlines and Time Air. In Manitoba and Saskatchewan: Norcanair, Perimeter Airways and Calm Air. In the East: Quebec Aviation, Atlantic Central Airways and Air Creebee. In the Northern regions: TransNorth Turbo Air and Northwest Territorial Airways.

34. These carriers developed in 1920 to exploit the natural resources of the northern hinterland. In the 1950s, they increased in size and number as they were used in the installation of the Distant Early Warning Line of radar (DEW) to warn in cases soviet bombers crossed Artic Canada. By the time the DEW line was completed a serie of mergers thinned the rank of these carriers and the surviving carriers became the regional airlines. For a geneology of Canadian carriers refer to Statistics Canada 1986:30-31.

35. Lloyd Axworthy, the then Minister of Transport, to reduce the potential for regulators to be 'captured' by the regulated, ordered employees of Transport Canada and the Air Transport Committee to give up their free air travel passes. He also requested the ATC to hold public hearings on fare policies and an interdepartmental task force to examine the

possibility of a US style deregulation. No consensus emerged. At the ATC hearings, the major airlines and the ATC officials argued strongly against open entry and unregulated prices. They all favored controlled competition over fares and entry. Consumer and Corporate Affairs Canada and most academics largely favored deregulation.

36. Northern services or to remote areas broadly corresponding to a line stretching from the 55th parallel on the Pacific coast to the 50th parallel on the Atlantic coast, were still to be regulated for social reasons.

37. Byrnes (1985) argues that sudden regulatory reforms open a temporary window for new entrants which is soon closed both by the response of the official carriers and the services offered by the new entrants. In Canada, this opportunity seems to have been closed since the existing airlines had time to adjust to the new environment.

38. Air Canada formerly 'Reservec' system dominated the market with 85% of automated travel agents linked to it, while CAIL's 'Pegasus' covered only 15%. In 1987, the two carriers combined their systems to form 'Gemini' which in 1990 was used by 90% of travel agents (Button 1990).

39. In May 1978, Canadian Pacific introduced 'Courier' fares and in June 1978 Air Canada followed with 'Nighthawk fares' for night flights across selected points in Canada.

40. Many practitioners claim that this automatic sequencing has often been seen by unions as a major hurdle to overcome before serious bargaining could take place, since a legal strike could not occur until the conciliator handed down its report (Craig 1983).

41. CALFA started organizing drives to represent cabin personnel of all Canadian airlines. Canadian Pacific AirLines' flight attendants joined CALFA in 1951; Pacific Western, in 1959; Transair, in 1962; Wardair, in 1971; Great Lakes Airlines (renamed in 1982 Air Ontario), in 1974. Nordair attendants joined the IAM, however in 1977 they became represented by CALFA (Newby 1986).

CHAPTER THREE

RESEARCH ORGANIZATION
ISSUES, HYPOTHESES AND METHODS

3.1. INTRODUCTION

This chapter is divided into two parts. The first section (3.2) outlines the major elements emerging from the debate on the effects of regulation on the employment relationship and ties them to the institutional and legislative provisions specific to each country. Afterwards, it proposes some possible predictions with respect to how their combined effects may influence and differentiate labour outcomes in the context of change from a regulated to a free market environment. First I present hypotheses to be tested that are specific to each country. Then I present hypotheses dealing with inter-country differences.

The last section (3.3) describes the research process, the methods and data used in the study.[1]

3.2. REGULATION AND LABOUR RELATIONS: ISSUES AND HYPOTHESES.

Parts 3.2.i. and 3.2.ii. review the major issues and put forward some hypotheses for testing concerning the effects of regulation-deregulation and labour relations on bargaining outcomes in the US and Canada respectively. Part 3.2.iii. proposes inter-country hypotheses.

3.2.i. The UNITED STATES.

In the US, labour relations in the airline industry were influenced by the system of routes and price regulation and labour protective provisions enforced by the CAB, representation based on single bargaining units and pattern bargaining under the control of the RLA, and inter-union competition. Moreover, the macro economic and political context would also have affected labour outcomes.

The previous account of regulation in the US revealed that the system of economic regulation was initiated by the Federal government with the aim of developing a network of reliable and safe air transportation and it appears that it was influenced by a configuration of politically effective interest groups, including organized labour.

The pilots'union (ALPA), from its inception, used its economic and political power to profit from the government's distributive function, and in promoting the organization of the industry. Historically, it was through ALPA's lobbying

that Congress legislated CAB enforcement of decision 83; placed the industry under the RLA; obliged CAB to make route award conditional on carriers' compliance with the provisions of the RLA; and included within the CAB statutes various labour protective provisions modelled after the railway industry.

The review of regulatory policies indicated that the route and price policies, enforced by the CAB, protected the industry and its employees from major economic contractions and commercial transactions (mergers, inter-carrier agreements), which were crucial to the well-being of the industry, and established a product market free from most of the competitive pressures faced by unregulated firms.

It was also claimed that CAB policies reflected the changes of the business cycle (Behrman 1980; Brown 1986: Derthick & Quirk 1985). The CAB barred the entrance of new carriers and enhanced competition among the trunklines when times were good; it protected the industry and single airlines from harmful competitive practices and provided policies of price support, during economic downturns. This means that labour was in an advantageous position most of the time.

When the economy was sound, due to the firms' ability to pay, labour could use its economic power to have its

demands met. During these times, with the introduction of new technologies, expanding product and labour demands, and no entrance of low-cost carriers to depress prices, unions could certainly obtain wage rises, fringe benefits and work rule concessions without much affecting the employment level. For the carriers, as long as planes were full, wage rises and work rules could easily be met by price increases or through the productivity generated by the new aircraft without greatly affecting product demand.

During recessionary times, with an oversupply of seats with respect to demand and capital debts, carriers may have been more resistant to wage increases in the absence of output or employment adjustment. However, if CAB pricing policy allowed the industry to recoup wage rises by rate increases, the firms had little incentive to resist labour demands. Thus, even during recessions one would expect relatively high wages, without much employment loss.

In addition, the inability of the industry to stockpile inventory, the difficulty of regaining losses after strikes, and the absence of price competition - all of these factors seem to have reduced the firms'resistance to labour demands.

An important question is, how much could carriers count on a full recovery of wage increases and what were the effects of the carriers' Mutual Aid Pact (MAP) and of wage and price controls enacted over the years 1971-1974.

Most observers indicate that compensation was very much automatic and rates covered most losses (Breyer 1982; Bailey et al. 1986).[2] As to the effects of the MAP and of wage and price controls, it appears that the Pact had only minor effects[3] - mostly salvaging weak carriers from aggressive union tactics - while the effects of the legislative controls are dubious - since an explosion of wage increases occurred at the end of the controls.

It was also argued that the system of regulation created incentives for a decentralized bargaining structure. The 'class or craft' certification and the 'carrier-wide' bargaining provisions under the RLA, contributed to the highly fragmented bargaining structure which, in a multi-carrier context, led to inter-union competition. This is thought to have helped to escalate labour demands since it increased the incentive of one union to outperform others at the bargaining table to keep or expand their membership.[4] Furthermore, the historical reliance on pattern bargaining appears to have been an important force in transmitting contract change within the industry (Ross 1948; Khan 1980; Northrup 1983; Cappelli 1987; Craypo 1986).

Thus, if regulation protected employment, labour had little to lose from increasing labour costs and, through pattern bargaining based on within-industry comparison and

'whipsawing' techniques, these could be spread to the industry's labour force.[5]

This review of the combined effects of regulation and labour relations suggests the following hypotheses:

1.i. If regulation rendered employment relatively stable during the regulatory period, wage increases in the trunklines should have been higher than in comparable unregulated industries.

1.ii. Furthermore, through pattern bargaining, wages, benefits and work rules should have been uniform across firms.

Deregulation was introduced over a four-year period, 1978-1983. Between 1978-1981, the Board gradually relinquished its authority over routes, while control over fares ended in 1983. From the start, the previous rate regulation which allowed labour costs to be passed on in the form of higher fares on a uniform basis, was replaced by a formula which limited upward fare rises, excluded labour costs while it left price decreases unlimited. The Mutual Aid Pact and Labour Protection Provisions were eliminated and although labour was protected through a special protection plan, this was never applied. In 1984, the CAB

was eliminated and some of its functions (mergers, subsidies and alike) were transferred to the Department od Transport until 1989, when the industry became governed by market forces.

If the system of price support and route protection enforced by the CAB, the fragmented bargaining structure, and pattern bargaining, led to both the transfer of rents to organized labour and inefficient work rules, this suggests that in a deregulated market, with price and entry competition, firms should have become more efficient in the use of the factors of production, including labour, and have aligned costs more closely to those of firms operating in a free market environment.

In a competitive market lower labour costs become a prime competitive element among firms. When the economy is booming, wage rises can be passed on through increases in product prices, although lower costs also mean lower fares - a competitive edge over the competitors - thus higher profits and opportunities to expand. In hard economic times, firms cannot pass-on wage rises in product price increases, since this would prompt a drastic reduction in sales, unless commensurate employment and productivity adjustments are made.

Moreover, a fragmented and decentralized bargaining structure in a competitive environment becomes highly

disfunctional for unions. Bargaining outcomes, without the enforcement of industry-wide contracts, become sensitive to the forces of competition and the performance of individual carriers, specially during economic downturns (Commons 1909; Cappelli 1987).

A review of the effects of deregulation on the industry suggested that they varied according to the fluctuations of the business cycle and the competitive pressures of the market place. This evidence suggests that a changing product market and the economic cycle should be crucial for the labour force and affect bargaining outcomes in a different way than they did under the protection of regulation.

Between 1978-1980, the pattern of oligopoly pricing prevailed in most markets while carriers fiercely competed to keep or expand their previously protected high density routes. At this time, the high level of unionization and the carriers' rivalry should have increased union bargaining power even further, since any strikes could have driven airlines out of the competitive race, without the benefits of the MAP. Thus, the old pattern of bargaining outcomes should have prevailed.

This situation changed in the subsequent years. From 1981 to 1983 the industry was beset with a deep recession

and the oil crisis in a super-competitive environment. Without the CAB's protection, two trunklines went bankrupt while the others, encumbered with excessive capacity and competition from low-cost new entrants, incurred profit and market share losses. These losses, while partly related to the economic crisis, were also the result of a different product market which enhanced price rather than service competition. In these years, fares were set according to the competitiveness of routes with larger carriers matching any low fare and engaging in fare wars to cut down competition.

In 1984, as the economy improved, the surviving former trunks began to consolidate and protect their markets through indirect entry barriers, 'hub-and-spoke' operations, aquisitions and alliances with feeder airlines and mergers.

In 1988, these developments restored the pre-deregulation concentration with a few mega-carriers dominating the industry. However, in the early 1990s, the airline industry had not yet attained a stable structure. The recession of the 1990s revived the intense rivalry among carriers and led to a series of fare wars. These initiated by 'strong' carriers to weed out weak competitors, spread throughout the industry and eventually will affect labour outcomes.

These events must have put labour in a very different position than it enjoyed under regulation. In the recessionary years, 1981-1983, with market and profit losses, 'fare-wars', and with employment no longer protected, unions must have had to face the wage-employment trade-off, or to trade concessions for jobs and work-rules. Thus, wages should have become vulnerable to market pressures, the firms' economic performance, and tactics aimed at reducing average costs. This is even more true in a service industry characterized by high capital or fixed costs and with labour or variable costs absorbing the highest share of operating expenses.

The years 1984-1986, despite the cyclical upturn, may not have benefited unions. The carriers, faced with new challenges to expand in a price and cost sensitive environment, should have looked at the advantage of lower labour costs and flexible work rules to stay competitive and to provide for growth opportunities.

This suggests that if during the regulated period organized labour captured supra-competitive earnings, at this time carriers should have behaved more as profit-maximizers and 'tough' bargainers in an effort to profit from the freedom produced by deregulation. Thus, firms should have been very resistant to wage rises unless these were traded off with adjustments: employment, output (in the

form, in particular, of work rule changes), and fringe benefits. Alternatively, the carriers could have used their resources to fight unions.

The concentration of the industry after 1986 decreased competition and stabilized fares. Competition is between pre-deregulation carriers with similar cost structures and a unionized workforce. This situation should have enhanced the position of labour. It also should have led to an increase in labour earnings and, due to the concentration of the industry, to a narrowing of inter-firm and within-occupation wage dispersal. However, if this occurred, whether it will last will depend on the business cycle, its effects on the carriers performance and price behaviour, as well as on the ability of unions to take wages out of competition.

These observations suggest the following hypotheses:

1.iii. In the years 1978-1980, the previous pattern of bargaining should have prevailed. Whereas,

1.iv. during 1981-1986, labour outcomes in the industry should have been characterized by:

a) a downward shift in the rate of growth of earnings.

b) greater inter-firm and within-occupation wage dispersal.

c) a trade-off between wage increases and output-employment adjustments.

d) a decrease in the high wage differential in the trunk lines relative to the other industries.

1.v. From 1986 to 1990, there should have been a narrowing of inter-firm and within-occupation wage dispersal, as wages should have equally increased across firms.

This emphasis on economic variables has de-emphasized the bilateral nature of negotiations and institutional forces (union-structure and organizational characteristics) which may affect each craft's ability to resist deregulatory competitive pressures.

The industry employs labour with a variety of skills, some specific to it, others with alternative fields of employment. Although unionization is high and representation is fragmented, this fragmentation varies by occupation, and unions vary in structure and membership (occupation-based or with differentiated membership). These elements may have further influenced the effects of product market on bargaining outcomes.

Unions with occupation-based membership, skills transferable outside the industry, and a centralized structure, such as the IAM which represents mechanics, have

always aimed at maintaining a standard wage rate and they have always been resistant to concessions.

Carrier-specific unions with a decentralized structure, such as pilots and flight attendants, are more vulnerable to the firms' demands for concessions. However, unions' concessions are contingent on the extent to which their members face real employment threats and/or future guarantees of employment growth and/or restoration of wages to the pre-concession level (Cappelli 1985).

This suggests that:

1.vi. Mechanics should have been relatively immune to concessions, unless economic contractions threaten job security.

3.2.ii. CANADA: issues and hypotheses.

In Canada, the system of labour relations has been influenced by the following: the social and political role of the crown carrier, Air Canada; a highly interventionist regulatory body with respect to routes, schedules and capacity; representation based on single bargaining units and pattern bargaining apparently based on the government carrier; and a significant government involvement in the bargaining process.

The description of the regulatory process in Canada in the previous chapter indicated that regulation in Canada was instituted to provide a system of air transportation as well as to serve broad social and political goals. Hence, overall it has been used for the attainment of 'equity' rather than 'profit'. To this end, it has constantly benefited the public carrier at the expense of private ones. Throughout the period of regulation and until 1978, the state carrier had a complete monopoly over central markets and it appears to have played a major role in price setting.

The use of a public firm with social rather than profit goals should have excluded the appropriation of rents by the various 'interest groups', including labour, (organized labour never succeeded in having labour protective provisions legislated into the affairs of the regulatory

body). Nevertheless, the route and price protection policies enforced by the the ATB and later the CTC, and the incorporation of labour costs into higher fares, appear to have protected the industry and its employees from the negative effects of economic downturns and to have sheltered them from the competitive pressures common to unregulated markets. Furthermore, labour may have benefited also from the politics of regulation, both by relying on the role of the state as an employer and by politicizing the negotiation process. The dominance of Air Canada over the national territory until 1978 meant that strikes could cripple the whole country. This would no doubt have put pressure on the government to settle disputes and thus to influence bargaining outcomes. These settlements, through pattern bargaining, could then spread to the whole industry's labour force.

If economic regulation and government ownership increased the bargaining power of labour, the government legislative interventions in the economy to deal with national emergencies and to control for inflationary trends (the 1975-78 Anti-inflation Act and the 1982-84 Public Sector Compensation Restraint Act) should also have acted as restraining forces to the power of unions and have prevented high wage settlements.

It was also noted that although representation in the

industry, based on 'craft or class', called for a decentralized bargaining structure, the small number of carriers and labour outcomes modelled after the crown carrier inhibited the development of both competitive unionism and a fragmented bargaining structure. This configuration, while concentrating industrial disputes into the crown carrier, should have made labour relations in the industry more stable.

This review suggests the following hypotheses:

2.i. From 1960 to 1977, if the absence of competitive unionism and the government interference into the bargaining process prevented labour from capturing high regulatory rents, the rate of wage increases in the airlines should have been similar to that of non-regulated industries.

2.ii. If the state carrier set the industry'standards, the rate of growth of earnings should have been uniform across carriers.

From 1978 to 1983, the Canadian government released some controls over routes and prices and allowed Canadian Pacific to compete with Air Canada on the high density routes. Substantial changes occurred only in the post-1984 years, with the passage of the New Canadian Air Transport

Policy.

This Act removed all operational restrictions on the carriers and gave them greater price flexibility. It was also the first phase of a process to free the industry from route and price controls and to exclude labour costs as a basis for setting fares. In 1986, a 'de facto' deregulation took place requiring only some red tape procedures (objecting carriers had to demonstrate that new services had potentially serious adverse consequences on their well-being).

Starting in 1984, the major carriers implemented marketing and operational practices, 'hub-and-spoke' networks, alliances and acquisition of regional carriers, which led in 1989, with the passage of deregulation, to two major firms dominating the market.

A review of the effects of the economic reforms on the industry indicated that its economic behaviour varied according to the timing of the government policies.

The phase of 'controlled competition', 1978-1984, was first characterized by intense competition and fare wars between the two major airlines which began to undermine their profitability. In 1982, under the negative effects of the economic crisis, the CTC intervened to protect the industry from harmful competition while the government

imposed wage and price restraints on the public carrier. These events must have saved both the carriers and labour from major losses.

Substantial and gradual changes started in 1984 when both carriers began to consolidate their market following the same patterns as in the US. These changes also led to periodic deep price discounts and fare wars as both carriers tried to increase their market shares and in an effort to force Wardair out of the race.

In 1990, with the absorption of Wardair into the PWA conglomerate, the two carriers, with an extended feeder network and some 'hub-and-spoke' operations, gained complete duopoly over the Canadian territory.

If during regulation, the state's intervention into the economy prevented the transfer of high rent to organized labour, this means that the impact on labour of the reforms should have been relatively modest.

In the years 1978-1984, under a system of controlled competition, the interventionary role of the CTC and of the government, the previous pattern of bargaining outcomes should have prevailed, since these policies protected, to a certain extent, both the carriers and labour from the harmful effects of unrestrained competition and of the recession.

The following years, 1984-1986, with the economic recovery, there was a movement from the two largest airlines to consolidate their market. Although this should have benefited labour, the sharpening of market forces in the domestic market and competition from the US deregulated industry should also have pressured carriers to become more efficient in the use of factors of production and 'tough bargainers' in labour relations.

This suggests that to compete in a price and cost sensitive environment the carriers should have made wage raises contingent on employment and/or output adjustments. Although the presence of a crown owned carrier suggests that organized labour could still resort to the political market, its gains could be minimized by the government 'free market' policy and the new competition. The reforms, by breaking the monopoly of Air Canada, also made the country less reliant on that carrier's services.

From 1987 to 1990, the absorption of independent operators by the 'nationals' to prevent undercutting prices, indirect barriers to entry (CRS, hubs and Frequent Flyier Programs), and competition between two carriers with similar costs and unionized workforces, suggests that labour should have once again benefited. However the intense competition between the two carriers to increase or maintain market shares, the erosion of Air Canada dominance and the effects

of the mergers should have made labour more vulnerable to management concern to trade-off wage gains against employment reductions.

This outline suggests the following hypotheses:

2.iii. From 1978 to 1984, due to the combination of regulation and government legislation, the previous trends in bargaining outcomes should have prevailed.

2.iv. From 1984 to 1986, under the sharpening of market forces, wage increases should have been traded-off for output/employment adjustments. However if the pre-1984 monetary controls had limited the transfer of regulatory rents to labour, the rate of growth of earnings should have been similar to the rate in other industries.

2.v. In the post-1986 period, the creation of a duopoly in the industry should have led to higher wages. However, under the pressures of a deregulated market, the rate of growth of earnings should have been more related to the carriers' performance and employment adjustments.

3.2.iii. INTER-COUNTRY COMPARISON: issues and hypotheses.

This description of the combined effects of regulation, institutional and legislative conditions in the two countries, allows the generation of some general hypotheses about inter-country differences concerning the effects of deregulation on the employment relationship.

In the US, the combination of the industry's economic characteristics and protective labour laws, competitive unionism and the carriers' vulnerability to strikes, suggests that unions could have exerted considerable leverage at the bargaining table.

In Canada, bargaining outcomes seem to have been influenced by various and contradictory forces. While economic regulation, government ownership, and pattern bargaining modelled on the crown carrier enhanced the power of unions, the government's intervention in the economy acted as a constraining force to union settlements that could be deemed detrimental to the nation.

This outline suggests that:

3.i. <u>during the regulatory period, 1960-1978, the rate of growth of earnings should have been higher in the USA than in Canada. This wage gap should have been increased in the post-1975 years with the introduction of monetary controls in Canada.</u>

In the US, deregulation was implemented in 1978 and in 1983 the industry became fully deregulated. In Canada, except for some routes and price liberalization, substantial reforms were introduced in 1984 and a 'de-facto' deregulation occurred in 1986. If the previous provisions differentiated bargaining outcomes in these countries, the effects of the economic re orms should have varied and these should have been closely related to the degree of rents unions were able to capture in the pre-deregulation period.

In the US, if labour benefited from the combined effects of economic, legislative and institutional provisions producing a large gap in the air carriers' wage rates compared to those of unregulated firms, the removal of regulation should have made labour very vulnerable to economic downturns and competitive pressures. The fragmented and decentralized bargaining structure should also have been detrimental to industry-related occupations and have made labour outcomes sensitive to the carrier's economic performance and competitive strategies.

In Canada, the hypothesized smaller inter-industry wage differential relative to the US, the gradualist approach to the economic reform that inhibited the entrance of new carriers, and the lack of union fragmentation, should have diminished the negative effects of economic downturns and of the reforms on labour outcomes, relative to the US.

As previously described, from 1981 to 1984, both countries were affected by a deep recession. However in the US the entrance of low cost-carriers and the intense price competition during the first years of deregulation introduced sudden changes in the product market and in the performance of the major carriers. In contrast, in Canada, the combination of regulation and monetary control on the crown corporation should have protected both the industry and labour from the negative effects of the recession, at least to a certain extent. This suggests a greater wage dispersal in the US, with earnings becoming more related to each carrier's performance, than in Canada.

In the post-1984 years, with the movement toward deregulation in the Canadian industry and free market competition in the US, carriers in both countries were faced with new opportunities to grow but also with a price and cost sensitive environment that required efficiency and flexibility of operations. Thus carriers should have become profit-maximizers to a greater degree and 'tough' bargainers, making wage increases contingent on employment/productivity adjustments. This is even more true in a multi-carrier environment, such as in the US, and if labour costs during the period of regulation escalated beyond those found in unregulated industries.

From 1986 to 1990, the concentration of the industry

into a few major carriers dominating the markets, and the creation of new barriers to entry, suggests that bargaining outcomes should be similar in both countries and presumably labour should be doing better than in other industries again.

These observations suggest the following hypotheses:

3.ii. From 1980 to 1983, there should have been a greater inter-firm and within-occupation wage dispersal in the US than in the Canadian carriers.

3.iii. From 1984 to 1986 the industry's labour force in both countries should have experienced:

(a) a downward shift in the rate of growth of earnings relative to the regulatory period;

(b) a trade-off between wage increases and employment-output adjustments;

(c) and these effects should have been greater in the US than in Canada.

3.iv. From 1986 to 1990, the rate of growth of earnings should have been similar in both countries and greater than in competitive industries.

3.3. RESEARCH GOALS, ORGANIZATION, METHODS AND DATA.

Part 3.3.i. describes the goals and the organization of the research while part 3.3.ii. introduces the methods, data and data sources.

3.3.i. Research Goals and Organization.

This study of the airline industry attempts to assess the relative effects of the regulatory reforms on the union 'effort bargain'; both in aggregate and for specific labour categories.

To this end it evaluates and compares the role of economic, institutional and legislative factors on labour outcomes in the US and Canadian major airlines prior to and following deregulation. While similar research has concentrated on aggregate earnings,* this study examines also, with aggregate wages, wage rates at the lower and upper end of the seniority scale, fringe benefits and work rules of the major work groups in selected carriers.

To investigate changes in labour outcomes in aggregate and for specific firms and occupations, a longitudinal (before-after method) and comparative approach is used.

The study is organized in three parts. The first part of the research (Chapters 4 and 5) tests the hypothesis suggesting that regulation produces higher wages and that the reforms in the US and in Canada changed this pattern.

Using to a certain extent a similar analysis of industries which underwent regulatory changes (Rose 1987; Hirsch 1988; Card 1989, 1986) trends in aggregate labour costs, average earnings and employment of the total labour force and for selected occupations in each country's major air sectors are compared prior to and after deregulation. The labour groups included are pilots, flight attendants, mechanics and reservation and ground agents. To control whether changes in the airline industry reflect general economy-wide variations rather than regulation-specific responses, wage and employment trends in the airlines are compared to similar movements in other industries using a before-after method. Two comparison groups are used. In both countries, the airline industry and the major air sector are compared with both unregulated manufacturing and with the whole land transportation sector (in Canada, with the land transportation-communication-utilities aggregate). In the US, the regulated utilities are added.

The second part of the study (Chapter 6) examines the impact of market pressure and organizational strategies on the 'effort bargain', by analysing the performance of two major carriers in each country and collective agreements of each labour group in the two firms during the period 1960-1990. The two major carriers in the US are American and Northwest Airlines, and in Canada, Air Canada and Canadian

Pacific/CAIL. Collective agreements provide data on wage rates for fixed seniority and job classifications and a broad range of fringe benefits and work rules that permit the evaluation and comparison of the effects of regulation and of the reforms on the total 'effort bargain' across work groups and carriers.

The choice of the four carriers is somewhat arbitrary. However they exhibit certain characteristics which make for a useful comparison. In the deregulated period, American Airlines and Air Canada, as dominant carriers, were leaders in labour relations and both had an extended network of mostly domestic routes. On the other hand, Northwest and Canadian Airlines, which were restricted mostly to overseas routes, in the post-deregulation period, expanded through mergers and enlarged their domestic network.

Finally having analyzed both the general and the more specific effects of deregulation in each country on the effort bargain, the last part of the research (chapter 7) compares data on the level of the industry, firm and craft bargaining unit in the two countries. This comparison allows the evaluation of labour outcomes over time in the same industry and among similar unionized occupational categories and whether different macro-economic and legislative environments acted as an additional intervening variable to the effects of regulation.

3.3.ii. Methods, Data and Data Sources.

This study uses both a longitudinal and comparative approach.

The analysis of data using a longitudinal method (before and after) requires identification of a time period during which the regulatory regime changes and a fairly lengthy time-series to avoid conclusions based on transitional responses.

In the US the Airline Deregulation Act was passed in October 1978 followed by a gradual relaxation of regulatory constraints over a four year period. The CAB relinquished authority over routes in December 1981 and over fares in January 1983. Since from the beginning these reforms altered the environment and led to substantial changes in the industry' structure and performance, the date of 1978 is used as the cut off point.

In Canada, the boundaries are more complex. In 1978 the government introduced a phase of regulated competition; in 1984 the New Canadian Air Transport Policy opened up a period of liberalized competition followed by a 'de facto' deregulation, which led in 1988, with the passage of the National Transport Act, to economic deregulation along lines similat to the US. While deregulation as implemented in the American industry took place in Canada only in 1988, most analysts identify 1984 as the beginning of the economic

reforms (Button 1990; Oum, Stanbury, Tretheway 1990). This period in the Canadian industry was similar to the American transition period to deregulation. Thus 1984 is taken as the benchmark dating deregulation.

On the basis of this chronology of regulatory reforms, the regulatory period for the US covers the years 1960-1978 and for Canada 1960-1984, while the deregulated period covers the years 1978-1990 and 1984-1990 respectively.

The dependent variables are labour outcomes under regulation, and in the absence of regulation.

At the aggregate level, annual observations of average compensation/wages, employment, productivity for the labour force as a whole and for single occupational groups are examined before and after deregulation. In addition, industry-specific variables chosen from the theoretical framework and previous research, such as the industry and firms' profits (net and operating profits, as percentage of operating income), market growth (Available Seat Miles, Revenue Passenger Miles) and market shares are included.

At the firm and bargaining unit level, the dependent variables are minimum and maximum hourly rates or monthly wages for each labour category and the array of nonwage bargaining outcomes in each carrier.

These variables are subsequently compared across

countries. All data are presented in table or graph format.

Data on wage, employment and economic variables are assembled from a variety of sources.

Aggregate data of the US scheduled industry's performance, growth and profits, and employment for the total labour force and for each work group are assembled from the Air Transport Association (ATA), Facts and Figures.

The trunk lines included in the study are: American, Braniff (1960-80), Continental, Delta, Eastern, National (1960-79), Northwest, Pan-American, Trans World, United and Western Airlines (1960-86). Data for these carriers come from two sources. From 1960 to 1977, output, profits, total employment and earnings is collected from the CAB 'Form 41' and 'employment and earnings supplement'. Thereafter, as these informations were discontinued by the board, they are extracted from each carrier's annual reports and for some years, from ATA. Since these sources do not supply employment and average earnings data for each work group in the trunk lines, this information is collected from the ICAO, Digest of Statistics, Fleet and Personnel, which assembles worldwide airline statistics.

Data for the Canadian industry and for the major airlines, Air Canada and Canadian/CAIL, and for each labour group comes from Statistics Canada. However when employment and earnings data are compared across carriers, the data

used are assembled from ICAO, Fleet and Personnel.

Contractual wage rates for each work group and for fixed seniority and job classifications in the four airlines (American, Northwest, Air Canada and Canadian/CAIL) are extracted from collective bargaining contracts.

Data on earnings and employment from other industries, manufacturing and the transportation-communication-utilities aggregate are obtained from various sources. In the US, from The National Income and Product Accounts of the United States and Survey of Current Business. In Canada, from Statistics Canada-Employment Earnings and Hours and from Aggregate Productivity Measures. While the large sample of workers and the availability of data over a long time period make these data valuable, they do not provide informations on union status and the firms' market power. This suggests caution in the interpretation of the results.

Table 3.1 summarizes these variables and their data sources.

TABLE 3.1
VARIABLE DESCRIPTION AND DATA SOURCES

US SCHEDULED INDUSTRY

Available Seat/Ton Miles (ASM/ATM)	Air Transport Association (ATA) Facts and Figures
Revenue Passenger/Ton Miles	ATA Facts and Figures
Profits	ATA Facts and Figures
Employment: Total	ATA Facts and Figures
Selected Crafts	ATA Facts and Figures

US TRUNK LINES

Available Seat/Ton Miles (ASM/ATM)	CAB 'Form 41' (1960-1977) Carriers Annual Report (1978-1990)
Revenue Passenger/Ton Miles	CAB 'Form 41' (1960-1977) Carriers Annual Report (1978-1990)
Profits	CAB 'Form 41' (1960-1977) Carriers Annual Report and ATA (1978-1990)
Total Employment & Labour Expenses	CAB 'Form 41' and Employment and Earnings Supplement (1960-1977) Carriers Annual Report and ATA (1978-1990)
Craft Employment & Average Earnings	ICAO-Digest of Statistics Fleet and Personnel.

CANADA: INDUSTRY AND MAJOR AIR CARRIERS

Available Seat/Ton Miles	Statistics Canada
Revenue Passenger/Ton Miles	Statistics Canada
Profits	Statistics Canada
Employment & Average Earnings	Statistics Canada
Employment & Average Earnings for Selected Crafts	Statistics Canada ICAO-Digest of Statistics Fleet and Personnel

US: VARIOUS INDUSTRIES

Employment & Earnings	The National Income and Product Accounts of the USA

CANADA: VARIOUS INDUSTRIES

Employment & Earnings	Statistics Canada Aggregate Productivity Measures Employment, Earnings and Hours.
Rate of exchange (US-Canadian dollars)	Department of International Economic and Social Affairs. Monthly Bulletin of Statistics (UN)

NOTES TO CHAPTER 3

1. For a review of studies on the effects of economic regulations and methodologies used refer to Joskow and Rose 1989.

2. In the 1970s fares were set on the basis of the industry's costs, revenue and a variable rate of return-on-investment. Costs were calculated on an estimated 55% load factor, thus costs which arose from operating below this level were ignored. In addition, at times, regulatory lags prevented wage raises to be translated immediatly into price increases.

3. There have been a few instances when the MAP may have benefited some carriers. It is believed that Northwest by closing operations for 160 days in 1970 and 109 days in 1978, following the strikes of its mechanics and pilots, and capturing a considerable share of MAP payment may have benefited from the MAP. The plan members had to provide any struck carrier with 'windfall' payment (or the extra revenue accrued to the joining carriers attributable to the strike less the expenses of carrying the additional traffic) plus 50% of the carrier's normal operating expenses if the 'windfall' payments did not cover 25% of its expenses during the strike.

4. The literature on bargaining outcomes yields competing hypotheses about the effects of union rivalry. Some studies note that union rivalry may lessen the power of unions as employers may play one union against the other, thus forcing unions to expend energy and resources to stay in power. Alternatively,union rivalry may increase militancy, as unions strive to deliver higher wages and benefits (Nay, 1991).

5. Kahn (1980) notes that demands based on interfirm comparisons were encouraged by the emergency board which relied on the comparison before making recommendations.

6. Some of these studies are: Card (1989) on the airline industry, Rose (1987) and Hirsch (1988) on the trucking industry in the US.

CHAPTER FOUR

COLLECTIVE BARGAINING IN THE US AIRLINE INDUSTRY

4.1. INTRODUCTION.

This section examines the outcomes of collective bargaining in the US airline industry prior to and after deregulation. It also tests the hypotheses that if regulation produced higher wages than in competitive industries (i) earnings in the post-deregulation period should generally decrease; (ii) the rate of decline should be greater in industry-related occupations than in those with skills transferable outside the industry.

The analysis includes average earnings and employment of the total labour force and of single crafts in the 'trunks' or major carriers.♠ These airlines are: American (AA), Braniff (BR, 1960-1980), Continental (CO), Delta (DL), Eastern (EA), National (NA, 1960-79) NorthWest (NW), Pan American (PAM), Trans World (TWA), United (UAL) and Western Airlines (WS, 1960-86).

The first part, section 4.2, describes the growth and the economic performance of the trunk sector. Section 4.3 outlines the effects of these trends on the trunk lines' total employment and average compensation and compares them

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♠. In this paper, the terms trunk and major carriers are used interchangeably. These terms refer to the airlines which operated regularly since 1960 and were classified by the CAB into the 'trunk' category.

to those of the scheduled industry before and after deregulation. Since the trunk carriers were the dominant sector and leaders in labour relations, this section also explores the extent to which the economic reforms changed the patterns of bargaining outcomes. Section 4.4 presents data on employment, compensation and industrial conflicts of selected occupations in the trunk sector to assess their bargaining power during the two periods. These include: pilots, flight attendants, mechanics and related workers and traffic and sale personnel.

Subsequently, to evaluate whether post-deregulation labour outcomes in the airline industry were not due to the effects of general economy-wide variations, trends in average earnings and employment in the air industry and in the trunk sector are compared with similar trends in other industries, such as manufacturing, deregulated surface transportation and regulated public utilities (electricity, water and gas).

4.2. TRENDS IN THE ECONOMIC PERFORMANCE OF THE AIRLINE INDUSTRY.

4.2.i. Industry Growth and Concentration.

Figure 4.1 (Table I.1) shows the aggregate growth of the trunk sector and of the total scheduled industry. The data clearly reveals that the trunk lines have always been the dominant sector in the industry.

During the regulated period, in the years 1960-1970, when the carriers switched from piston to jet aircraft, passenger capacity (ASM)[b] more than tripled, increasing at an annualized rate of growth of 17%. This generated an increase in the volume of sales (RPM)[c] equal to 15% annually. This growth can be mostly attributed to the trunk sector which, alone, accounted for 15% in ASMs and RPMs.

In the 1970s the 'jumbo jet' was launched. Its introduction coincided with the cyclical contraction of 1970-1974 and a long recession followed by the oil embargo that triggered high inflation rates in the whole economy. Thus, it did not offer the same immediate growth as had previous innovations. From 1970 to 1975 capacity and traffic declined in both sectors and it was not until 1976,

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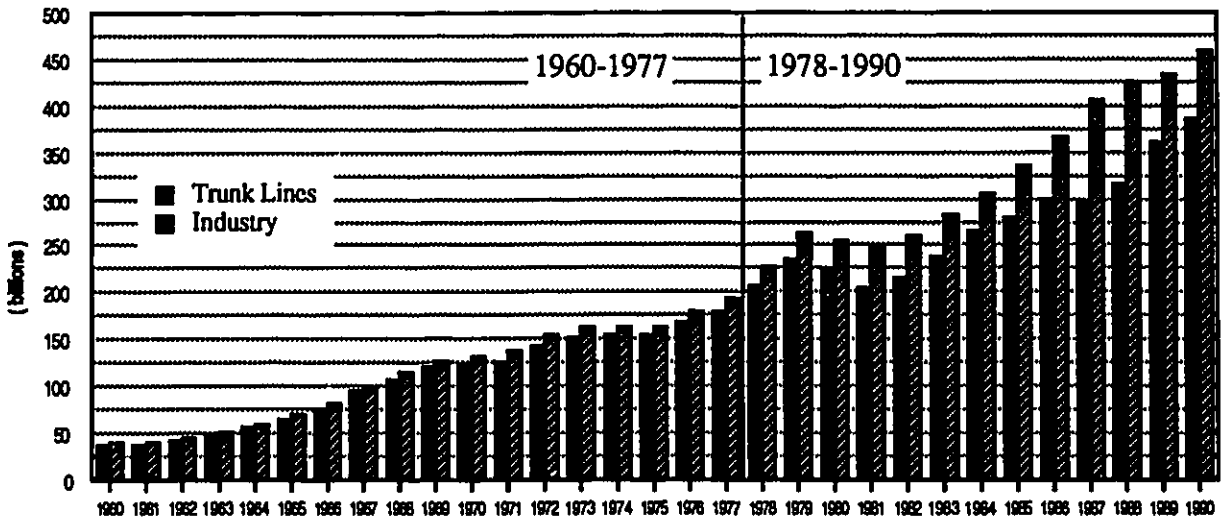
[b]. Available Seat Miles (ASM) are units of production of the carriers. They represent the total passenger carrying capacity offered and they are obtained by multiplying the number of miles flown on each flight by the number of seats available.

[c]. Revenue passenger mile (RPM) represents the carriage of one passenger for one mile. It is obtained by totalling the number of miles flown by each passenger.

Fig 4.1 – Trunks and Scheduled Industry
Revenue Passenger Miles 1960-1990



as the economy recovered and the CAB began to liberalize fares and routes, that output (ASM/RSM) rose again.

Throughout the regulated period the trunks' market shares remained fairly constant (about 92% of ASM).

In the post-regulation period, from 1978 to 1990, with free entry and price competition unleashed by deregulation, there have been two significant shifts in the trunks market position.

First, during 1979-1985, output grew faster in the total scheduled industry than in the major sector. In 1979, the industry, probably by expanding into the trunk lines' lucrative routes, increased capacity by 13% compared to 9%

in the trunk sector.

In the following years, 1980-1985, which witnessed a second oil shock, the Professional Air Traffic Controllers (PATCO) strike, followed by a short but severe recession, the former trunks suffered the worst losses. Domestic and system capacity was reduced in 1981, growth was sluggish, two carriers went bankrupt (Braniff and Continental), and their market shares kept declining relative to the industry.

These events began eroding the trunks' dominant position and had repercussions on labour relations. From 1980 to 1985 the industry's capacity and traffic increased by 5% and 6% annually compared to a modest 2% and 3% in the major sector. This decreased the former trunks' market shares from 91% in 1978, to 75% in 1985, or a drop of 16%. This was the largest loss experienced by these carriers in their whole history and while it is partly due to the recession, the abolition of entry barriers and price competition have certainly added to their decline.

This trend reversed in 1986. Under an improved economy, the ex-trunks, by a series of consolidations, market and operational strategies[4] and rapid growth by some carriers (UAL and AA) regained their market power. From 1986 to 1989, output in the trunk sector increased faster than in the total industry (7% in ASM and 8% in RPM compared to 4% and 6% in the industry), and in 1989, they held 83% of the total scheduled market, an increase of 8% points from 1985.

4.2.ii.The industry economic performance: Profits and costs.

The economic performance of the airline industry is usually measured in terms of yield or revenue per passenger mile (a commonly used measure of average fare), unit cost (expenses per ATM) and unit revenue (revenue per RTM).[d] Earnings are measured in terms of 'operating profit' and 'net profit margin' as a percentage of operating revenue. The first indicates the profitability of the carriers' total operations. The other includes the effects of interest payments, expenses, taxes and investment credits, and is the amount available for dividends or investments. Both measures are used here and are illustrated in figure 4.2 (Table I.2).

The major economic factors related to the carriers' operations are illustrated in table 4.1 and figure 4.3. The first shows the average performance of the trunk lines in terms of yield, revenue and cost per unit of production (measured in terms of ATM and RTM) and the difference between them - the so called 'point spread' -. These prices are reported in real 1986 dollars. Fig.4.3 shows the proportion of labour costs as a percentage of the carriers' total operating expenses.

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[d]. Available Ton Miles (ATM) is the total ton miles of lift capacity available for sale. Revenue Ton Miles (RTM) are the ton miles sold. In the construction of this traffic measure passenger miles are converted to ton miles on the basis of about 10 to 1. That is ten passengers with allowable baggage are accepted as equalling one ton (ATA).

It is apparent from Figure 4.2 that profits have fluctuated greatly throughout the years. Returns decreased during phases of economic contractions, such as in 1961 and 1970, while they increased when the economy was good and in response to the productivity generated by more efficient aircraft and equipment, as in the mid-1960s and from 1972 to 1974.

In the mid-1960s and until 1968, as a result of the greater productivity from these innovations and higher load factors - which substantially reduced yield and unit cost - profits nearly doubled and the carriers were able to retain an annualized net profit margin of approximately 4.6%. During this time profits came more from a decrease in unit cost than from increases in unit revenue. As shown in table 4.1, in 1968 real unit cost was nearly half the 1960s level while unit revenue kept declining.

This trend changed in the 1970s. As the economies resulting from changing from piston to jet-aircraft began to 'bottom out' and under the effect of the recession, starting in 1969, profits began to fluctuate, decreasing in the early 1970s (in 1970 and 1975, the carriers showed a loss) and rising again in the later years. At this time, real yields stagnated; costs, probably in response to the overcapacity and the high cost of fuel and labour, escalated; and profits shrunk. However, in 1978 the trunk lines reported the highest profits of the decade.

The first years of deregulation coinciding with a new recession were associated with a deterioration of the financial performance of the trunk carriers as a group. From 1979 to 1983 the trunk lines posted operating losses and net losses from 1980 to 1983 and in 1986. This was the first time that these carriers recorded four years of losses. It contrasts with other economic contractions in which losses or near-zero profits occurred for only one year duration, as in 1961, 1970 and 1975. It thus appears that in the first years of deregulation, the former intra-state, charter and new airlines, by injecting new capacity at competitive prices (due to their low cost structure) into the density markets previously controlled by the trunklines, eroded these carriers source of financial strength and began to influence their economic performance.

An examination of the table reveals that in 1980-1981 the trunks lack of profitability occurred because unit costs increased faster than unit revenues. During 1982-83, unit cost decreased but, probably under the impact of the 'fare-wars', so did yield and unit revenue thus affecting profits. Between 1979-1983 the point spread - the difference between unit revenue and cost per RTM - turned negative indicating that operating costs per unit of sale increased faster than unit revenue.

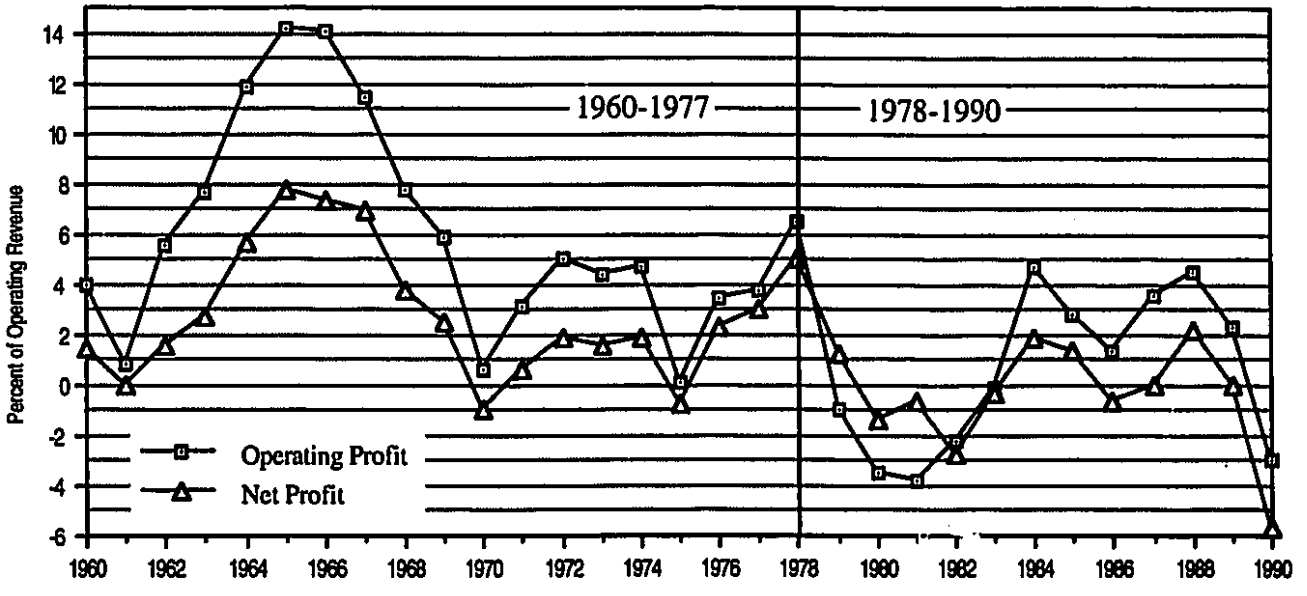
TABLE 4.1.
YIELD, UNIT REVENUE AND COST

YEAR	REAL YIELD	REAL UNIT COST(atm)	REAL UNIT REVENUE(rtm)	REAL UNIT COST(rtm)	POINT SPREAD	YEAR	REAL YIELD	REAL UNIT COST(atm)	REAL UNIT REVENUE(rtm)	REAL UNIT COST(rtm)	POINT SPREAD
1960	0.22	1.07	2.18	2.09	0.09	1976	0.15	0.66	1.30	1.25	0.04
1961	0.23	1.04	2.11	2.09	0.02	1977	0.15	0.66	1.30	1.25	0.05
1962	0.23	0.97	2.10	1.98	0.12	1978	0.14	0.65	1.23	1.15	0.08
1963	0.22	0.90	2.02	1.86	0.15	1979	0.13	0.67	1.22	1.23	-0.01
1964	0.21	0.82	1.95	1.72	0.23	1980	0.15	0.72	1.30	1.34	-0.05
1965	0.21	0.77	1.83	1.57	0.26	1981	0.15	0.74	1.36	1.41	-0.05
1966	0.19	0.75	1.63	1.40	0.23	1982	0.14	0.70	1.20	1.23	-0.03
1967	0.18	0.70	1.46	1.30	0.17	1983	0.13	0.68	1.15	1.15	0.00
1968	0.17	0.64	1.37	1.27	0.11	1984	0.14	0.63	1.15	1.10	0.05
1969	0.17	0.60	1.35	1.27	0.08	1985	0.12	0.63	1.11	1.08	0.03
1970	0.16	0.60	1.30	1.30	0.01	1986	0.11	0.60	1.04	1.02	0.01
1971	0.16	0.57	1.33	1.29	0.04	1987	0.11	0.58	1.02	0.98	0.04
1972	0.16	0.59	1.30	1.23	0.07	1988	0.11	0.59	1.02	0.97	0.05
1973	0.16	0.58	1.28	1.23	0.06	1989	0.11	0.61			
1974	0.16	0.65	1.37	1.31	0.06	1990	0.11	0.61			
1975	0.15	0.64	1.32	1.32	0.00						

Source: Yield data are from Moody Transportation Manuals. Yields and unit costs are for domestic operations only. From 1981 to 1990 data include all carriers classified as 'Majors'.
Unit Revenue and cost per RTM are calculated from the trunklines' annual reports.

Figure 4.2 – Operating and Net Profits

Trunks Sector 1960-1990



In 1984 as the economy improved and the organization of the airline market began to shift from 'unrestrained' competition to a relatively small group of oligopolistic firms, the profitability of the remaining former trunks rebounded. Between 1984-1988, profits were attained from lower unit cost and higher loads, since unit revenue and yield kept declining. During these last two years, profits were relatively high. However, in 1990, with the beginning of a new recession and negative world events (Iraqi war), the profitability of these carriers took a downward dip which is indicative of the impact of the business cycle on the industry performance.

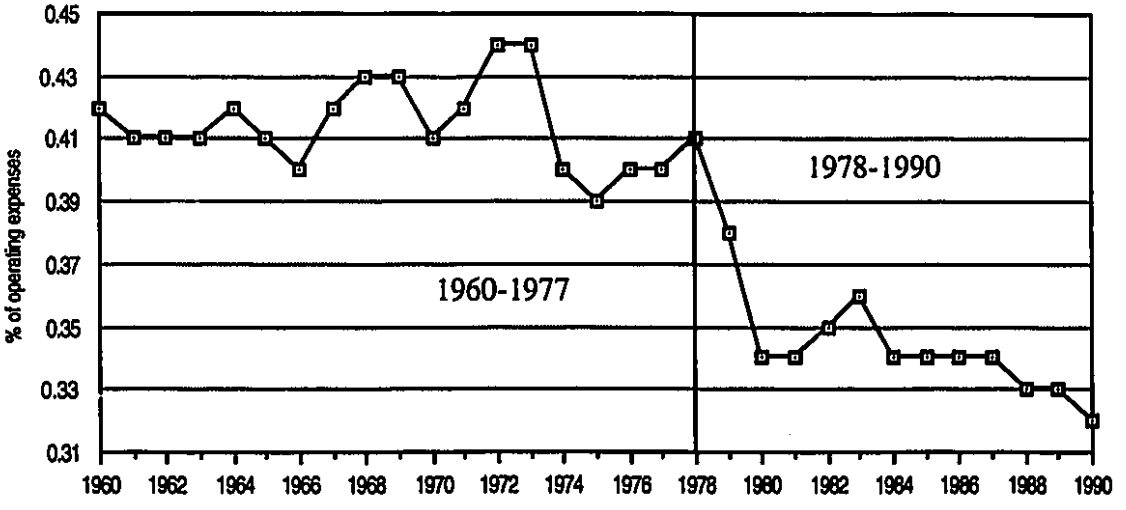
The major factors in the carriers' operating expenses include labour, fuel and a variety of goods and services such as utilities, food, oil, advertising services, landing fees, capital costs and maintenance materials.

As shown in Fig.4.3 (Table I.3), labour was and remains the largest part of the industry operating expenses. In the 1960s it represented approximately 42% of the trunks' total operating costs. In the jet era, it moved gradually upward to reach a record level - 44%, in 1970 -. In 1974, as the price of fuel significantly increased, the proportion of labour costs began to decline but in 1978 labour still accounted for 41% of the carriers' total operating expenses.

In the post-1978 period, labour costs abated, declining

from 38% in 1979 to 34% in the mid-1980s and to 32% in 1990. While the decrease in the share of labour in total costs of the 1980s is partly attributable to the higher price of fuel (between 1978-1981 it rose about 90%) the decline after 1983 when fuel prices decreased annually, can only have reflected either reduced employment costs and/or higher productivity.

Fig 4.3 – U.S. Trunk Sector
Labour Costs



4.2.iii Differences among carriers:Market shares, Profits and Costs.*

During the 1960s, the 'Big Four', American, Eastern, TWA and United held 62% of the total scheduled market (ATM). When PanAm, restricted to overseas routes, is included, this amounts to 77%.

Throughout the period of regulation the CAB policy of awarding new route authorization with the purpose of strengthening financially weak airlines, restrained the size of these carriers to the advantage of the smaller trunks. By 1978, the market share of the 'Big Four' was reduced to 55%, (67% if PanAm is included). Delta, after merging with Northeast in the mid-1970s, became the fifth largest carrier, enlarging its market size from 5% in 1960, to 10% in 1978.

Under regulation, labour expenses as a proportion of total costs were relatively similar across carriers, as were profits. Except for financial losses incurred in a few cases during the slowdown of the 1970s (PA, EA, AA, UAL and TWA), the sector as a whole fared rather well and by 1978 all carriers earned significant profits.

In the post deregulation period, the market performance of the trunk lines was erratic.

At one extreme, some carriers grew during the entire

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*. These data have been obtained from the carriers' annual reports and are available on request.

deregulated period. American and United, after an initial set-back, recovered rapidly and they became the dominant airlines. Delta, a non-union carrier except for its pilots, and Northwest, often cited for its hard-line attitude toward unions, thrived throughout this period. Through mergers Delta and Northwest increased their market shares from 10% and 5% respectively in 1978 to 15% each in 1989. By the end of the recession, these four carriers became the most successful and by 1989, they held 68% of the 'trunks' market shares and 83% of the total product market.

At the other extreme, deregulation and the recession had an adverse effect on the other carriers which for different reasons collapsed, (BR, NA, WS, EA[2] and PanAm[3]) or shrunk (CO, TWA).

Thus, if during regulation five trunk lines (AA, EA, TWA, UAL, PanAm) dominated the industry, accounting for 67% of the trunk market, in 1989 four of the former trunk lines (AA, DL, NW, UAL) still held 68% of the major market.

Deregulation also appears to have decreased the carriers proportion of labour costs to total operating expenses. However there is no clear relation between this measure and the carriers' economic performance. The share of labour costs is above average at American and United, the two dominant airlines, but also at financially troubled firms (TWA, EA). Delta has the highest proportion and, excluding Continental, Northwest has the lowest.

Table 4.2 summarizes data on the economic performance of the major sector over the past 30 years. The first part includes two measures of output, capacity (ASM) and sales (RPM); load factor (the average ratio of filled seats) and market shares (ASM) of the trunk lines; average real price per seat mile, real cost per unit of sale, the ratio of labour cost to operating expenses and of net profit to revenue. The second part reports the annualized rate of growth of these variables for selected periods.

The picture that emerges from these data is that in the first years of deregulation, 1978-83, output growth was sluggish (capacity and traffic increased by 2% and 3% annually or half the 1968-78 rate), market shares fell, real price per seat mile stagnated, unit cost spiralled upward and profits dropped.

Whether deregulation or the recession was responsible for the trunks' severe setback during these years is a subject of intense debate. Both appear to have played a role. While the negative performance of the early 1980s is partly attributable to economic forces, this was aggravated by the new price competition from low cost operators and other trunks and the 'fare wars' that began eroding the trunks' market share and further dampened profits. It is certain that the losses of the early 1980s, the sharpening of market forces and the freedom efforded by deregulation changed the economic behavior of the major carriers.

Starting in 1983, with the resurgence of traffic and an economic upswing, the remaining former trunks began to realign their costs and operations and to evolve new strategies to regain their market supremacy.

From 1983 to 1989, capacity grew by 7.6% and traffic by 7.3% annually. This increased the trunks market share to roughly the pre-deregulation level (in 1989 these were eight percentage points below the 1978 level). However while during the post-deregulation years, 1978-1989, output (ASM) grew less quickly than in the previous ten years of regulation (capacity by 5.1% and traffic by 5.4% compared to 5.6% and 6.9% respectively), load factors increased substantially. This suggest that the carriers eliminated part of the overcapacity produced under regulation.

Profits fluctuated throughout the years. While the highest profit ratio in the 1960s is partly due to the rapid expansion of the industry with the jet-age, between 1983-1989 the ratio of profit of these carriers appears to have declined compared to the regulated period.

Real price per seat mile decreased throughout the years, and this decline persisted in the post-deregulation period. During this period, cost per unit of sale and the ratio of labour expenses decreased sharply. This decline is more evident in the post-1983 period. From 1983 to 1989, unit cost fell by about 3% annually compared to 2% during the period 1966-78 and the proportion of labour costs to

about 2.8% annually and the proportion of labour costs to operating expenses decreased by 4% from the 1983 level. However, both yield and unit cost data should be interpreted with caution due to the wide variation in fuel costs occurring during this period (Dempsey 1990).

To see to what extent these changes affected the labour force in the major sector, the next section compares trends in employment, average labour earnings and productivity during the two periods.

TABLE 4.2
US TRUNK CARRIERS
ECONOMIC PERFORMANCE
ANNUAL LEVEL & GROWTH RATES

YEAR	ASM	RPM	MARKET SHARE ASM	LOAD FACTOR	REAL YIELD RPM	REAL UNIT COST RPM	RATIO LABOUR COSTS	RATIO NET PROFITS
1. ANNUAL LEVELS								
1960	57520	35168	0.88	0.61	22.26	209.04	0.42	1.5
1966	126612	75418	0.92	0.60	19.22	139.80	0.40	7.3
1968	197869	107467	0.92	0.54	17.14	126.51	0.43	3.8
1970	240295	121906	0.91	0.51	16.33	129.58	0.44	-1.0
1975	279580	152798	0.92	0.55	14.97	131.91	0.39	-0.8
1978	337390	207542	0.91	0.62	13.58	115.34	0.41	5.0
1980	374092	224301	0.86	0.60	15.05	134.23	0.34	-1.4
1983	367381	236492	0.79	0.64	13.25	115.30	0.36	-0.3
1984	394048	264089	0.76	0.67	13.76	109.82	0.34	1.9
1985	413302	280452	0.75	0.68	12.48	107.63	0.34	1.4
1986	465101	300162	0.77	0.65	11.09	102.46	0.34	-0.6
1987	533425	296504	0.82	0.56	10.97	97.94	0.34	0.0
1988	565532	315465	0.84	0.56	11.37	97.43	0.33	2.2
1989	566172	359479	0.83	0.63	11.43	97.43	0.33	0.0
1990		384425			11.06		0.32	-5.7
2. GROWTH RATE (percent per year)								
1965-77	9.2%	9.0%			-3.0%	-3.0%		2.5%
1966-78	8.0%	9.0%			-3.2%	-2.0%		2.3%
1977-83	2.6%	5.0%			-1.5%	-1.0%		0.2%
1978-83	2.0%	3.0%			0.0%	0.2%		-0.8%
1983-89	7.6%	7.3%			-2.4%	-3.0%		0.8%
1977-89	5.2%	6.3%			-2.0%	-2.0%		0.5%
1978-89	5.1%	5.4%			-1.2%	-1.4%		0.1%

4.3. THE LABOUR FORCE: EMPLOYMENT, COMPENSATION, OUTPUT.

To ascertain whether government intervention into the affairs of the industry raised bargaining outcomes beyond what would have occurred in a competitive market, part 4.3.i and 4.3.ii report employment and productivity data of the labour force in the two sectors of the industry as well as employment trends of selected occupations in the total industry. Part 4.3.iii reports aggregate average earnings.

4.3.i. Trends in Employment and Labour Productivity.

Figure 4.4 displays annual employment levels in the scheduled industry and in the trunk sector. Figure 4.5 reports an indexes of labour output and real labour unit cost (both measured in terms of ASM) with 1978 as base year (Table I.3). These last variables are efficiency measures. The first gives an insight of the carriers ability to adjust employment to output. The second is a composite measure and reflects changes in traffic, labour costs and employment.

It is apparent from these data that in the decade of the 1960s, as a result of the productivity of the jet aircraft, a generally prosperous economy, and under the protection of the CAB, employment grew steadily, increasing at an annual rate of 6.9% in the trunks and 6.2% in the industry. During these years productivity grew dramatically while unit labour costs declined sharply.

This steady growth slowed down in the next years. From

1970 to 1978, employment increased by .6% annually in the trunks and 1.4% in the industry and unit labour costs began to stagnate.

In the post-deregulation period, employment in the majors sector first increased then, from 1979 to 1983, under the effect of the recession, the new competition and the various crises that beset this sector, was curtailed by 17%, a loss of 46,837 jobs. This decline contrasts with previous economic crises (1971, 1974-1975) when employment underwent only minor cuts. In 1984 employment recovered but it was not until 1986 that the former trunks attained their 1979 level. From 1986 to 1990, in a consolidated market, both the trunk and the scheduled airlines set an all time record high.

Labour productivity which slowed down in the first years of deregulation, in 1982, probably under the impact of the employment cuts, moved swiftly upward while real unit labour costs kept moving downward. However, beginning in 1986, after the consolidation of the trunks into 'mega-carriers', both measures seem to indicate stagnation.

These data show that, despite the losses of the early years, in the post-deregulation period employment increased dramatically. From 1978 to 1990 employment grew at an annual rate of 3% in the trunks and 4% in the industry

compared to 3% and 2.7% in the period 1966-78. The significant employment growth of the industry is partly the result of the consolidation of regional airlines which, during deregulation, evolved into 'major' carriers.

These data also indicate that while productivity was higher during regulation (between 1966-78 it increased 5% annually compared to 2.4% in 1978-89), unit labour costs declined more rapidly in the post-1978 years (1.7% before and 2.5% after). Moreover, while both variables are highly and negatively correlated, the strength of the correlation is sligthly higher in the post deregulation period (-.97 compared to -.89). However these data being based on a simplistic measure of output, should be treated with caution. In the 1970s labour output was helped by rapid technological changes. In the 1980s aircraft technology improved at a much slower rate while carriers made operational and marketing changes not reflected in this measure.

A better view on productivity changes is thus gained from unit labour costs that measure the ability of the carriers to increase output and labour utilization (by adding seats and/or flying more hours) while decreasing overall labour expenditures. In the post-1978 period, unit labour costs fell to half the rate of the previous era. Thus, broadly defined, productivity increased.

Fig 4.4 U.S. Scheduled Airline Industry
Total Employment

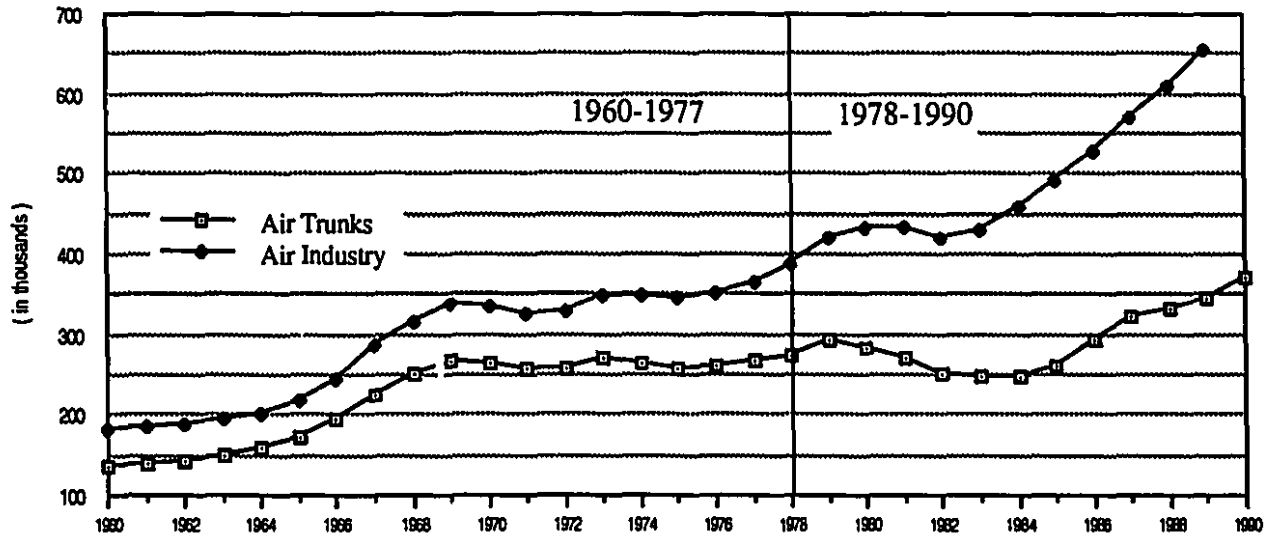
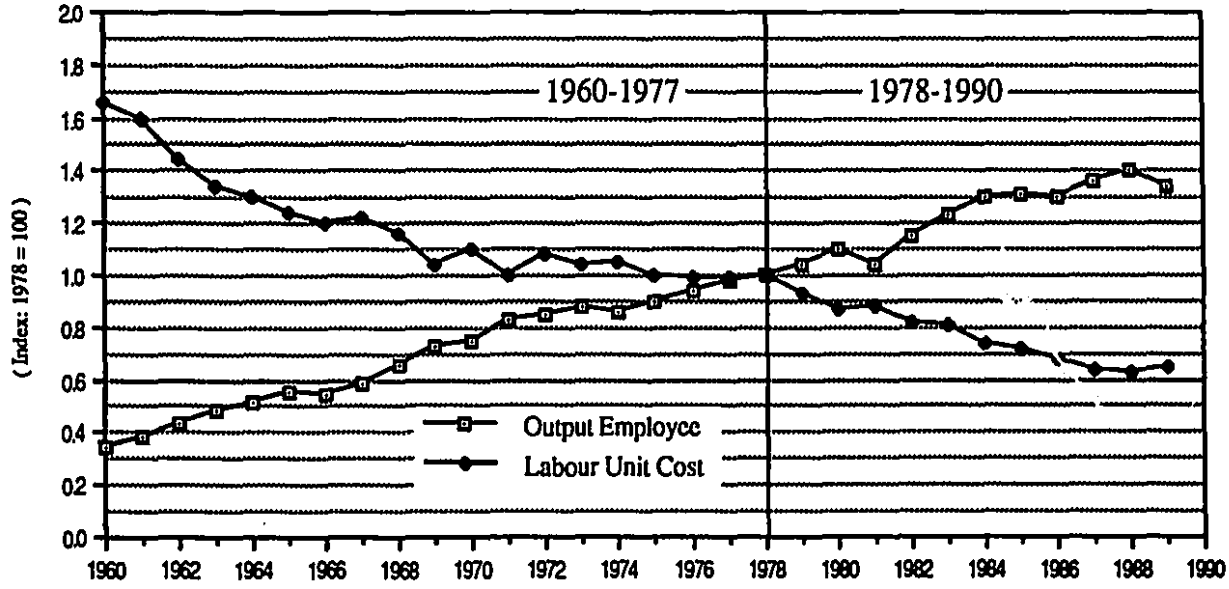


Figure 4.5 – Trunk Carriers
Labour Output & Real Unit Cost per ASM



4.3.ii Employment of Selected Occupations in the Industry.

In this section I present employment data for selected occupations in the total industry. An analysis of employment and average earnings of single crafts in the trunk sector, using a different data set, is presented in section 4.4.

The employment data, shown in Figure 4.6 and Table 4.3, again reflect both the remarkable early growth of the industry and its sensitivity to the economic cycles.

The employment level of the major occupations in the industry grew rapidly in the mid-1960s with ground passenger service, clerical employees and mechanics holding the greatest proportion of overall employment. Although the recession of the 1970s resulted in some employment cuts, by 1978 it recovered in all labour groups, except for maintenance and overhaul personnel.

During the first years of deregulation and the recession, 1981-1983, all occupations underwent severe employment losses (pilots 10%, attendants and mechanics, 11%, service and sales personnel, 22%) but in the following years, employment rebounded and this growth was shared by all labour categories, with the exception of office workers. A striking feature of table 4.3, is the overhelming increase of traffic-service and 'other' employees that began in 1986-1987 and the significant decline in the number of office workers that affected the employment proportions of the

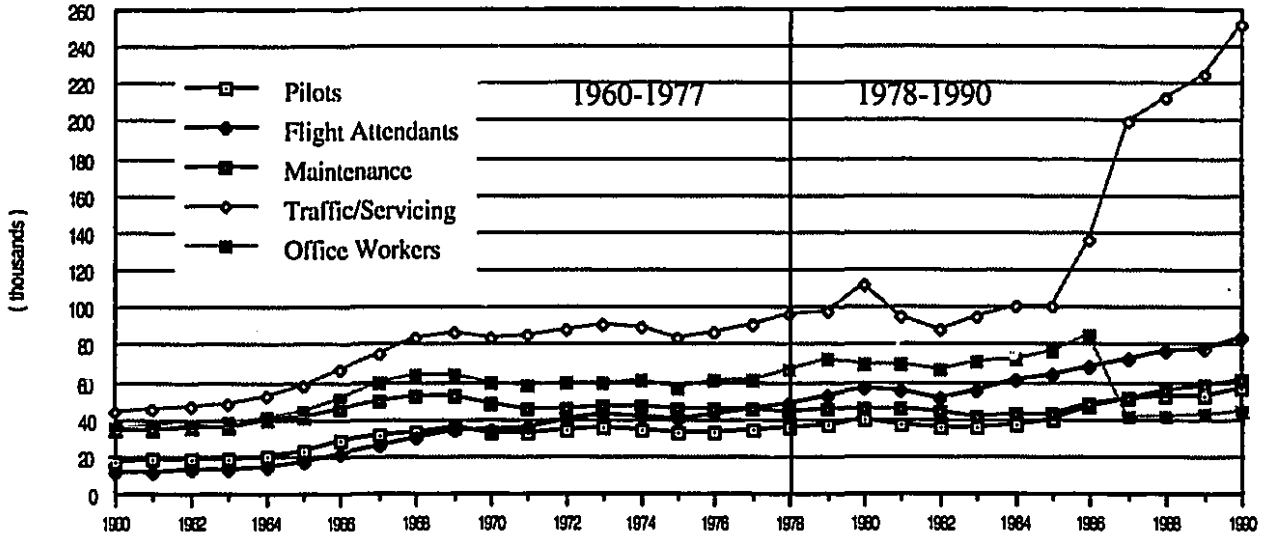
other categories. Adjusting for these variations, the proportion of pilots remained relatively uniform throughout the years, while that of flight attendants and maintenance and overhaul personnel increased.

These trends probably reflect the changes introduced into the industry by deregulation. The relative stagnation in the growth rate of pilots visible after 1989 is partly linked to the introduction of new aircraft, such as the B-767s, A-310s, B-747-400 and MD-80, which require only two rather than three-pilot crews. Moreover, the small decline in pilots'employment proportion in the early 1980s indicates that if there was a cutback in the trunk sector, this was partially offset by an increase in the other air sectors.

Of the ground occupations, both the severe cut in clerical workers and the rise in traffic and servicing jobs, seem to be related to recent developments in the industry. The first decline may be partly due to the use of travel agents and computerized reservation systems, and the streamlining of operations following acquisitions and mergers. The surge in traffic-servicing employment is very likely related to the trend towards 'hub-and-spoke' which requires a large number of workers to virtually simultaneously service a large number of inbound-outbound flights. It is also likely that a large share of this increase is made up of part-time employees. Although these data do not separate these two categories of employment, the

Fig 4.6 – U.S. Scheduled Industry

Number of Employees by Labour Category



greater use of 'part-time' ground workers became an important issue in the mid-1980s.

The number of mechanics, after a substantial decline in the early 1980s, in the post-1984 period with the expansion of the industry, increased significantly and their growth rate exceeded the rate of the previous 15 years.

TABLE 4.3
US SCHEDULED AIRLINES
GROWTH-DISTRIBUTION OF
SELECTED OCCUPATIONAL CATEGORIES

YEAR	PILOTS			FLT.ATTENDANTS			MAINTENANCE			TRAFFIC/ SERVICING			OFFICE WORKERS			OTHERS WORKERS			
		Growth Rate	Dist.		Growth Rate	Dist.		Growth Rate	Dist.		Growth Rate	Dist.		Growth Rate	Distrib.		Growth Rate	Distrib	TOTAL
1960	17346		10.4%	10600		6.4%	34181		20.6%	43334		26.1%	35440		21.3%	25334		15.2%	166235
1961	18098	4%	10.6%	11858	12%	7.0%	34065	0%	20.0%	44617	3%	26.3%	36642	3%	21.6%	24661	-3%	14.5%	169941
1962	17971	-1%	10.4%	12178	3%	7.0%	34925	3%	20.2%	46696	5%	27.0%	36952	1%	21.4%	24105	-2%	13.9%	172827
1963	17967	0%	10.2%	13064	7%	7.4%	35404	1%	20.1%	47992	3%	27.2%	37626	2%	21.4%	24136	0%	13.7%	176223
1964	19551	9%	10.2%	14470	11%	7.5%	39360	11%	20.5%	51944	8%	27.1%	40325	7%	21.0%	26168	8%	13.6%	191818
1965	21972	12%	10.4%	17322	20%	8.2%	41667	6%	19.8%	57532	11%	27.3%	44162	10%	21.0%	28140	8%	13.3%	210795
1966	27807	27%	11.4%	20925	21%	8.6%	45327	9%	18.6%	66641	16%	27.3%	50961	15%	20.9%	32367	15%	13.3%	244028
1967	30956	11%	11.2%	25100	20%	9.1%	50016	10%	18.1%	74943	12%	27.2%	59257	16%	21.5%	35751	10%	13.0%	276023
1968	32507	5%	10.8%	29970	19%	10.0%	52046	4%	17.3%	82950	11%	27.6%	63158	7%	21.0%	39820	11%	13.3%	300451
1969	34649	7%	11.1%	33621	12%	10.8%	52886	2%	17.0%	86462	4%	27.7%	63743	1%	20.4%	40561	2%	13.0%	311922
1970	32836	-5%	11.0%	34274	2%	11.5%	48177	-9%	16.2%	83637	-3%	28.1%	59992	-6%	20.2%	36458	-5%	12.9%	297374
1971	32900	0%	11.3%	35682	4%	12.2%	45759	-5%	15.7%	84931	2%	29.1%	58114	-3%	19.9%	34799	-10%	11.9%	292185
1972	33700	2%	11.2%	39408	10%	13.1%	45570	0%	15.1%	88098	4%	29.3%	58974	1%	19.6%	35377	2%	11.7%	301127
1973	34759	3%	11.2%	42819	9%	13.7%	47049	3%	15.1%	90193	2%	29.0%	59891	2%	19.2%	36788	4%	11.8%	311499
1974	33466	-4%	10.9%	41437	-3%	13.5%	46589	-1%	15.2%	89686	-1%	29.2%	60192	1%	19.6%	35948	-2%	11.7%	307318
1975	31992	-4%	11.0%	39435	-5%	13.6%	45104	-3%	15.6%	82770	-8%	28.5%	56829	-6%	19.6%	33796	-6%	11.7%	289926
1976	33182	4%	11.0%	42488	8%	14.0%	45714	1%	15.1%	86885	5%	28.7%	60068	6%	19.8%	34669	3%	11.4%	303006
1977	33976	2%	11.0%	44579	5%	14.5%	45054	-1%	14.6%	90445	4%	29.4%	60363	0%	19.6%	33651	-3%	10.9%	308068
1978	35768	5%	10.9%	48353	8%	14.7%	44467	-1%	13.5%	96428	7%	29.3%	66679	10%	20.2%	37608	12%	11.4%	329303
1979	37077	4%	10.9%	52694	9%	15.5%	44801	1%	13.1%	97953	2%	28.8%	71374	7%	20.9%	36797	-2%	10.8%	340696
1980	39042	5%	10.8%	56928	8%	15.8%	45010	0%	12.5%	111856	14%	31.0%	68829	-4%	19.1%	38549	5%	10.7%	360517
1981	36957	-5%	10.6%	54726	-4%	15.6%	45325	1%	13.0%	94897	-15%	27.1%	68600	0%	19.6%	41252	7%	11.8%	349864
1982	35044	-5%	10.6%	50860	-7%	15.4%	43393	-4%	13.1%	87813	-7%	26.6%	66997	-2%	20.3%	36402	-12%	11.0%	330495
1983	34960	0%	10.6%	55739	10%	17.0%	40395	-7%	12.3%	95080	8%	28.9%	70157	5%	21.3%	31038	-15%	9.4%	326648
1984	36997	6%	10.7%	60251	8%	17.5%	42558	5%	12.3%	100621	6%	29.2%	72368	3%	21.0%	32283	4%	9.4%	345079
1985	40153	9%	11.3%	63496	5%	17.9%	42791	1%	12.0%	100875	0%	28.4%	75839	5%	21.4%	31969	-1%	9.0%	355113
1986	45960	14%	10.9%	67891	7%	16.1%	47651	11%	11.3%	136205	35%	32.3%	84759	12%	20.1%	39217	23%	9.3%	421686
1987	50504	10%	11.0%	72697	7%	15.9%	51233	8%	11.2%	198892	46%	43.5%	40690	-52%	8.9%	43333	10%	9.5%	457349
1988	51602	2%	10.7%	76297	5%	15.9%	55001	7%	11.4%	211795	6%	44.1%	40611	0%	8.5%	45247	4%	9.4%	480553
1989	51741	0%	10.2%	77771	2%	15.3%	57282	4%	11.3%	225166	6%	44.4%	42717	5%	8.4%	52051	15%	10.3%	506728
1990	56035	8%	10.3%	83441	7%	15.3%	60952	6%	11.2%	251187	12%	46.0%	43883	3%	8.0%	50309	-3%	9.2%	545809

Source: Air Transport Association,
The Annual Report of the US Scheduled Airline Industry.

4.3.iii. Trends in Average Real Compensation per employee.

To examine movements in average earnings prior to and following deregulation, I have estimated a regression equation (Y (annual earnings) = earnings + X (unit of increase per year)) and the variability associated with the values around the linear trend (1-R2) for each period. This practice which eliminates the annual variations, has been adopted to simplify the interpretation of the data.

Figure 4.7 (Table I.5) and Table 4.4 presents respectively the predicted trends and regression results in real earnings of the labour force in the trunks and in the scheduled industry for the two periods.

It is apparent from these data that during the whole period of regulation earnings grew rapidly and steadily, increasing at an annual rate of over 3% in the trunks and 2.7% in the industry.

In the post-deregulation years, in 1979 average real earnings fell sharply in both sectors and kept moving downward throughout 1990. From 1978 to 1990 (1989 for the industry) the rate of growth fell by 1.3% annually in the trunks and 1.7% in the industry, suggesting a substantial reduction in earnings. However in 1980 there is an increase in inter-firm wage dispersion in the trunk sector and this variation increased significantly after 1983.* If in the

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*. The coefficient of variation increased from 4 in 1978 to 6 in 1980 and 16 in 1984-90. See Table I.6.

first years this could have been due to concessions given to 'vulnerable carriers', in the post-1983 period the introduction of the 'two-tier' wage structure, that pays significantly lower wages to new employees, may have affected this trend.

To see the effects of employment on earnings, a predictive equation for the two periods was estimated relating wages (d.v.) to employment (i.v.). The result, reported in Table 4.5, reveals that if during regulation the rate of compensation increased by .10 in the trunks and .07 in the industry for every additional employee, in the post deregulation years earnings declined by .04 in the trunks and by .02 in the industry for a similar employment growth.

These data indicate that from 1978 to 1990 real earnings declined by roughly a total of 15% in the trunklines and by 18% in the industry. The increase in inter-firm wage dispersion and the negative relation between earnings and employment also suggest that compensation probably became related to carriers' performance while deregulation created new jobs but at lower wage rates than would probably otherwise have occurred.

Fig 4.7 – Trends in Real Compensation

Trunks and Scheduled Industry

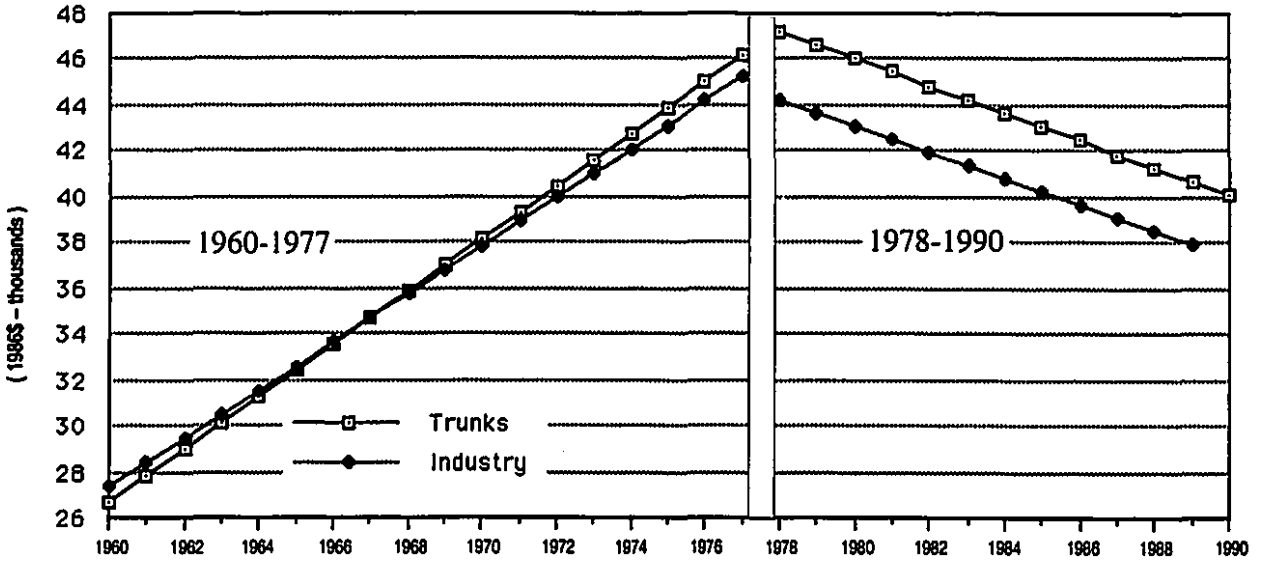


TABLE 4.4
Regression results of the two equations relating average earnings to year for the periods 1960-77 and 1978-90.

	TRUNK CARRIERS		SCHEDULED INDUSTRY	
	1960-77	1978-90	1960-77	1978-90
Constant	$ 26634	$ 47234	$ 27321	$ 44225
	(1072)	(1126)	(1052)	(803)
Year	$ 1150	$ - 598	$ 1053	$ - 575
	(49)	(83)	(48)	(67)
R Squared	.972	.824	.970	.880

TABLE 4.5
Regression results of the two equations relating average earnings to employee for the periods 1960-77 and 1978-90.

	TRUNK CARRIERS		SCHEDULED INDUSTRY	
	1960-77	1978-90	1960-77	1978-90
Constant	$ 13959	$56368	$ 15119	$ 53229
	(3029)	(1958)	(2163)	(978)
Employee	$ .10	$ - .04	$ .07	$ - .02
	(.01)	(.01)	(.01)	(.00)
R Squared	.777	.473	.865	.822

These data appear to support the hypothesis that regulation rendered employment relatively stable. The route and price protection enforced by the CAB granted the trunks a secure position in the product market. This gave labour a high degree of job security with unemployment almost unknown and generally linked to cyclical contractions.

Compensation increased rapidly throughout the 1960s and 1970s as unions took a share of the productivity generated by the new technologies. It appears that with carriers expanding, low yield and declining costs, pay rises could be met without much affecting product demand. Since wages were based on pattern bargaining, these spread to the industry.

In the post-deregulation period this picture changed. Earnings, beginning in 1984 under the impact of the 'two-tier' wage structure, turned negative, inter-firm wage dispersal increased and labour costs declined. These data also support the hypothesis that a different product market that evolved in the post-deregulation years forced carriers to become more efficient in the use of the factors of production and unions to face the employment-wage dilemma.

This negative trend in earnings persisted throughout 1990. In 1990 a new recession and the Gulf war produced profit losses across the industry. This suggests that changes that are still occurring in the industry, and the vulnerability of the carriers to the business cycle, are still exerting pressure on labour earnings.

4.4. COMPENSATION AND EMPLOYMENT OF SELECTED OCCUPATIONS.

This section compares trends in employment, average real earnings and productivity of selected crafts in the trunk sector to gain some insight into the response of trade unions to the changes brought about by deregulation. The labour categories included are pilots, flight attendants, maintenance and overhaul personnel and to a lesser degree the group of ticketing, sales and promotional personnel as reported by the ICAO.[4]

Institutional analyses of deregulation suggest that various factors affect a craft's bargaining power (Cappelli, 1985; Northrup, 1983; Walsh, 1988). Pilots and flight attendants have skills not easily transferable outside the industry. However pilots' skills require a lengthy and severe training. Their career is governed by the seniority acquired within an airline, which is not transferable if they move to other carriers, and they are represented by a single and powerful union, ALPA.[5]

Flight attendants'skills are less 'recognized', they are mostly acquired 'on the job' and after a short training. In the early 1970s the occupation changed from an all woman, short-lived job into a career-oriented one. This change led attendants to become militant and to move away from industrial unions and locals of pilot unions to independent flight attendant organizations.[6] Because of multiple unions representing this craft, it is thought that

union rivalry may increase its bargaining power (Cappelli 1987). However others maintain that union fragmentation, flight attendants' low replacement cost and management's concern that 'seniority' may lead to militancy are drawbacks which may erode their bargaining power (Walsh, 1988).

All ground personnel have skills that are relatively easily transferred to other settings and they are all represented by industrial unions. Mechanics are mainly represented by the IAM, which, unlike other unions in the industry, is highly centralized and has a national policy against wage dispersion. This made this craft the most militant in the industry. Sales employees are the least unionized, their skills are easily replaceable and they are mostly represented by industrial unions.

Table 4.6 lists the unions representing these crafts.

TABLE 4.6
UNION REPRESENTATION

AIRLINE	PILOTS	FLIGHT ATTEND.	MECHANICS	CLERICAL & AGENTS
AMERICAN	APA	APFA	TWU	
CONTINENTAL	ALPA	UFA	IAM	
DELTA	ALPA			
EASTERN	ALPA	TWU	IAM	
NORTHWEST	ALPA	IBT	IAM	BRAC
PANAM	ALPA	IUFA	TWU	IBT
TWA	ALPA	IFFA	IAM	
UNITED	ALPA	AFA	IAM	
WESTERN	ALPA	AFA	TWU	ATE

Legend:
AFA - Association of Flight Attendants
ALPA- Air Line Pilots Association
APA - Allied Pilots Association
APFA- Association of Professional Flight Attendant
ATE - Air Transport Association
BRAC- Brotherhood of Railway and Airline Clerks
IAM - International Association of Machinists
IBT - International Brotherhood of Teamsters
IFFA- Independent Federation of Flight Attendants
IUFA- Independent Union of Flight Attendants
TWU - Transport Workers Union
UFA - Union of Flight Attendants

SOURCE: Aviation Daily (1985)

4.4.i. Employment and Productivity by Labour Categories.

Figure 4.8 and Table 4.7 present predicted employment trends, and the regression results, of the major labour categories in the trunk sector. Figure 4.9 (Table I.4) shows productivity levels in index form, with 1978 as base year, measured as the ratio of employees to available seat miles so a fall in the index reflects growing productivity.

It is apparent that employment grew rapidly with the jet-era and the expansion of the industry. From 1965 to 1977 the number of pilots grew on average by 5% per year, agents by 3%, attendants by 6% (1971-77), and mechanics by over 1%.

In the deregulated period, during 1977-1983, under a changed economic climate - a deep recession, dramatic increases in fuel and interest costs, the grounding of the DC-10s[7] and the PATCO strike - pilots lost about 4500 jobs and attendants, 3800 (1980-83). Maintenance and sales personnel, after a spectacular growth, in 1982,at the bottom of the recession, were reduced. In 1984 and to a greater extent in 1986, with the recovery, the financial rebound of some carriers, and the mergers, employment picked up, mostly in occupations that had experienced earlier losses.

From 1977 to 1990 employment grew by roughly 3% per year for pilots and mechanics, and 4% for attendants. This increased the trunks' proportion of pilots by 1%, attendants by 3%, and doubled the proportion of sales personnel (1986). The proportion of mechanics remained approximately constant.

Fig 4.8 – U.S. Trunk Lines

Employment trends by Various Categories

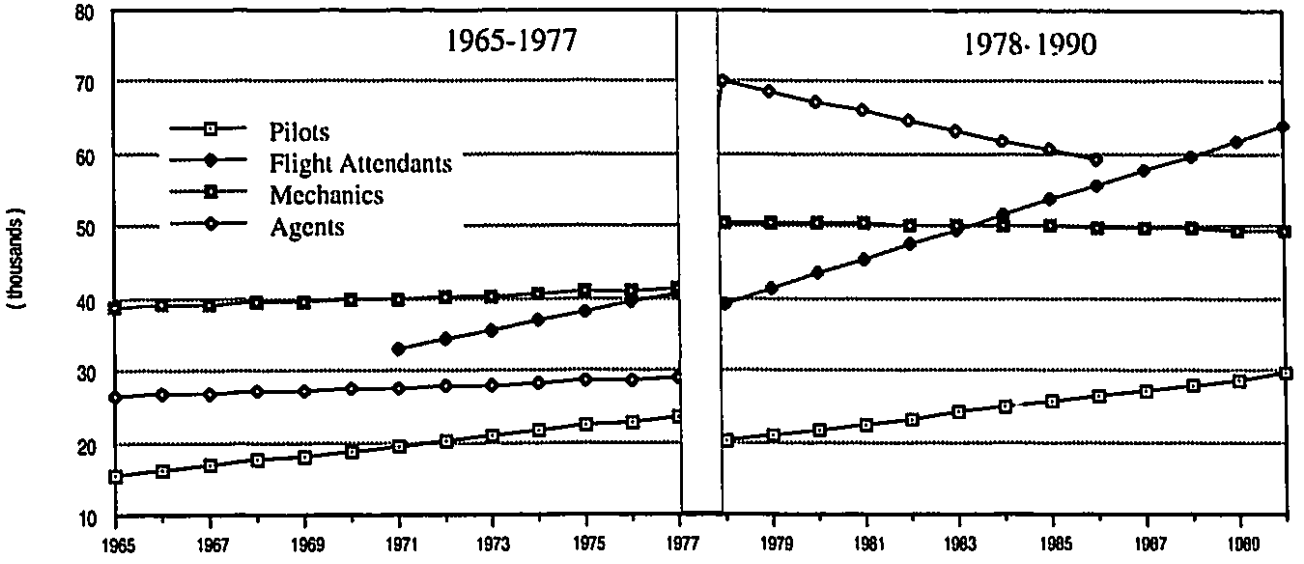


TABLE 4.7

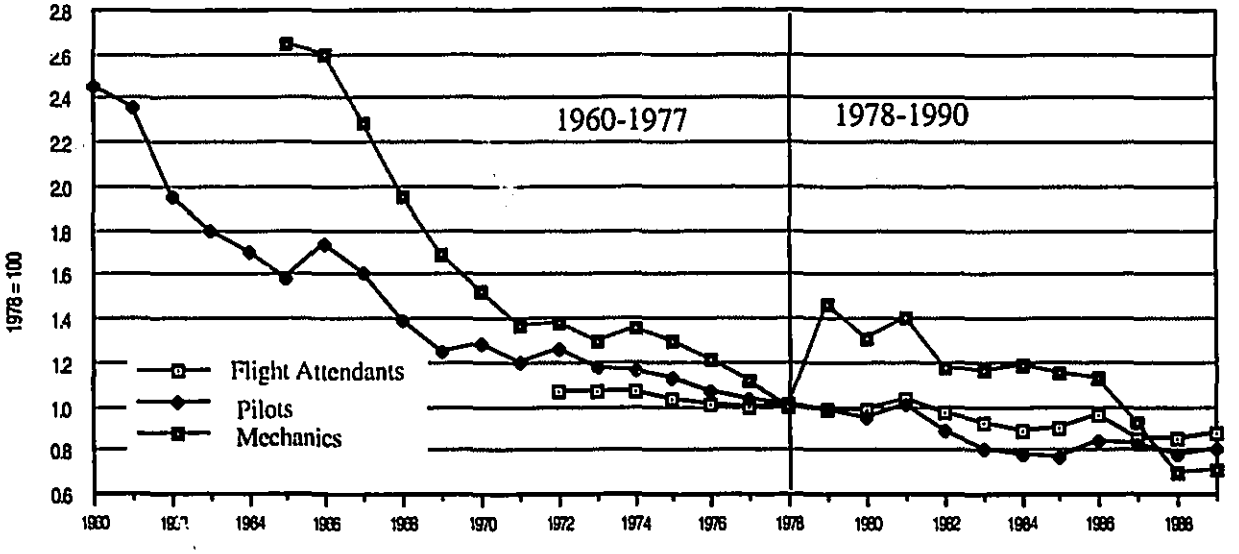
Regression results of the two equations relating the employment of selected labour groups to year for the periods 1965-77 and 1978-90.

	PILOTS		FLIGHT ATTENDANTS		MAINTENANCE OVERHAUL		GROUND AGENTS	
	1965-77	1978-90	1971-77	1978-90	1965-77	1978-90	1965-77	1978-86
Constant	n 15455 (1755)	n 20161 (3077)	n 33057 (2639)	n 39289 (4642)	n 38831 (2609)	n 50649 (6596)	n 26389 (3278)	n 70084 (21800)
Year	n 678 (130)	n 783 (228)	n 1262 (498)	n 2044 (344)	n 197 (193)	n -101 (488)	n 206 (242)	n -1356 (2814)
R Squared	.711	.512	.561	.762	.086	.003	.061	.032

Labour productivity or the ratio of employees per seat miles fell dramatically in the 1960s with the advent of the jet aircaft, more efficient engines and bigger planes. It leveled off between 1969-1974, but it improved thereafter.

In the post-1978 period, the rate of growth of labour output first stagnated but in 1982 the curve for pilots and attendants fell moderatly suggesting that these employees flew more miles than they previously did. Similarly in 1988, after a sharp increase probably due to outside contracting,[e] the curve for mechanics fell exceeding the level of flight employees. However, as previously noted, these productivity data should be treated with caution.

Fig 4.9 – U.S. Trunk Lines
Productivity Index (Employees x ASM)



4.ii. Trends in Annual Average Real Compensation.

Figures 4.10, 4.10.1 and Table 4.8 report predictive trends in average annual real earnings and the regression results of the equations relating earnings (Y) to year (x) for each work group in the pre and post-deregulation periods. Table 4.10 summarizes the rate of change of employment and compensation data.

As shown in Figures 4.10 and 4.10.1, during the period of regulation, 1965-1977, compensation tended sharply upward for all labour groups while the variability in annual earnings around the linear trend (1-R2), with the exception of cabin crew, was minor.

In the post-deregulation period, 1978-1990, this trend reversed. Earnings decreased while the proportion of variability increased suggesting a greater wage dispersion than in the previous period. The decline in earnings was more significant for pilots while mechanics experienced the lowest decrease.

Table 4.10 indicates that during the regulated period compensation grew by over 2% annually for all labour groups.

In the post-deregulation period, from 1977 to 1983, the annual rate of growth kept moving upward for agents and for in-flight labour (1% for agents and pilots and 3% for flight attendants), whereas mechanics experienced a slight decline (-.53%). In the following years this upward trend broke up and inter-firms wage differentials increased. From 1983 to

1990, earnings of pilots, cabin crews and agents decreased by 2%, 4% and 1% annually respectively, while it was slightly below inflation for mechanics, -.24%.

Thus while during the period of regulation, 1965-1977, the rate of growth of earnings increased by over 20% for all work groups, in the post-deregulations years, 1977-1990, it declined by over 10-11% for pilots and attendants while it roughly kept up with the rate of inflation for mechanics and agents.[9] However if we assume a deregulation lag for wages to keep up with the firms' market trends, from 1983 to 1990 average wages decreased for all work groups. The decline was more significant in in-flight occupations and agents and this downward trend persisted in recent years, 1988-1990.

To see the impact of employment on earnings a predicting equation relating wages (d.v.) to employment (i.v.) was estimated for each occupation (with the exception of sales agents for whom employment data for 1986-1990 was not available) and the results are reported in Table 4.9. Significant results were obtained for pilots during the two periods and for flight attendants in the post-deregulation years. From 1965 to 1977, pilots' earnings increased by 1.99 for every additional employee whereas during deregulation, 1978-1990, these declined by over 1.24 for a

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9. From 1977 to 1990 the annualized rate of growth of earnings of mechanics and agents averaged -4.9% and 1.6%. However from 1978-1990 this amounted to 1.1% and -3.3%.

similar increase in employment. For attendants the decline amounted to .15. This suggests that the decrease in compensation of these crafts is partly due to the effect of the 'two-tier' wage structure which pays substantially lower wages to new employees.

These data appear to support the hypothesis that industry related occupations, pilots and attendants, and to a certain extent the only partially unionized group of ticketing-sales and promotional personnel became more vulnerable to the carriers' market sensitivity and demands for concessions.

However, while these data indicate that the sharpening of market forces under deregulation affected bargaining outcomes, the bias introduced by the employment variable and the inter-firm wage differentials make deregulation wage-effect on single craft difficult to draw. While an analysis of contract data is reported in a later chapter, what is clear is that deregulation broke the previous stability making labour outcomes probably more sensitive to product and labour market conditions and the firms' fortunes.

The next section (4.4.iii) briefly summarizes variations in earnings and employment across carriers.

Fig 4.10 – U.S. Trunk Lines – Pilots

Predictive Trends in Average Real Earnings

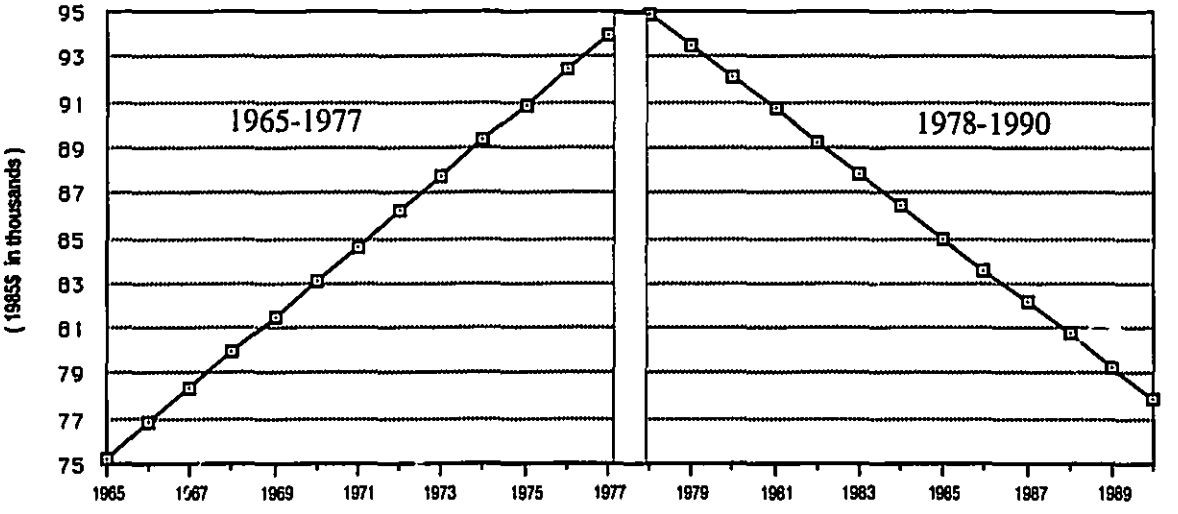

Fig 4.10.1 – U.S. Trunk Lines

Predictive Trends in Average Annual Earnings by Crafts

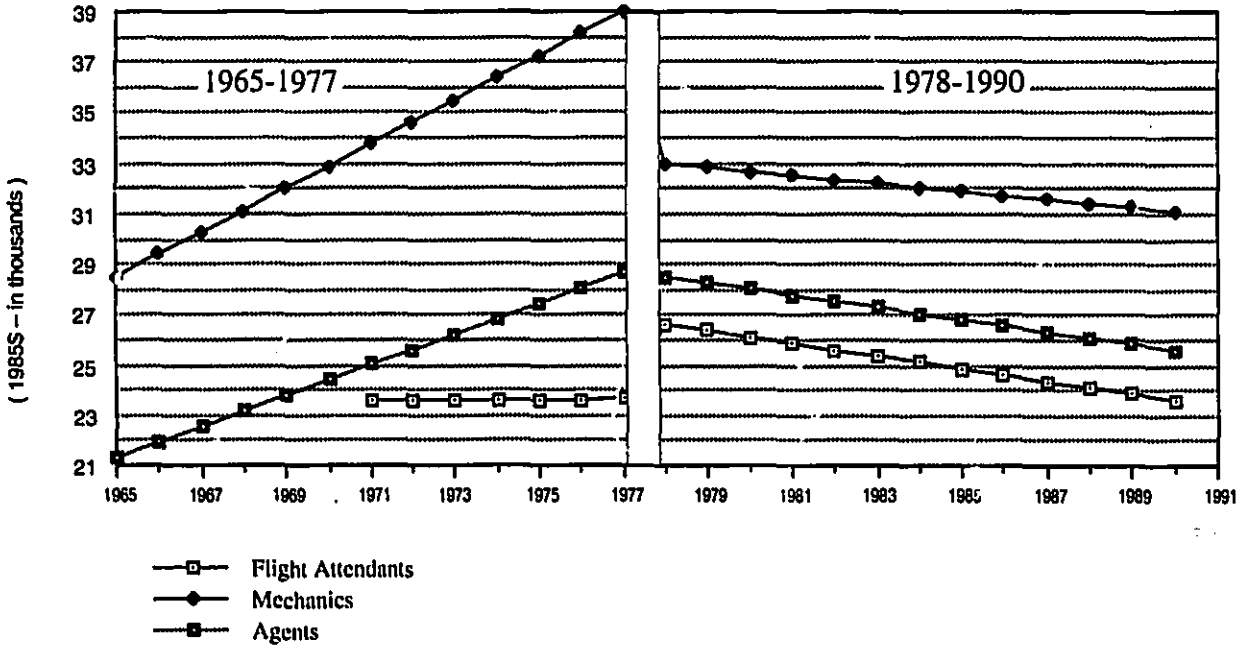

TABLE 4.8
Regression results of the two equations relating average real earnings of selected labour.groups in the trunk carriers to year for the periods 1965-77 and 1978-90.

	PILOTS		FLIGHT ATTENDANTS		MAINTENANCE OVERHAUL		GROUND AGENTS	
	1965-77	1978-90	1971-77	1978-90	1965-77	1978-90	1965-77	1978-90
Constant	$ 75277	$ 94915	$ 23594	$ 26615	$ 28523	$ 32979	$ 21282	$ 28508
	(3663)	(5759)	(962)	(2003)	(2058)	(1295)	(1579)	(1722)
Year	$ 1558	$ -1417	$ 11	$ - 249	$ 873	$ - 153	$ 621	$ - 241
	(271)	(426)	(181)	(148)	(152)	(96)	(117)	(127)
R Squared	.749	.500	.000	.204	.748	.187	.719	.244

TABLE 4.9
Regression results of the two equations relating average real earnings of selected labour groups in the trunklines to employee for the periods 1965-77 and 1978-90.

	PILOTS		FLIGHT ATTENDANTS		MAINTENANCE OVERHAUL		GROUND AGENTS	
	1965-77	1978-90	1971-77	1978-90	1965-77	1978-90	1965-77	1978-90
Constant	$ 45823	$ 117121	$ 22065	$ 32925	$ 16286	$ 33012	$ 23695	
	(3372)	(6039)	(974)	(1721)	(3926)	(1432)	(2976)	
Employee	$ 1.99	$ - 1.24	$ .04	$ - .15	$ .04	$ - .01	$ .04	
	(.31)	(.41)	(.10)	(.05)	(.10)	(.06)	(.26)	
R Squared	.788	.450	.030	.412	.084	.007	.003	

TABLE 4.10
US TRUNKLINES
Employment and earnings growth rates for selected labour groups (percent per year)

YEARS	PILOTS		FLIGHT ATTENDANTS		MAINTENANCE OVERHAUL		GROUND AGENTS	
	Employment	Earnings	Employment	Earnings	Employment	Earnings	Employment	Earnings
1965-77	5.3%	1.9%			1.4%	1.8%	3.0%	2.0%
1965-78	5.1%	1.7%			1.0%	1.2%	3.5%	2.2%
1977-83	-1.3%	0.6%	1.2%	3.0%	5.3%	-0.5%		1.3%
1978-83	-2.2%	0.8%	0.0%	3.2%	7.4%	0.6%	25.0%	0.6%
1983-90	7.3%	-2.0%	6.8%	-4.3%	1.0%	-0.2%		-0.9%
1977-90	3.3%	-0.8%	4.2%	-1.0%	2.8%	-0.4%		0.1%
1978-90	3.3%	-0.8%	4.0%	-1.2%	2.6%	0.1%		-0.3%

Source: ICAO Fleet and Personnel. Refer to Tables I.7 to I.10 in the Appendix.

4.4.iii.Differences among carriers: Earnings & Employment.

During the regulated period the level of average annual earnings of work groups in the trunklines was never uniform. Industry-related occupations, pilots and flight attendants showed greater inter-firm variation than did those with similar counterparts outside the industry - mechanics and agents. These variations are probably related to the carriers' fleet and route composition and the status and hours of work of the employees, since pay rates for these groups vary with the productivity of the aircraft, status and time of operations (Tables I.7 to I.10).

In the post-deregulation period, the coincidence of the recession and low cost competition had adverse effects on some carriers and on overall employment. Losses varied. PanAm, TWA and Western underwent major labour contractions, whereas Delta and Northwest experienced only minor ones.

In the early years unions cooperated with financially weak carriers. Braniff and PanAm[9] were the first to seek labour concessions, followed by Eastern and Western.[10] In 1983 American Airlines, a profitable carrier, negotiated a 'two-tier' wage structure -reaching top earnings after five years of service and with no parity with the existing scale- with all of its unions, and flexibility in utilizing workers in exchange for lifetime job-security, growth and small pay raises for current workers. For the carrier, this meant a considerable long-term reduction in labour costs, while for

unions and employees, it meant security at a time of massive lay-offs.[11] This model broke past practices and set up a new pattern in the primary market.

In 1984, Delta (nonunionized),[12] Northwest[13] and United implemented a 'B-scale' to attendants and mechanics and flexible work rules to pilots. However these scales, probably due to a different labour and product market, varied from the American one, reaching parity with the A-scale after some years. In 1985 United, after a bitter strike, negotiated a 'reformed two-tier' scale with its pilots, and this became a model for subsequent B-scales for this craft, with wages for new pilots reaching parity after five years. By 1986, most carriers had adopted the 'two-tier' system.

In the post-1983 years, employment, as a result of expansion (UAL, AA), or merger, (DL, NW), increased rapidly in some carriers while it kept declining in weak airlines (PanAm, TWA, EA), although the rate of change varied among labour groups. Average annual earnings, under the impact of the 'two-tier' scale, began to vary across carriers and occupations.

In the mid-1980s, as a result of the tremendous growth of some airlines and a tight labour market for pilots, pilots' earnings increased. In 1985, Continental increased their salary and restored the seniority based system. American, which throughout the years had to modify pilots'

B-scale, in 1987, was forced to make it more competitive.

Although these data are incomplete due to the instability of the industry at this time, and a more detailed analysis of two trunk carriers is postponed to a later chapter, it appears that the variations in labour earnings are related to the firms'market position after the industry consolidation and the effects of the two-tier scale in expanding carriers. In 1990, earnings of pilots, attendants and mechanics in strong carriers (UAL, NW, DL, AA) are above average (the lower earnings level of attendants and mechanics at AA seems to be the combined effect of a higher employment rate and the 'two-tier salary' scale which decreases the average).

These data also indicate that lower wages did not lead to high employment. They rather suggest that earnings of most labour group are lower at financially weak firms (PanAm, CO, EA, TWA) whereas in expanding carriers earnings moved upward as these firms, through mergers, increased the wage level of the employees of the acquired carriers to the level of their workers (Delta's acquisition of Western and Northwest's of Republic).[14] However in 1992, after three years of financial losses and fare-wars, all major airlines sought labour concessions either to avert bankruptcy or to ease their debts.[15]

4.4.iv. Trends in Industrial Conflict.

During the 1960s, the number of strikes in the trunk sector was low. They occurred mostly in ground occupations, with mechanics involved in four major stoppages. In the 1970s, the number of strikes increased and lasted longer than in the earlier years, perhaps reflecting the changes brought about by the jet-age and the influence of the Mutual Aid Pact. Pilots were involved in three prolonged strikes at Northwest, mechanics and cabin crew at National, plus some relatively minor ones in the other carriers. Throughout this period, the carriers shut down operations during strikes.

After deregulation the number of strikes first rose and then fell. It also appears that the strike, usually a potent economic tool for labour, became ineffective for airline unions in the 1980s and caused massive job losses and even loss of union representation rights - at Continental in 1983, at TWA in 1986 and at Eastern in 1989.

During the first years of deregulation, while some unions made substantial concessions to weak carriers, mechanics (IAM) were the first group to walk out, first at United and Northwest, over wages, changes in work rules and the use of part-time staff, and, at Continental, over major concessions that management was demanding. While strikes succeeded to some degree in the first two carriers, they failed miserably at Continental, since this carrier

unilaterally imposed 'market' wages and replaced contractual work rules with FAA minimum safety standards. The strikes of pilots (ALPA) and flight attendants (UFA) against this same carrier, immediately after the mechanics' action, similarly failed, since Continental maintained operations using striker replacements and employees crossing picket-lines at the conditions offered.[16]

Despite the dismal success of these actions, most unions continued to use strikes in an attempt to contain the carriers' demands for more concessions.[17] In 1986, flight attendants (IFFA) struck TWA but this carrier continued its operations. The conflict ended unsuccessfully 72 days later and, as TWA replaced the striking attendants, nearly 3800 of them remained unemployed and a year later the union became decertified. Similarly, a conflict of ground employees (TWU) against PanAm ended 28-days later with acceptance of the company pre-strike offer. The strike of the pilots (ALPA) at United was the only one that was not a complete failure since they succeeded in narrowing the carrier's 'two-tier' pay scale. Finally the bitter 1989 strike by mechanics (IAM), pilots (ALPA) and other workers (TWU) against Eastern, proved useless, since they drove the carrier into bankruptcy and they all lost their jobs.

The poor success record of strikes drove most crafts to use 'slowdowns' and other practices as a self-help tool. Although these actions are prohibited by the Railway Labor

Act, at least prior to the exhaustion of the mandatory dispute resolution procedures, they have been used extensively by airline workers. 'Work to rule' procedures are often employed by pilots and to a lesser extent by mechanics, due to their discretional power over safety issues and other operational matters.[18] Other actions include following FAA regulations and carrier operation manuals to the letter. These tactics were used by pilots at United prior to the 1985 strike[19] and more recently by pilots at American, unhappy with the gap created by the B-scale.[20] Similarly, Continental was for years the target of a worker 'slow-down' and it outdid all other carriers in terms of flight delays, misrouted baggage and reports of safety violations to the FAA. It also appears that, lately, American unions have devised new strategies. 'Corporate campaigns' directed to stockholders, travel agencies and customers, and political pressure to bring government pressure upon the carrier, challenging its fitness to operate, were used on a large scale against Eastern in 1989 and TWA in 1986.

An overview of work stoppages in the trunk sector is presented in Table I.11 in the Appendix.

This review suggests that, after the turmoil created by a serious recession following the enactment of the deregulation bill, the pattern of bargaining in the major sector underwent some changes and these appear to have been partly spurred by the sharpening of market forces.

Labour concessions, seized first amidst the turmoil of structural developments and employment losses, were later pursued by all carriers on the grounds of fair competition. These concessions and the rate of unsuccesful strikes is a clear break with past customs and, it seems, an attempt by the carriers to change pre-deregulation practices.[21]

Aggregate data on earnings indicate that real earnings fell in the deregulated period and this drop is most significant in industry-related occupations and in the least unionized group of ticketing-sale personnel. The inter-firm wage differentials that emerged in the 1980s was certainly made possible by a short run excess supply of workers with industry-specific skills and the decentralized structure of their unions.[22] These factors may have enabled carriers to secure conditions of employment more related to their performance and market forces. While this trend persisted up to 1990, the wage dispersal in recent years is mainly the result of a few carriers with wages below the sector average. However the industry is still under the influence of major changes[23] that may further affect labour outcomes.

4.5. INTER-INDUSTRIES COMPARISON: EMPLOYMENT AND EARNINGS.

This chapter compares bargaining outcomes in the air industry with other industrial sectors to examine whether the changes that occurred in the airlines reflect general economy-wide movements rather than specific responses brought about by deregulation. Thus employment and compensation trends in the scheduled airline industry and in the trunk sector are compared with those of surface transportation, manufacturing and the public utilities.

To make the movement of employment and earnings easier to interpreter, I estimated predictive equations for the pre and post-deregulation periods for each industry and for the trunk sector. While Table 4.13 reports the level and rate of change of employment and real earnings.

4.5.i. Trends in Employment.

Fig.4.11 (Table I.5) and Table 4.11 report predictive trends in employment, in index form, and the respective regression results, in the transportation sectors, land and air, in the unregulated manufacturing and in the regulated public utilities industries.

It is clear from these data that airline employment grew at a rapid pace in the mid-1960 and by 1969 it exceeded the growth rate of the other industries.

In the post-1978 period, the recession of the early 1980s led to a significant employment loss in manufacturing

and in the transportation sectors (air and land). In 1983, with an economic upswing, employment recovered in the air-industry but it was not until 1986 that the trunks reached their 1979 level. During this same period employment in manufacturing stagnated. However from 1983 to 1990 with the resurgence of the remaining trunk carriers, employment rebounded (7% annually), exceeding the growth rate of surface transportation (3%) and of the utilities (1%).

It is interesting to note that while these industries follow the same cyclical pattern, with employment declining during low economic cycles and rising when the economy is good, it appears that the recession of the 1980s had more negative effects than that of the 1970s, with some industries being more affected than others. Employment in manufacturing hardly recovered, probably due to the increasing international competition that has become critical in recent years, while the utilities experienced a stable growth throughout the 1980s. All of the industries that underwent some regulatory changes (railroad and the trucking)[24] the air industry outstripped all of these sectors with respect to employment growth.

Figure 4.11 – Predictive Trends in Employment

Selected Industries

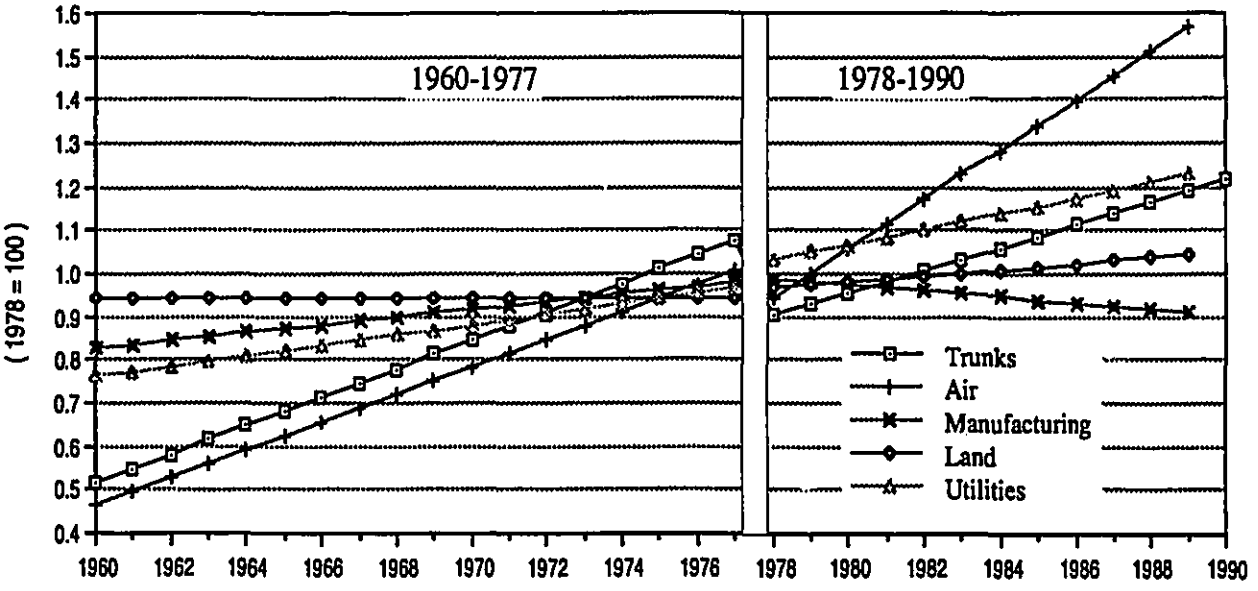

TABLE 4.11

Regression results of the two equations relating employment indexes of selected industries to year for the periods 1960-77 and 1978-90.

	TRUNKLINES		AIR INDUSTRY		MANUFACTURING		LAND TRANSPORTATION		UTILITIES	
	1960-77	1978-90	1960-77	1978-89	1960-77	1978-89	1960-77	1978-89	1960-77	1978-89
Constant	.515	.903	.461	.942	.826	.987	.939	.965	.761	1.03
	(.082)	(.110)	(.061)	(.082)	(.046)	(.032)	(.019)	(.045)	(.015)	(.017)
Year	.03	.02	.03	.05	.008	- .006	.000	.006	.011	.018
	(.003)	(.008)	(002)	(006)	(.002)	(.002)	(.000)	(.003)	(.000)	(.001)
R Squared	.827	.484	.892	.873	.529	.374	.005	.235	.944	.938

4.5.ii. Trends in Average Compensation.

Fig. 4.12 and Table 4.12, which display predictive trends in average real earnings and their respective regression results, indicate that during the regulated years real earnings in the airlines exceeded those of the other economic sectors. From 1965 to 1977, compensation in the trunklines increased by 3.2% annually compared to 1.4% in manufacturing and 2% in the utilities and land transport.

In 1979, which coincides with the enactment of the deregulation bill but also the beginning of a new recession, the level of compensation fell in all industries. However while earnings recovered in manufacturing and the utilities, this downward trend persisted in the transportation sectors.

Thus, while during 1978-1986 the compensation level in the trunklines exceeded those of the other industries, in 1988, as the rate of growth in these carriers kept below the inflation rate, their earnings had fallen to the level of the utilities sector while the gap with manufacturing was sharply reduced.

However, these data have several problems. While a large part of the trunks' labour force is unionized, the extent of organization in the other sectors is not known. Post-deregulation earnings for the trunk sector may also be misleading due to the lower wages of new employees after the expansion of the industry. Thus these data should be treated with caution.

Fig 4.12 – Predictive Trends in Real Compensation

Selected Industries

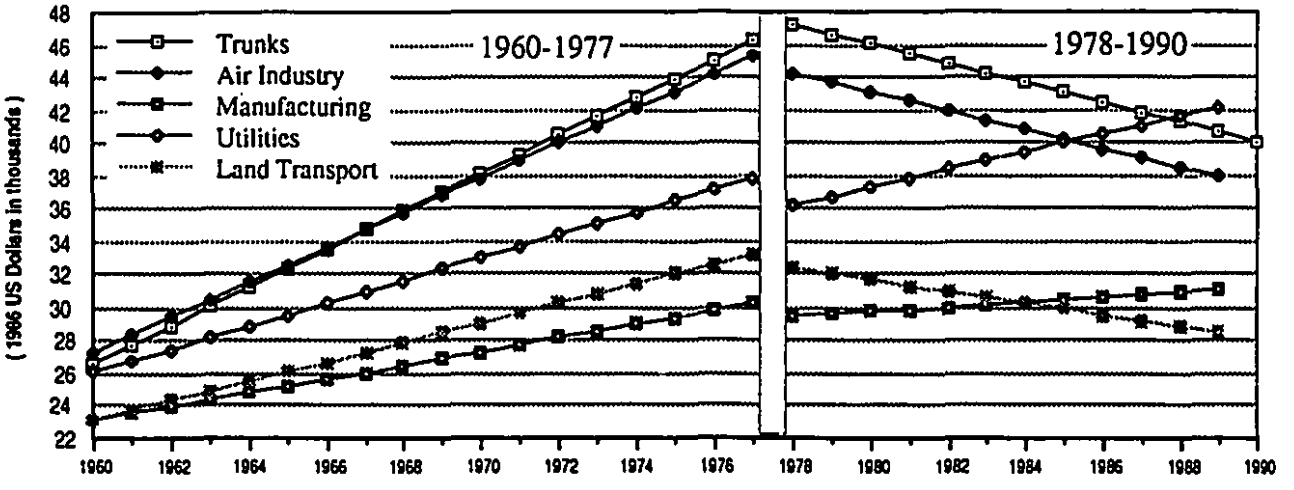

TABLE 4.12

Regression results of the two equations relating average real earnings of the labour force in selected industries to year for the periods 1960-77 and 1978-1990.

	TRUNKLINES		AIR INDUSTRY		MANUFACTURING		LAND TRANSPORTATION		UTILITIES	
	1960-77	1978-90	1960-77	1978-89	1960-77	1978-89	1960-77	1978-89	1960-77	1978-89
Constant	$ 26634	$ 47233	$ 27321	$ 44224	$ 23137	$ 29426	$ 23161	$ 32360	$ 26097	$ 36217
	(1072)	(1125)	(1052)	(803)	(364)	(600)	(620)	432)	(532)	(1131)
Year	$ 1150	$ -598	$ 1953	$ - 575	$ 418	$ 156	$ 589	$ - 349	$ 689	$ 532
	(48)	(83)	(47)	(67)	(16)	(50)	(28)	(36)	(24)	(94)
R Squared	.972	.823	.968	.880	.975	.492	.964	.903	.980	.760

Table 4.13, which summarizes employment and earnings data, indicates that during the period of regulation, airline labour enjoyed a high degree of job security. With employment growing steadily (4% annually) the rate of growth of earnings in the airlines increased by 1.5%-2% above other industries' wage raises. This inter-industry gap in the level of earnings was substantial and it widened over time.

This stable pattern of growth changed in the post-deregulation period. While during 1979-1983, earnings turned negative in all industries (except utilities) this downward trend persisted in the trunks and in the deregulated transportation sectors. In 1989 the trunks' average compensation declined to the level of the utilities (in 1978 the gap was over 20%) and the substantial gap with manufacturing narrowed as, during 1978-1989, the annual earnings growth rate in this sector kept up with inflation, whereas it fell by over 1% in the trunklines.

This review suggests that union bargaining power has been enhanced by regulation. Over the entire deregulated period, 1977-1990, earnings fell by roughly 14% in the trunk lines and by 18% in the air industry compared to a growth of 2% and 9% in the manufacturing and utilities sectors. This decline which began in 1983 seems to have persisted in recent years.

Thus the post-deregulation drop in real compensation in the trunklines may be due to the elimination of regulatory

union rents. However the several problems associated with these data suggest caution in their interpretation.

TABLE 4.13
VARIOUS INDUSTRIES
EMPLOYMENT & COMPENSATION
ANNUAL LEVELS & GROWTH RATES

YEAR	TRUNK SECTOR		AIR INDUSTRY		MANUFACTURING		UTILITIES		LAND TRANSPORT.	
	EMPLOYM.	EARNINGS	EMPLOYM.	EARNINGS	EMPLOYM.	EARNINGS	EMPLOYM.	EARNINGS	EMPLOYM.	EARNINGS
ANNUAL LEVELS										
1960	137	27067	183	27485	16189	22733	600	25630	2324	23307
1966	193	32351	244	33007	18852	25861	617	30345	2312	26595
1973	271	43185	348	42400	19605	29015	711	35704	2311	32395
1978	274	47427	386	45269	20087	30501	757	38166	2407	33134
1983	246	46664	430	42651	17941	30147	86[illegible]	39410	2209	30644
1989	346	41454	653	37512	19009	30874	915	41480	2634	28478
1990	372	40207								
GROWTH RATE (percent per year)										
1965-77	4.0%	3.2%	4.5%	2.8%	2.0%	1.4%	1.6%	2.0%	-0.2%	1.9%
1966-78	3.2%	3.3%	4.0%	2.7%	0.8%	1.4%	1.7%	2.0%	0.3%	2.0%
1977-83	-1.2%	0.1%	2.8%	0.8%	-1.2%	-0.1%	2.8%	0.7%	-0.7%	-1.1%
1978-83	-2.0%	-0.3%	2.2%	-1.1%	-2.2%	-0.2%	2.6%	0.7%	-1.8%	-1.5%
1983-89	6.4%	-2.0%	7.3%	-2.1%	1.0%	0.4%	1.0%	0.9%	3.0%	-1.2%
1977-89	3.0%	-1.1%	5.1%	-1.5%	-0.1%	0.1%	1.9%	0.8%	1.1%	-1.1%
1978-89	2.5%	-1.2%	5.0%	-1.7%	-0.5%	0.1%	1.8%	0.8%	0.8%	-1.4%

Source: computed from Table I.6

4.6. SUMMARY

The main concern of this section was with the effects of regulatory reforms on labour outcomes in the major sector of the air industry. Following theoretical premises that claim that regulation influenced the power of unions to raise wages and benefits above what they would otherwise have been, I have argued that:

(1) if regulation rendered employment relatively stable, relative wages in the airlines should have increased above those found in non regulated industries. If this hypothesis is correct, deregulation should have led to relatively lower labour earnings as increased price competition and entry subjected carriers to cost pressures. Thus:

(2) between 1981-1986, under the influence of market forces, firms should have been more resistant to wage increases unless these were matched by some output adjustments. Furthermore, inter-firm and within-occupation wage dispersal should have increased and inter-industry wage differentials should have declined.

(3) The emergence of an unregulated oligopoly after 1986 should have lowered pressure on earnings and narrowed inter-firm wage dispersal.

The first hypothesis seems supported by the evidence. It is apparent from the data that both carriers and unions benefited from regulation. With a protected product market, unemployment was hardly a problem, and the high productivity

of the jet aircraft (which decreased yield and unit costs) unions had little to lose by pushing up labour costs.[25] During this period the rate of compensation growth in the trunks roughly doubled the rate of growth in manufacturing, the utilities and land transportation. This growth was shared by all crafts.

The second hypothesis, or the effect of the change from a regulated oligopy to a competitive environment on bargaining outcomes, is also supported by the evidence.

First, under a radically changed economic and competitive environment, the impact on labour was on employment rather than compensation. However, during 1983-1986, as the industry recovered, profit maximizing carriers became 'tough' bargainers making decisions on expansion or contraction contingent on the outcomes of collective bargaining. The 'B-scale', pursued by financially strong carriers, is a product of an industry sensitive to price and cost factors and a means to obtain 'permanent' labour cost reductions. In these years, average compensation in the trunks declined annually as their rate of growth decreased sharply compared to the other industries. But employment increased. This also led to an increase in inter-firm wage dispersal which suggests that firms set conditions of employment more related to their performance and to market forces.

Examination of post-1986 bargaining outcomes only partly confirm the last hypothesis. The oligopolistic market structure did not slow down pressures on labour costs, as the rate of growth of compensation kept moving downward and wage-differentials still remained. This is mostly the result of a few carriers with wages below the sector average (CO, EA) while earnings in other carriers increased to a certain extent (DL, NW, UAL).

These data also partly support the hypothesis concerning the effects of institutional forces on labour outcomes. In a deregulated market, the decentralized bargaining structure of the industry became disfunctional to unions because they could not maintain uniform wages across carriers. The 'B-scale', first adopted by a successful American Airlines and later enforced by all carriers on all crafts independently of historical differences, varied over time according to labour market conditions. Aggregate earnings of employees with industry-specific skills and those lacking a high level of unionization fell sharply compared to those of mechanics. However pilots were able to contain losses relative to flight attendants.

Overall, these data suggest that union bargaining power was enhanced by regulation. Following deregulation, relative average compensation decreased gradually, closing the wide gap that had opened up with those found in other industries.

NOTES TO CHAPTER 4.

1. The most important consolidations include the merger of Texas International, New York Air and People Express with Continental; of Republic with Northwest; Ozark with TWA and PSA and Piedmont with USAir. The strategies most commonly implemented were 'hub-and-spoke' operations, computerized reservation systems, monopoly of airport gates, 'frequent flyer' programs, yield management, alliances with feeder and other carriers, higher seat density and use of aircrafts.

2. The chairman of Texas Air Corporation, F.Lorenzo, is known in the industry as an 'union buster', after the reorganization of Continental Airline and abrogation of all union contracts. In 1984, when Eastern became part of Texas Air Co., the relation between labour and management became tense and there were allusions that Lorenzo wanted to turn the airline into a 'low-price' carrier as he previously did with Continental.
In the late 1980s, after serious losses, Texas Air began to dismantle the airline, first by selling Eastern's lucrative east cost shuttle to D. Trump, its Latin American routes to American Airlines and other valuable assets to firms controlled by Texas Air. In 1989 Eastern, after a lengthy IAM strike supported by ALPA and the flight attendants, declared banckruptcy under Chapter 11. However at this time reorganization under chapter 11 became hard to achieve. Some rules related to Chapter 11 had been changed and, as a result of union lobbying, abrogation of union contracts became difficult. Moreover, the stockholders charged Texas Air of underselling Eastern's assets to firms controlled by Texas Air, while the mechanics charged Eastern of falsifying aircraft maintenance records over the years. All of these events jeopardized Eastern reorganization and in 1991 Easter was liquidated (Business Week, July 30, 1990:22).

3. Northrup (1983) claims that PanAm as a private international carrier, with few domestic routes, has always been in a disadvantageous position since its competitors are carriers usually owned by their respective government, and heavily subsidized, thus they have always represented a 'threatening' competition to the unsubsidized PanAm. It also appears that in 1980, the DOT and the CAB, in the name of competition, have further damaged PanAm's financial situation by assigning Braniff's South American routes to US competing carriers. Furthermore, PanAm compounded its problems by paying a high price for National take-over. Hampered by increasing losses, in 1985 PanAm sold its Pacific routes, and in 1990, its London route to United. In 1991, it declared bankruptcy and reorganization under

Chapter 11. However, in 1991 PanAm sold its European routes and shuttle services to Delta and in 1992 it was liquidated.

4. The ICAO reports data for the broad category of ticketing, sales and promotional personnel up to 1986, thereafter they are included into the 'other' category.

5. In 1963 pilots at American Airlines split from ALPA over a dispute concerning flight engineers. They formed the Airline Pilots Association which represents them since 1963.

6. Flight attendants at AA, CO, PanAm and TWA switched to independent unions; at NA, from AFA to TWU; at NW, from AFA to IBT (US Department of Labor, 1979).

7. Most US trunk carriers operated DC-10s over the most competitive routes: 21% of AA fleet consisted of DC-10s, CO and NA, 11%; NW, 16%; UAL, 28%, and WS, 7%. Carriers without DC-10s were DL, EA, Pan-Am and TWA Airlines (Mansur, Cochan and Froio 1990:364).

8. Maintenance practices vary widely among carriers. Some airlines contract out much of their maintenance while others do all or most of their maintenance 'in-house'. Thus these practices may have distorted the measurement of productivity of mechanics in the trunk lines.

9. PanAm was the first carrier to trade equity for labour concessions. In exchanged for 10% ownership of the company all of its unions accepted substantial work rule changes and 10% wage reduction in addition to wage cut previously negotiated (Business Week, June 4, 1984:60-68; Aviation Week and Space Technology, March 28, 1983:29). 5% of these cuts was restored in 1983 and the other half in 1984. An agreement was also signed tying future wage raises to the firm's profits.

10. In 1983 Eastern negotiated a generous settlement with its mechanics. However in 1984, due to a deterioration of the firm's profitability, a Wage Investment Program was set up. The unions agreed to invest 18% (flight attendants and mechanics) and 22% (pilots) of wages in exchange for 25% stock ownership and representation on the board of directors. Although these unions made several attempts to purchase the airline, with the intent to change management, this was preemptied in 1986 when the carrier was sold to Texas Air Corporation.

Western in 1983 cut labour costs through a Partnership Plan that included an employee stock plan, a profit sharing plan and two labour nominees on the board of directors. It also received work rule concessions and wage cuts (10-18%) for a total of 41.6 millions (Wever 1986).

11. American Airlines, between 1979-1982, laid-off 3000 mechanics, 1000 pilots and flight attendants and 2000 clerical workers.

12. In 1983, Delta delayed general pay increases and the majority of its employees took a voluntary temporary wage reduction to purchase Delta's first B-747 aircraft (Aviation Week and Space Technology, Nov.21, 1983:27-30). Since Delta employees are non-unionized, except for the pilots, and the carrier is well known for its relatively high productivity and friendly labour relations, these concessions are indicative of the deep changes in the industry.

13. In 1983, Northwest sought work rule concessions with its pilots. Wages were frozen for six months, flight hours increased from 75 to 83 per month but the 3-years agreement called for generous pay rises (7.5% in 1984, 6.5% in 1985 and 3% in 1986). A 'two-tier' scale with the pilots was negotiated only in 1990 after the merger with Republic.

14. Prior to the merger, in 1983, Republic's five unions traded equity (15.5% of the company common stock, 3 million warrants of common stock exercisable at $10 per share - at the time the stock value was $3.75 - and $100 million of preferred shares in the event of liquidation, and one union seat on the board of directors) for 15% wage cut and work rule concessions lasting through 1986, estimated to increase productivity by 8% (Wall Street Journal, May 24, 1984).

15. In 1991-92, Delta cut wages by 5%; United announced to lay-off 2800 employees, some upper-level managers took a 5% salary cut and the firm sought a one-year 5% wage cut and a two-year moratorium on wage and expense increases to all of its unions (the pilots responded by asking in return for the right to inspect the carrier'books, while mechanics and attendants refused); American laid off about 1000 middle management and plan to shrink the airline by closing unprofitable hubs or selling assets; TWA, under Chapter 11 bankruptcy, in early 1993 obtained $660 million in labour concessions in exchanged for 45% of the company's equity, four of the 15 board seats and the right to name one of two vice-chairmen; and Northwest, scrambling to avert bankruptcy, demanded $900 million in concessions from its six unions. Although Northwest unions formed a united front, this fell apart in the mid-1993 as pilots (ALPA) - whose collective agreement protect them forcing any airline that buys NW routes to take them along - opted for separate negotiations.

16. Pilots, after 6 months, flight attendants and mechanics, after 18 months, unconditionally agreed to return to work but, at that time, Continental had withdrawn recognition of their unions, due to loss of majority support. Flight attendants attempted another strike in 1989. This ended four days later because 97% of the attendants refused to honor the picket lines.

17. Between 1981-1984 most carriers called for some kind of wage concession. Starting in 1985-1986, almost every carrier annual report indicates some change in work rules conceded by some labour groups. These include productivity rules by relinquishing some kind of work scheduled limitations, use of part-time and contracting out.

18. These practices include demands that minor malfunctions, such as leaking galley faucets or loose tables, be repaired prior to departure, and usually these are reported at non-maintenance stations, to delay operations.

19. United pilots utilized a tactic called 'Sweet Sixteen' which involved slow taxing and elaborate maintenance checks at each flight leg to delay flights (McDonald and Asher 1989).

20. In the spring of 1990, American Airlines recorded a low on-time performance and this was due to its pilots, of which 60% are on the lower pay scale, working strictly by the book (Business Week, July 2:1990).

21. This view has been suggested by Walsh (1988) who sees the widespread of 'two-tier' plans as part of the carriers' goal to shape labour relations in the post-deregulation period. Earlier authors (NMB 1983; Cappelli 1987; Spencer and Cassell 1986) emphasized the need of the carriers to put costs in line with those of low-cost carriers and the attractiveness of the two-tier wage scale to unions due to the low threat they constitute to current members.

22. Various explanations have been offered for this phenomenon: the government's firing of air-controllers in 1981 which set the tone for aggressive management actions, a recessionary economy, a depressed labour market and lastly the refusal of other crafts to honour picket lines. See Kochan, Katz and McKersie (1986); Spencer and Cassell (1986); Cappelli (1987); and Cohen (1990).

23. In 1992 Delta took over most of Pan-Am's overseas routes. Pan-Am and Eastern collapsed; Continental, TWA and some medium size carriers declared bankruptcy under Chapter 11. Furthermore, in 1989 KLM bought 49% stake in NW, in 1992 British Airways, 44% in USAir (Business Week, August

24, 1992:54-61) and in 1993 Air Canada acquired 25% of Continental. While the bankruptcies of US carriers led to a new wave of lay-offs, these global alliances may further affect the industry's employment level. In the BA-USAir case, analysts predict layoffs of about 4500.

The costly acquisition of PanAm's Atlantic routes (and its absorbtion of 7800 PanAm unionized workers) and the recession which followed, caused Delta, which had the highest wages and benefits in the industry and did not layoff full-time workers since 1957, to forlough workers and apply reduced work schedules (Wall Street Journal, Sept.10, 1992).

24. In the railroad industry, the 1976 Railroad Revitalization Act and the Regulatory Reform Act gave railroad companies greater freedom in rate setting and facilitated mergers and route abandonment. In 1980, the Stagger Rail Act liberalized rate regulation. The ICC could not reject rate reduction unless the cut rate was below variable costs and it exempted some kind of goods from rate control.

In road transportation, buses became deregulated in 1982 following the Bus Regulatory Reform Act and trucking became formally deregulated in 1980.

25. The industry seldom faced any kind of financial troubles that would require extensive lay-offs and employee sacrifices to keep the carriers going since the CAB stepped in to arrange friendly mergers and to protect the interests of the 'merged' employees (through its labour protective provisions, such as preservation of employee seniority rights and other interests).

CHAPTER FIVE

COLLECTIVE BARGAINING IN THE CANADIAN AIRLINE INDUSTRY

5.1. INTRODUCTION

This chapter explores the outcomes of collective bargaining in the Canadian airline industry during the period of government regulation, 1960-1984 and in the post-1984 years. Economic reforms in Canada were phased-in gradually. From 1978 to 1984, the government introduced a period of regulated competition followed by 'liberalized' competition, from 1984 to 1987 and, in 1988, by economic deregulation. Thus, deregulation as implemented in the American industry occurred in Canada only in 1988. However most analysts identify 1984 as the beginning of economic deregulation since it was equivalent to the American transition period to full deregulation.

This account also tests the following hypotheses: (i) whether, given a combination of a state carrier and government economic legislation that may have prevented the transfer of high rents to labour, the effects of deregulation on bargaining outcomes were relatively small; (2) whether, in the post-1984 period, under the sharpening of market forces, wage increases were traded-off for employment-output adjustments and become related to the carriers' performance and labour market conditions.

The organization of this chapter follows that used in

the previous chapter. Section 5.2 describes the growth and the economic performance of the major carriers and of the scheduled industry. Section 5.3 outlines the effects of these economic trends on the employment, output and earnings of the labour force in the national carriers* and compares them with those of the scheduled industry during the two periods under study. Since Air Canada was the dominant and state owned airline, and a leader in labour relations, this section also assesses the extent to which the other carriers modelled compensation on the state carrier and whether the reforms changed this pattern. To determine changes in labour efficiency as well as the ability of each labour group to resist deregulatory competitive pressures, section 5.4 presents trends in employment, output, compensation and industrial conflicts of the major work groups in the dominant carriers. Subsequently, section 5.5 compares aggregate employment and earnings data in the air industry with similar trends in manufacturing and the whole land transportation-communication-utilities aggregate.

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*. The term major, national and dominant carriers will be used alternatively in the text to mean Air Canada and Canadian (CP/CAIL). The term Canadian or CAIL is used to refer to Canadian International Airlines, formerly Canadian Pacific Air.

5.2 TRENDS IN THE ECONOMIC PERFORMANCE OF THE AIRLINE INDUSTRY.

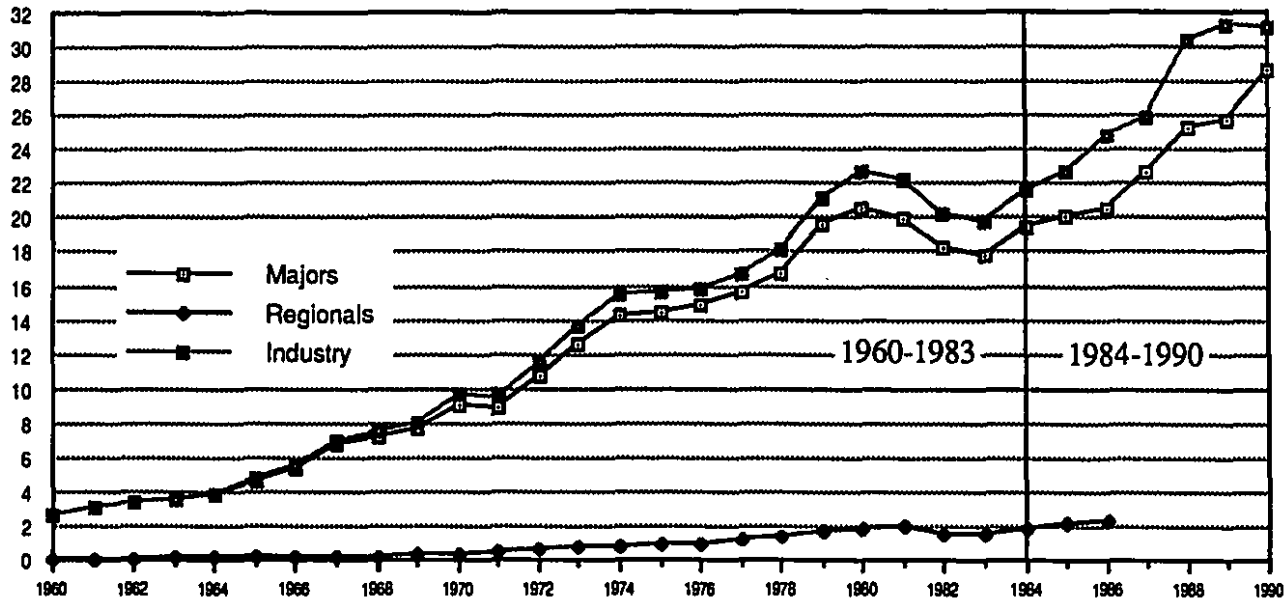
5.2.1 Industry Growth and Concentration.

As illustrated in Figure 5.1 (Table II.1) the Canadian air industry has always been extremely concentrated. The two major carriers, Air Canada (AC) and Canadian Pacific Airlines (CP), dominated the market, while the five regional ones (Eastern Provincial Airways (EPA), Nordair (NA), Pacific Western Airlines (PWA), Quebecair (QA) and Transair (TA)) always played a minor role in scheduled services.[1]

The industry expanded in the mid-1960s in response to the jet revolution, the growth in traffic and institutional interventions. During 1960-1974, the industry scheduled traffic (RPM) grew at an annual rate of 10%. Although this growth can be mostly attributed to the major airlines, it also was shared with the regional sector. These regional carriers, which in the early years accounted for 2% of the market, in the late 1960s, in response to the opportunities opened up by the regional policy, began expanding and by 1975 their market shares accounted for 7% of scheduled services, while traffic grew by over 20% annually.

This rapid growth slowed down in the mid-1970s, following the 1973 oil embargo and during the recession of the early 1980s. From 1974 to 1978, traffic growth declined to nearly half the previous rate, increasing at an annual rate of 4% in the majors and 13% in the regional sector.

Fig 5.1 – Canadian Airline Industry
Revenue Passenger Miles – Toll Service



In the first years of the post-1978 period, which coincides with the enactment of the deregulation bill in the US and of regulated competition in Canada, from 1978 to 1980, under the effects of a prosperous phase of the economic cycle and price competition,[2] revenue passengers grew by 10% annually in the majors and 20% in the regionals. The recession that followed had a negative effect on both sectors' growth. During 1981-1983 scheduled revenue passengers declined by 14% in the national and 22% in the regional carriers. Although the regional sector, under the impact of the nationals 'fare-wars and the recession, lost only 1% of the market, the loss probably would have been

higher had not some regional governments shielded these carriers from possible bankruptcy.[3]

The structure of the industry changed in the post 1984 years, with the announcement of the New Canadian Air Policy, the economic recovery and probably the 'ripple effects' from the deregulated American context. To maximize the benefits of deregulation, the two largest airlines expanded through mergers and acquisitions. In 1986 Canadian Pacific took effective control of the regional airlines and in 1987 it was bought and merged with Pacific Western and renamed Canadian Airlines International (CAIL). In 1986 both airlines acquired some of the emerging commuter carriers to serve short-haul markets and as feeder to their larger network and began a process of global expansion.[4]

In 1988, with the institution of a system of economic deregulation similar to the American one, this concentration trend persisted. In 1990, after CAIL took over Wardair - a charter company which in 1986 was granted authority to operate some domestic routes - and merged it into its network, the industry changed into a duopoly with two carriers sharing most of the market. A review of mergers and acquisitions during 1977-1990 is provided in Table II.8 in the Appendix.

In the post-reform period, 1984-90, with the economic recovery and price competition, the industry experienced steady growth. During 1984-1990, capacity and traffic

increased at a roughly similar rate as in the 1968-78 years. However from 1978 to 1990, capacity and revenue passengers grew by 4.6% and 5% in contrast to an annual growth rate of 10% and 11% during the previous twelve regulated years.

5.2.ii. The Industry Performance: Profits and Costs.

Figure 5.2 (Table II.2) reports the profitability of the major sector in terms of operating income and net profits after taxes and as a percentage of operating revenue. The major factors related to the performance of the carriers, yields, unit cost and unit revenue, are reported in Table 5.1. These last two variables are measured in term of revenue ton miles and are shown in 1986 dollars. Figure 5.3 (Table II.3) illustrates the major sector and the total industry's proportion of labour costs, as a percentage of operating expenses.

The profitability of the carriers fluctuated greatly throughout the years in response to the variations of the business cycle. From 1963 to 1974 and again from 1977 to 1981, under the impact of high loads that lowered unit costs and yields, profits grew steadily and the carriers were able to retain annual net earnings of about 2%.

This upward trend was reversed during periods of economic contractions, such as during 1974-76 and again in 1982-83 and 1985. In these years, under the impact of falling traffic and overcapacity created by the recession,

which decreased unit revenue while increasing yield and unit costs (during 1973-74 fuel prices increased by 64.5%), the carriers posted net profit losses. However in 1982, following the liberalization of fares[9] and higher competition, operating expenses exceeded revenue and, for the first time the nationals reported also an operating deficit. In these years, the effects of the recession were made worse by the fare wars which, by increasing unit cost faster than unit revenue, resulted in operating and net profit losses.

During the next years, 1984-1989, with the gradual implementation of deregulation, the concentration of the industry into a duopoly, and the recurrence of a high economic cycle, profits rebounded. At this time, the profitability of the carriers resulted mostly from lower unit costs than from unit revenue, since unit revenue and yield, probably affected by the lower fares, decreased annually. However in 1990, with the beginning of a new recession and negative world events, both measures of profitability took a downward dip which is indicative of the cyclical performance of the industry and its dependency on the health of the economy in general.

Fig 5.2 – Canadian Major Carriers

Operating and Net Income after Taxes

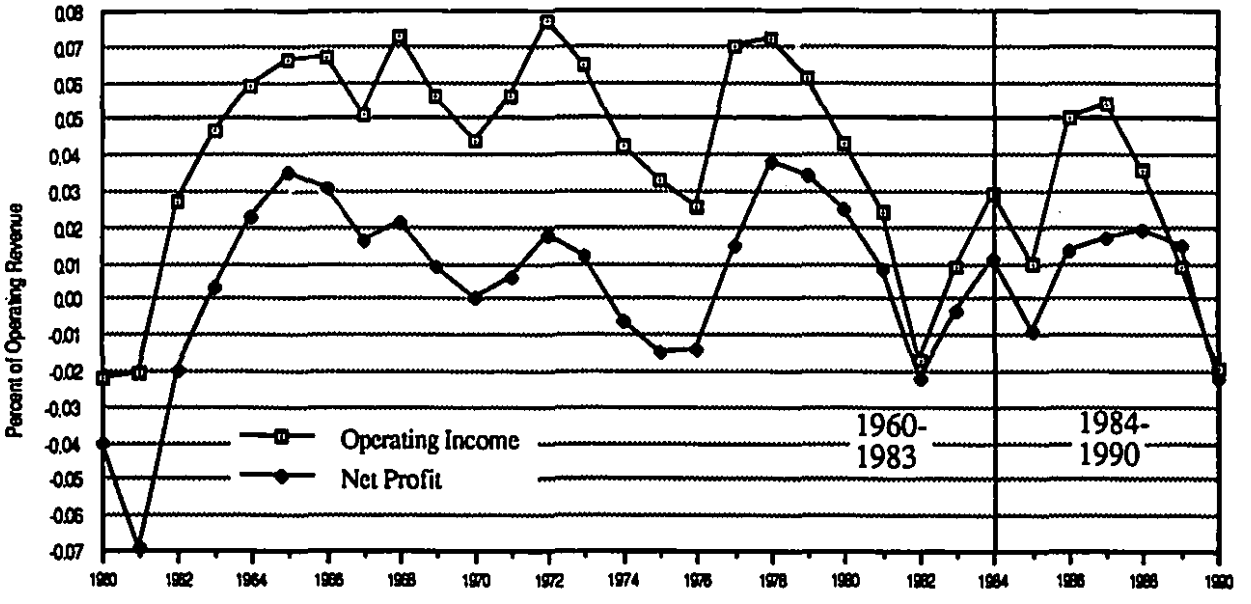


TABLE 5.1
CANADIAN MAJOR CARRIERS
UNIT COSTS, REVENUE AND YIELD

YEAR	REAL YIELD	REAL UNIT REVENUE (RTM)	REAL UNIT COST (RTM)	POINT SPREAD	YEAR	REAL YIELD	REAL UNIT REVENUE (RTM)	REAL UNIT COST (RTM)	POINT SPREAD
1960									
1961	0.24	2.43	2.48	-0.05	1976	0.16	1.43	1.40	0.04
1962	0.25	2.44	2.38	0.07	1977	0.16	1.49	1.38	0.10
1963	0.25	2.38	2.27	0.11	1978	0.16	1.44	1.33	0.10
1964	0.24	2.23	2.10	0.13	1979	0.15	1.37	1.29	0.08
1965	0.23	2.14	2.00	0.14	1980	0.15	1.42	1.36	0.06
1966	0.22	2.04	1.90	0.14	1981	0.16	1.44	1.40	0.03
1967	0.20	1.93	1.83	0.10	1982	0.17	1.37	1.38	-0.02
1968	0.20	1.84	1.71	0.13	1983	0.17	1.29	1.27	0.01
1969	0.19	1.69	1.60	0.09	1984	0.16	1.24	1.20	0.04
1970	0.18	1.61	1.54	0.07	1985	0.16	1.23	1.22	0.01
1971	0.19	1.61	1.51	0.09	1986	0.15	1.24	1.18	0.06
1972	0.17	1.49	1.38	0.11	1987	0.15	1.22	1.16	0.07
1973	0.16	1.40	1.31	0.09	1988	0.15	1.15	1.11	0.04
1974	0.17	1.48	1.42	0.06	1989	0.14	1.13	1.12	0.01
1975	0.17	1.46	1.41	0.05	1990	0.14	1.08	1.10	-0.02

Source: Data computed by the author using data from the carriers Annual Reports.

The largest parts of the industry's total operating expenses are fuel and labour, with labour expenditure being the highest component of total operating expenses.

Figure 5.3 and Table 5.2, which present predictive trends in labour costs and the equations results generating these trends, prior to and after the liberalization of economic controls for the major carriers and the industry (1960-1977 and 1978-1990), shows that in the early years, labour costs constituted 38% of the major carriers' expenses. This proportion fell gradually throughout the years in response to the higher productivity of the jet aircraft, such as in the 1960s. During 1974-1977 and again during 1978-83, as the the fuel component of costs rose dramatically, the share of labour costs declined. In 1983, it represented 32% of the major sector' operating expenses.

From 1984 to 1990, although the rises in the price of fuel abated, the proportion of labour costs decreased gradually to represent, in 1990, 30% of operating expenses or a drop of 2% from 1983. This suggests that the competitive environment spurred by the economic reforms compelled the carriers to become more efficient in their use of labour.

Fig 5.3 – Canadian Carriers

Labour Costs and Predictive Trends

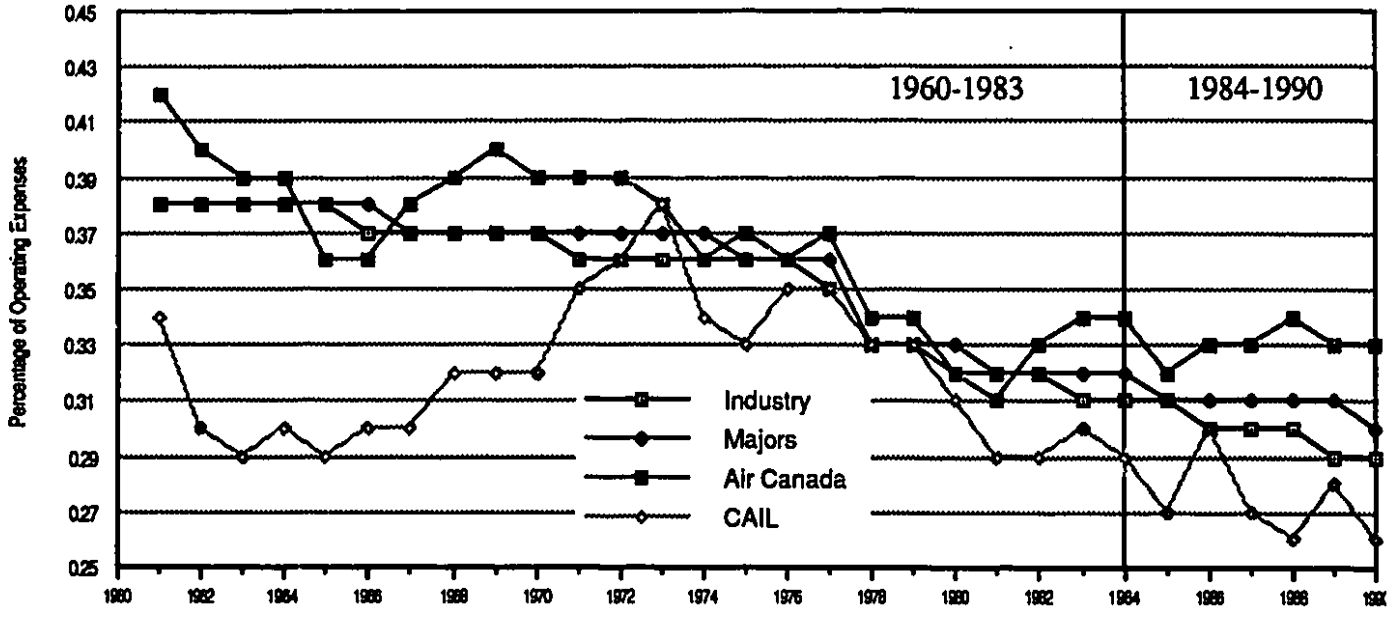


TABLE 5.2

Regression results of the two equations relating labour costs (percentage of operating expenses) to year for the periods 1960-77 and 1978-90.

	MAJOR CARRIERS		AIR INDUSTRY	
	1960-77	1978-90	1960-77	1978-90
Constant	.38 (.01)	.33 (.008)	.38 (.014)	.33 (.008)
Year	-.001 (.0007)	-.002 (.0006)	-.002 (.0006)	-.003 (.0006)
R Squared	.158	.539	.345	.717

5.2.iii. Differences among carriers: Market share, Profits and Costs.[b]

Throughout the period of full direct regulation, Air Canada dominated the industry. From 1960 to 1978 it held about 75% of the major sector's market (ASM) while Canadian Pacific was not allowed to grow to more than one third of the size of the Crown airline.

During these years, the performance of the two carriers varied significantly. Air Canada's net profit ratio (before taxes and as a percent of operating revenue) was lower and its labour costs higher than those of Canadian Pacific. From the mid-1960s to the recession of the 1970s Air Canada's profits ranged from 1% to 4% compared to the 1%-12% captured by the private carrier. It thus appears that Air Canada was under profit constraint, using some of its revenue to subsidize its small communities routes.[4] Similarly, as shown in Fig.5.3, its ratio of labour expenditures averaged roughly 39% of all operating expenses compared to 33% in the private carrier.

The reforms of the late 1970s - the 1977 new Air Canada Act which altered the goals of the Crown carrier and, in 1978, the release of regulatory constraints on Canadian Pacific which put the two airlines on an equal footing - began to modify this divergent performance.

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[b]. Data on market shares and profits have been obtained from Tables II.1 and II.2 in the Appendix.

During 1978-1984, as Canadian Pacific expanded its network, competing with Air Canada on long-haul domestic routes, and Air Canada exited from some uneconomic routes previously imposed by the government, the Crown carrier's market shares declined from 74% in 1978 to 69% in 1984. However, while during 1978-1981, with the economic upturn, Air Canada profits exceeded those of its rival and were the highest in its whole history, from 1982 to 1985, under the effects of the recession and higher competition, it reported net losses or zero profits and, for the first time, an operating deficit. These losses were higher at Canadian Pacific and, probably under the impact of its rapid expansion, lasted, except for 1984, from 1981 to 1986.

The changes which occurred in the post-1984 period and the creation of Canadian Airlines International in 1987, eroded Air Canada's dominant position. This carrier's market share declined to 57%, and in 1989, when CAIL merged with Wardair, to 52% of the majors' market. From 1986 to 1989, with the economic recovery and the concentration of the industry, Air Canada's profits moved upward whereas CAIL reported more losses. The erratic performance of Canadian may be due to its efforts to emerge as a strong force in the industry and the capital costs involved in the acquisition and merger of several carriers into one.[7]

The carriers' proportion of labour expenditures, which converged in 1978-79, diverged again in the following years

as Canadian Pacific, under mounting profit losses and probably employment redundancy after the merger, made labour adjustments. While in 1990 the proportion of labour costs at Air Canada was slightly inferior to its 1984 average, or 33%, it declined by 3% at Canadian, from 29% in 1984 to 26% in 1990.

Table 5.3 summarizes the combined economic performance of the major carriers in the industry over the past thirty years. It reports four growth indicators, output (ASM), sales volume (RPM), load factors and the nationals' market shares relative to the total industry (measured as the proportion of scheduled revenue passenger miles), along with few efficiency indicators, yield, unit cost and the labour expenditure ratio.

In the mid-1980s, as the recession ended, the national carriers experienced a steady increase in the volume of output and sales. However, during the post-deregulation period, 1984-1990, the rate of growth of these variables was slightly below the rate over the same time span during regulation, 1965-1977. Similarly their share of the passengers' market, which fell during the 1980s to reach a trough in 1986, in 1990 was at roughly the same level as in 1978. Passenger load factors which historically were rather high, except for 1990, kept increasing during these years.

This relative growth stagnation is also reflected in

the efficiency indicators. Real yield (average price for seat mile), except for an increase during 1978-83, declined throughout the years. In the post-1984 years, while yield decreased at a similar rate of deceleration, the decline in the cost per unit of sale was less significant than during the regulated period. On the other hand, labour expenditure as a proportion of operating costs fell by 4% from the 1978 level while the net profits ratio remained similar.

The picture that emerges from these data is that following the reforms of 1984, the major sector failed to achieve any substantial market growth from the previous regulated period. Moreover, while the concentration of the industry and probably the extended connector network, increased loads and decreased the nationals' market shares, average fares and the cost per unit of sales failed to show any notable change from the previous regulated period.

To see whether the economic reforms of 1984 affected the labour force, the next section reviews trends in employment, productivity and earnings.

TABLE 5.3
CANADIAN MAJOR CARRIERS
ECONOMIC PERFORMANCE
ANNUAL LEVELS AND GROWTH RATES

YEAR	ASM SYSTEM	RPM SYSTEM	MARKET SHARE SCH.RPM	LOAD FACTOR	REAL YIELD RPM	REAL UNIT COST RPM	RATIO LABOUR COSTS	RATIO FUEL COSTS	RATIO NET PROFITS
1. ANNUAL LEVELS									
1960	3987	2560	0.96	0.64	24	248	0.41	0.12	-0.04
1966	8548	5404	0.90	0.63	22	190	0.35	0.11	0.03
1968	12987	7260	0.89	0.56	20	171	0.38	0.11	0.02
1970	16173	9761	0.84	0.60	18	154	0.37	0.11	0.00
1975	25036	15317	0.78	0.61	17	141	0.36	0.19	-0.01
1978	26865	17916	0.75	0.67	16	133	0.34	0.19	0.04
1981	30848	21252	0.72	0.69	16	140	0.31	0.27	0.02
1983	27784	18463	0.70	0.66	17	127	0.33	0.26	0.00
1984	29709	20394	0.70	0.69	16	120	0.32	0.24	0.01
1985	31860	21140	0.68	0.66	16	122	0.31	0.24	-0.01
1986	31990	21725	0.66	0.68	15	118	0.32	0.19	0.01
1987	35269	24841	0.72	0.70	15	116	0.31	0.18	0.02
1988	39488	27732	0.70	0.70	15	111	0.30	0.17	0.02
1989	45253	31010	0.73	0.69	14	112	0.31	0.16	0.01
1990	44617	30428	0.71	0.68	14	110	0.30	0.18	-0.02
2. GROWTH RATE (percent per year)									
1965-77	11.0%	12.0%			-2.6%	-3.0%			0.8%
1966-78	10.2%	11.0%			-2.8%	-2.6%			1.0%
1977-83	1.8%	2.2%			0.3%	-1.2%			1.3%
1978-83	1.0%	1.0%			1.3%	-0.8%			1.1%
1983-90	7.1%	8.3%			-2.3%	-2.0%			0.6%
1977-90	4.7%	5.0%			-1.2%	-1.6%			1.0%
1978-90	4.6%	5.3%			-0.8%	-1.6%			0.7%

5.3 THE LABOUR FORCE: EMPLOYMENT, PRODUCTIVITY AND EARNINGS.

To see to what extent the reforms changed the pattern of labour relations, this section examines and compares aggregate labour outcomes in the industry, in the scheduled and major sectors during the periods of full direct regulation (1960-77), controlled competition (1978-83) and deregulation (1984-90). Parts 5.3.i and 5.3.ii report aggregate trends in employment, productivity and average real earnings. Part 5.3.iii compares these trends in the two dominant airlines, Air Canada and CAIL.

5.3.i. Aggregate Trends in Employment and Labour Output.

Figure 5.4 (Table II.4) illustrates the relative employment level of the industry, of the scheduled sector - which includes the two nationals, the five regionals and, from 1981 to 1989, Wardair - and of the national carriers.

The industry's employment level increased rapidly with the jet revolution and the implementation of the regional policy. From 1960 to 1970, employment grew at an annual rate of over 5% in all sectors of the industry. Although the recession of the mid-1970s slowed down this fast growth in the major airlines (during 1975-1977, these carriers cut about 5% of their labour force, roughly 1500 jobs, whereas the regional carriers kept expanding) this upward trend persisted until 1980-81. At this time, from 1981 to 1984, under the effects of a new recession and higher domestic

competition, employment fell dramatically. The major carriers curtailed 9% (3000 jobs) and the regionals, 16% (1000 jobs) of the labour force.

This downward trend persisted during the first years of the economic reforms and it reversed only in 1986 with the economic recovery and the policy changes. The dominant sector gained its 1981 peak only in 1987 after the take-overs of the regional carriers and, although from 1984 to 1990 employment in this sector grew by 4% annually, this growth was partly the net result of the merger process, since in 1990 its total employment was only slightly above the 1981 level of the former scheduled sector. Moreover, with the absence of any substantial new competition, the industry's annual rate of growth averaged 3% or roughly half of its previous rate.

Figure 5.5 and Table 5.4 (Table II.3) show predictive trends, and the equations generating these trends, in productivity and real labour cost (1986 dollars) in index form for the major carriers during the periods of regulation (1960-1977), controlled competition (1978-1983) and economic liberalization (1984-1990). The first variable is measured as the number of available seat mile per employee; the second as the cost of labour per unit of production (ASM).

Throughout most of its history, the airline industry enjoyed a high level of productivity. From 1966 to 1978,

labour output in the national airlines, helped by rapid technological innovations and the expansion of traffic, grew by 5% annually while unit labour costs declined by 2%. However, during 1978-83, under the effects of a recession that lowered loads and inflated costs, labour productivity declined while unit labour costs spiralled upward, increasing by over 1% annually.

This trend changed only in the post-1984 period with the evolution toward deregulation and the concentration of the industry. Although from 1978 to 1990, the carriers' performance was below the rates attained during the period of regulation, from 1984 to 1990 unit labour costs declined by 2.5% per year but productivity lagged behind, increasing by 2.7%.

TABLE 5.4
Regression results of the three equations relating productivity and unit labour costs indexes to year for the periods 1960-77, 1978-83 and 1984-90 for the National carriers.

	PRODUCTIVITY			UNIT LABOUR COSTS		
	1960-77	1978-83	1984-90	1960-77	1978-83	1984-90
Constant	.355	1.015	1.007	1.684	.988	.993
	(.018)	(.016)	(.052)	(.088)	(.009)	(.035)
Year	.036	-.010	.019	-.042	.015	-.021
	(.0009)	(.0038)	(.0099)	(.0043)	(.0022)	(.0067)
R Squared	.991	.636	.439	.861	.924	.668

Fig 5.4 Canadian Airline Industry

Total Employment Level

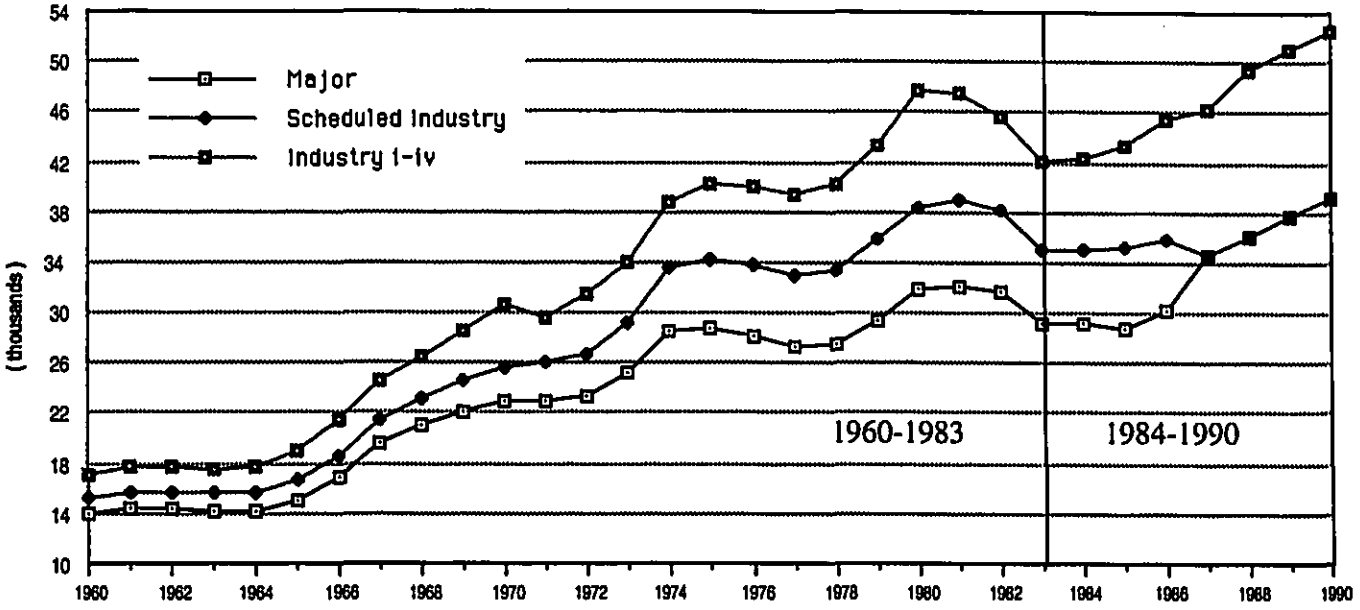
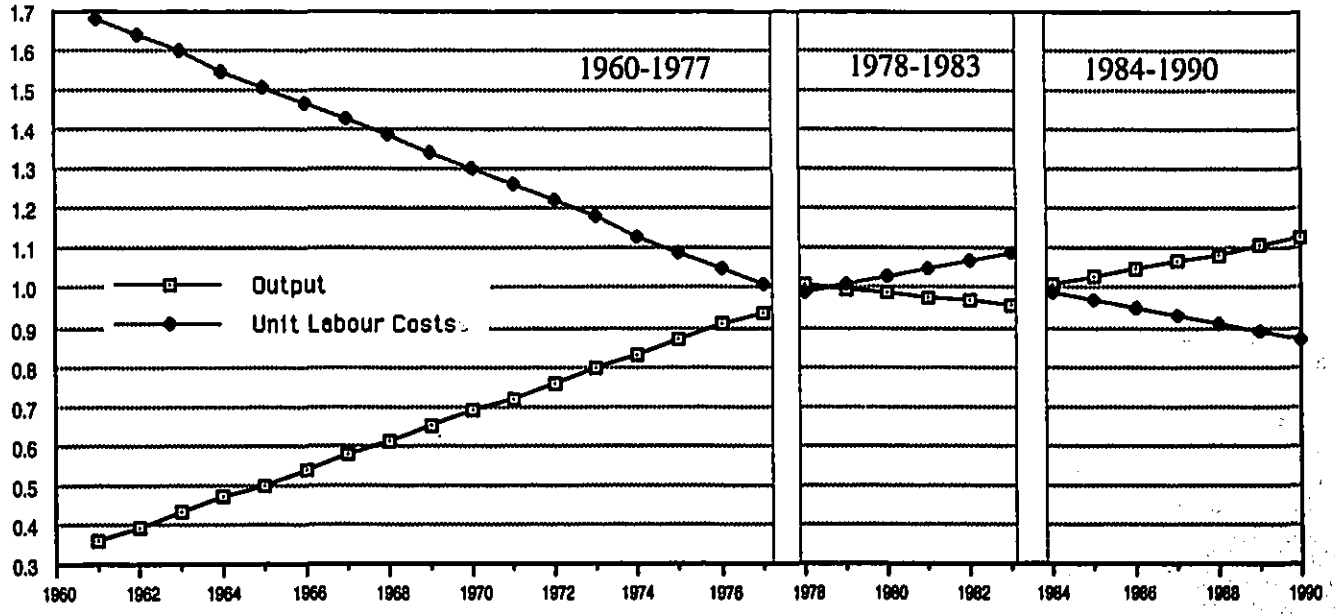


Fig 5.5 Canadian Major Carriers

Predictive Trends in Labour Output and Unit Costs Indexes (ASM)



Thus it appears that the 1980s recession had a negative impact on the Canadian industry and this lasted until the mid-1980s, although the industry was still regulated. The 1984 policy changes which led to a restructuring of the industry and the creation of a duopoly did not result in any substantial employment growth. Although labour output lagged relative to the growth rate attained during the regulated period, the decline in unit labour costs suggests that the carriers were able to increase output and labour utilization while decreasing overall employment costs.

5.3.ii. Aggregate Trends in Average Real Compensation.

Figure 5.6 (Table II.4) and Table 5.5 report predictive trends in annual average real compensation and the results of the equations generating them, for the three periods under study for the national, the regional carriers and the industry.

It is clear from these data that during the period of full regulation, real earnings increased steadily, grewing by roughly 3% per annum in all sectors of the industry.

In the post-1978 period, from 1978 to 1983, probably under the impact of both wage and price controls imposed on the state carrier and the recession, the national airlines' rate of growth of real compensation equalled the rate of inflation, while earnings grew by roughly 2% annually (1978-1986) in the regional sector. This sector's wages which

historically were below the nationals' levels, in the early 1980s, with the liberalization of some routes and fares, moved steadily upward until these carriers merged into the CAIL network.■

In the post-deregulation period, 1984-90, the wage trend moved gradually downward, with real earnings declining by over 1% annually in the industry compared to a half percent in the national carriers.

To see the effects of employment on earnings in the national carriers, predictive equations were estimated and reported in Table 5.6. The result indicates that while throughout the regulated period, 1966-1977, the wage trend was positively and highly correlated with employment (.89), between 1978 to 1990 this correlation turns weak and negative (-.39). However during the 'deregulated' period of 1984-1990, this negative relationship becomes highly associated, suggesting that the decline in wages could be partly due to the 'two-tier' wage scale which pays lower wages to new employees and which began in Canada in 1984 in the regional carriers and soon thereafter in the nationals.

Before assessing the responses of unions to the changes introduced by deregulation the next pages look at labour outcomes in the two national carriers.

Fig 5.6 – Canadian Airline Industry
Predictive Trends in Average Real Earnings

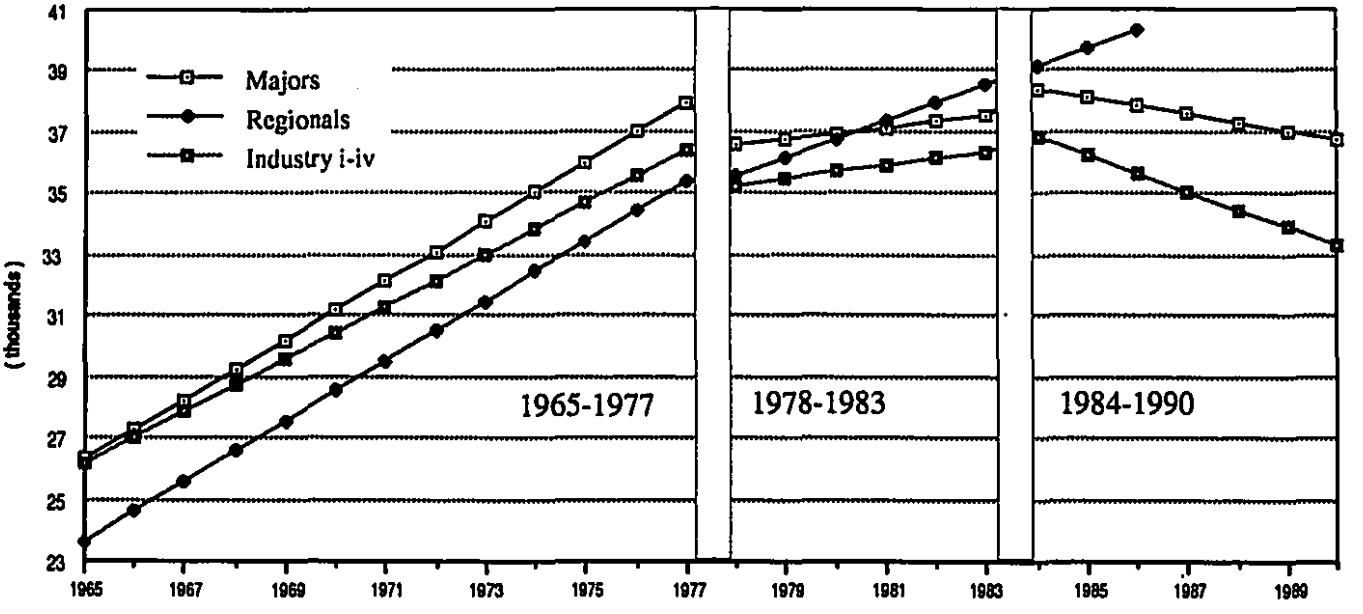


TABLE 5.5
Regression results of the equations relating average real earnings to years for the periods 1965-77, 1978-83, 1984-90 for the National and the air industry and for the periods 1965-77, 1978-86 for the Regional carriers.

	NATIONAL CARRIERS			REGIONAL CARRIERS		AIR INDUSTRY		
	1965-77	1978-83	1984-90	1965-77	1978-86	1965-77	1978-83	1984-90
Constant	$26292	$36564	$38378	$23600	$35570	$26121	$35223	$36794
	(831)	(489)	(470)	(899)	(791)	(774)	(488)	(707)
Year	$971	$182	$-276	$984	$596	$855	$223	$-582
	(61)	(117)	(88)	(66)	(102)	(57)	(116)	(133)
R Squared	.957	.378	.660	.952	.830	.953	.478	.791

TABLE 5.6
Regression results of the four equations relating average real earnings to employee for the periods 1965-77, 1978-83, 1984-90 and 1978-90 for the National carriers.

	1965-77	1978-83	1984-90	1978-90
Constant	$13717	$38274	42420	$39525
	(1798)	(614)	(374)	(663)
Employee	.79	-.04	-.14	-.07
	(.11)	(.14)	(.03)	(.05)
R Squared	.802	.020	.784	.151

5.3.iii.Differences among carriers: employment and real earnings.[c]

During the 1960s and early 1970s, as a result of the expansion of the industry, economic prosperity, and under the protection of regulation, employment grew steadily in both airlines. Although Air Canada held 80% of the major sector's employment share and in 1978 still accounted for 75%, from 1966 to 1977, employment grew at an annual rate of 8% at Canadian as compared to 5% at Air Canada.

During these years, under a regulated regime and with the benefits of the new technologies, which boosted productivity and lowered unit costs and yield, aggregate labour earnings increased by roughly 3% per year in both carriers.

From 1978 to 1980, with Canadian expanding into the domestic high-density routes, previously dominated by Air Canada, and with the more competitive climate spurred by the liberalization of fares, employment peaked. However in the next years, 1981-83, under the effects of the recession, this growth was neutralized by the lay-offs carried out by both carriers. These losses continued through the period of 'deregulation'. During 1980/81-1985, Air Canada cut about 10% and Canadian over 15% of their respective labour forces.

From 1978 to 1983, real wage increases, under the impact of the monetary controls on the crown airline and the

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[c]. See Tables II.3 to II.7 in the Appendix.

recession, approximately equalled the rise in the consumer price index at Air Canada. Real wages fell slightly by -.15 annually in the private carrier but employment grew by 3% annually in contrast to 1% at Air Canada.

In the post-deregulation period, 1984-1990, the consolidation of the market and the high priced competion[d] between the two carriers eroded the dominant position of Air Canada and labour outcomes began to diverge.

From 1984 to 1990, Air Canada's employment grew at an annual rate of 1% and in 1990 its employment level was still below the 1980 peak. As employment stagnated, wages grew by roughly 1%. At Canadian, as a result of mergers which increased this carrier's employment share from 25% in 1978 to 43% in 1990, real wages fell by 2% annually. Thus, this divergent rate of growth of earnings seems related to the rapid employment growth at this carrier. During 1984-1986 real compensation increased at a similar rate in the two carriers, with increases averaging the inflation level. However, from 1987 to 1990 real compensation fell by over 3% per year at Canadian compared to an increase of 1.4% at Air Canada.

The policy changes also affected the efficiency performance of the two carriers. The real cost of labour per unit of output at Canadian, which during the regulatory

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[d]. In 1978 less than 15% of the major carriers revenue came from discount fares, but in 1985, this accounted for 60%.

period was sluggish, probably under the effect of the extended route network afforded by the economic reforms and lower labour expenditures, declined (-.3%) and labour output moved upward (4%). In contrast, at Air Canada, both of these measures slackened (-.1% and 2% annually).

These data suggest that the change from a regulated to a competitive environment, by changing the structure of the market influenced bargaining outcomes in the two carriers.

Throughout the period of regulation, under a secure market structure and with employment usually linked to the fluctuations of the business cycle, real earnings grew by more than double the rate of inflation.

During the phase of regulated competition, from 1978 to 1984, under the effects on the crown carrier of both the recession and monetary controls, employment was curtailed but real compensation increased by the inflation rate.

Thus, these data appear to support the hypothesis that the combination of regulation and government legislation protected labour from the negative effects of the economic cycle.

This pattern changed in 1987. With Canadian eroding Air Canada's market shares along with price competition and probably employment redundancy after the mergers, labour outcomes began to diverge. Under the impact of rapid employment growth, wages and unit labour costs declined at

Canadian while at Air Canada, employment stagnated but earnings remained relatively high.

There are two alternative interpretations to explain these divergent outcomes. These data seem to suggest that the crown carrier failed to force wages down to a more competitive level because labour may have used political influence to delay threatened losses. But, this divergence also seems to be related to employment variations in the two carriers. The absorption of the regionals' labour force into Canadian along with the possible employment losses may have forced unions to make more concessions and to trade wages for employment at this carrier in a way that Air Canada could avoid.

5.4. EMPLOYMENT AND COMPENSATION IN SELECTED OCCUPATIONS.

To evaluate the impact of the economic reforms on the bargaining power of labour, this section presents trends in labour outcomes for the major labour groups in the scheduled industry and in the major sector.

Parts 5.4.i and 5.4.ii report trends in employment, labour output, measured as the number of employees per available seat mile, and average annual earnings for each labour category. Part 5.4.iii compares some of these trends in the two national carriers while part 5.4.iv. gives an overview of industrial conflict in the scheduled sector.

5.4.i. Trends in employment and productivity.

Figures 5.7 and 5.7.1 (Tables II.8, II.9) present predictive trends on the employment level of each occupation in the dominant sector and in the total scheduled industry, which includes the national and the regional carriers. The equations generating these trends are reported in Table 5.7. Table 5.8 shows the annual changes and relative distribution of these employees in both sectors of the industry.

These data illustrate both the influence on overall employment of the economic environment and of technological changes.

Employment grew rapidly in all occupations in the mid-1960s and early 1970s, with the jet era, and during 1979-1980 when during a period of economic prosperity the

government liberalized some routes and fares. It declined or stagnated during the contractions of the mid-1970 and from 1981 to 1985. However the recession of the 1980s had a more negative effect on some labour categories than had the earlier one. From 1981 to 1984, the largest percentage decline occurred in the number of flight attendants and maintenance personnel, with a loss of 14% and 13% (or 690 and 900) jobs. Pilots and aircraft servicing followed, with a cut of 11% and 9% (or 400 and 1000) jobs.

Employment grew again with the economic recovery but it was only in 1987-88, with the consolidation of the industry, that employment regained its 1981 peak. This growth was shared by all occupations with the exception of pilots whose number in 1990 was below the 1981 level.

A look at the relative distribution of these crafts reveals that pilots in the major carriers, which in the 1960s accounted for 6% of the combined staff, increased by 1% in the 1970s and again in the 1980s. Thereafter their proportion remained constant. In 1990, flight attendants accounted for 16% of total employment or an increase of 4 percentage points from 1985, whereas the proportion of servicing labour was 1 percentage point below the scheduled industry peak of the 1980s. Maintenance labour, after a decline in the 1970s and during 1987-1989, in 1990 accounted for the same proportion as in the 1980s (18% of total employment).

These trends may reflect the changes implemented by the national airlines in the post-deregulation period.

In the mid-1980s, the carriers began to shift to 'hub-and-spoke' operations (this trend increased after 1987 with the development of affiliate connector networks); to centralize operations in major centers; to exploit newer aircraft, such as the B-767s and the Airbus-310, which require two rather than three pilots, and to engage in on-board service rivalry to attract the high yield business market. Thus, the growth of flight attendants, servicing and maintenance labour and the declining number of pilots may be related to these changes. The data for ground employees may also include a large proportion of part-time employees. This practice became a major issue in the mid-1980s and is not reflected in these data.

TABLE 5.7
Regression results of the two equations relating employment to year for the periods 1965-77 and 1978-90 for single work groups in the National carriers and in the air industry.

NATIONAL	PILOTS		FLIGHT ATTENDANTS		MAINTENANCE		TRAFFIC-SERVICE	
CARRIERS	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90
Constant	n.1047	2131	1257	3497	3579	4728	5857	10533
	(129)	(206)	(213)	(548)	(263)	(575)	(579)	(853)
Year	90	65	227	170	80	97	322	259
	(9)	(15)	(15)	(40)	(19)	(42)	(42)	(63)
R Squared	.888	.624	.950	.615	.603	.322	.836	.604
INDUSTRY								
Constant	n.1216	3068	1260	4598	4089	6313	6056	13167
	(140)	(193)	(213)	(400)	(264)	(642)	(564)	(974)
Year	139	- 9	292	88	141	- 26	451	51
	(10)	(14)	(15)	(29)	(19)	(47)	(41)	(72)
R Squared	.942	.038	.969	.449	.824	.028	.913	.045

Fig 5.7 – Canadian Airline Industry

Predictive Trends in Employment: Pilots and Cabin Crew

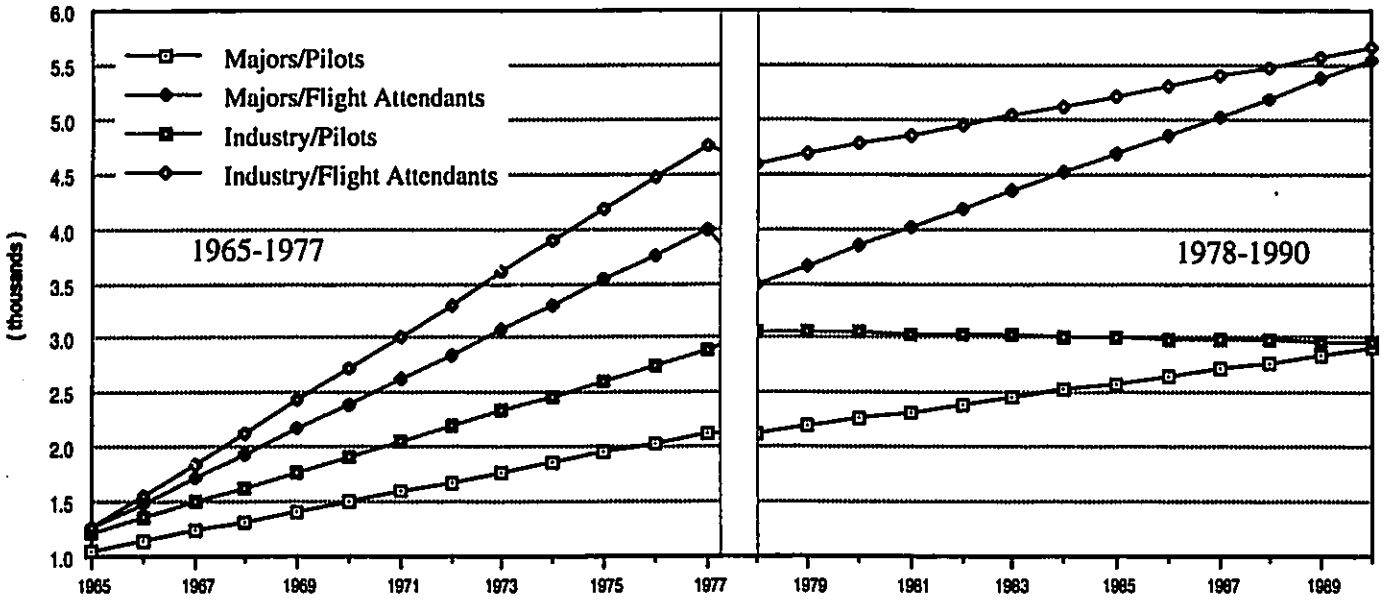


Fig 5.7.1 – Canadian Airline Industry

Predictive Trends in Employment: Mechanics and Service

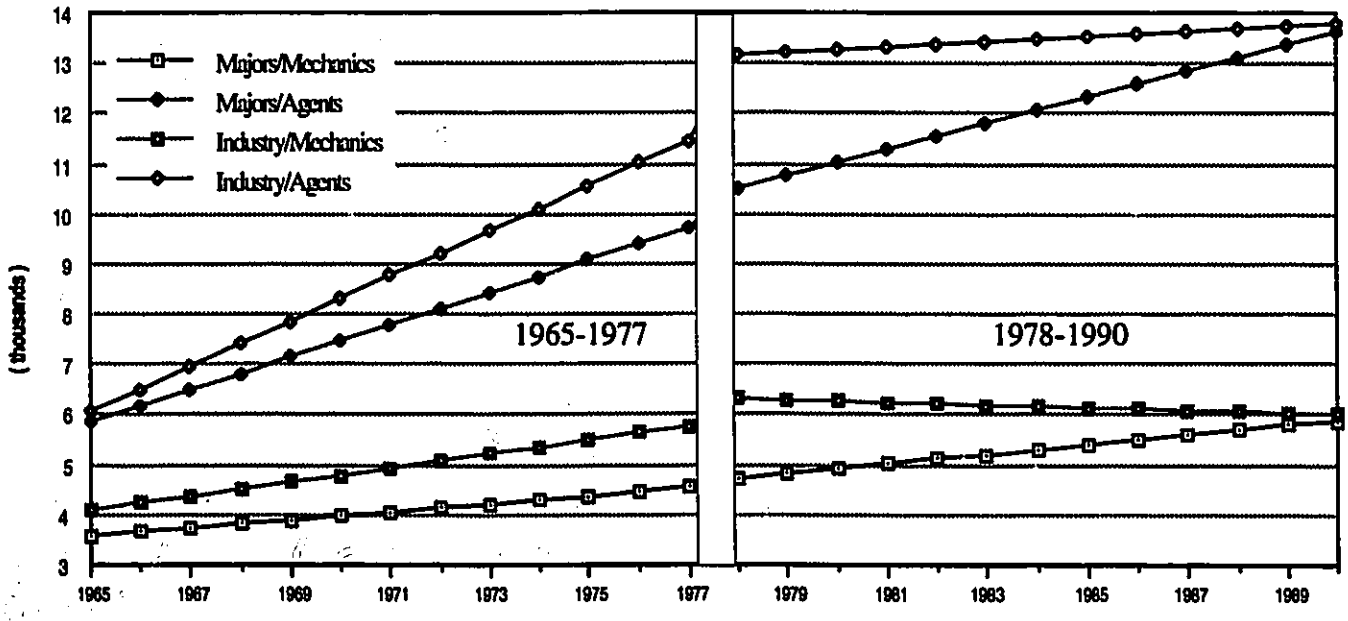


TABLE 5.8
CANADIAN SCHEDULED INDUSTRY
EMPLOYMENT BY LABOUR CATEGORIES

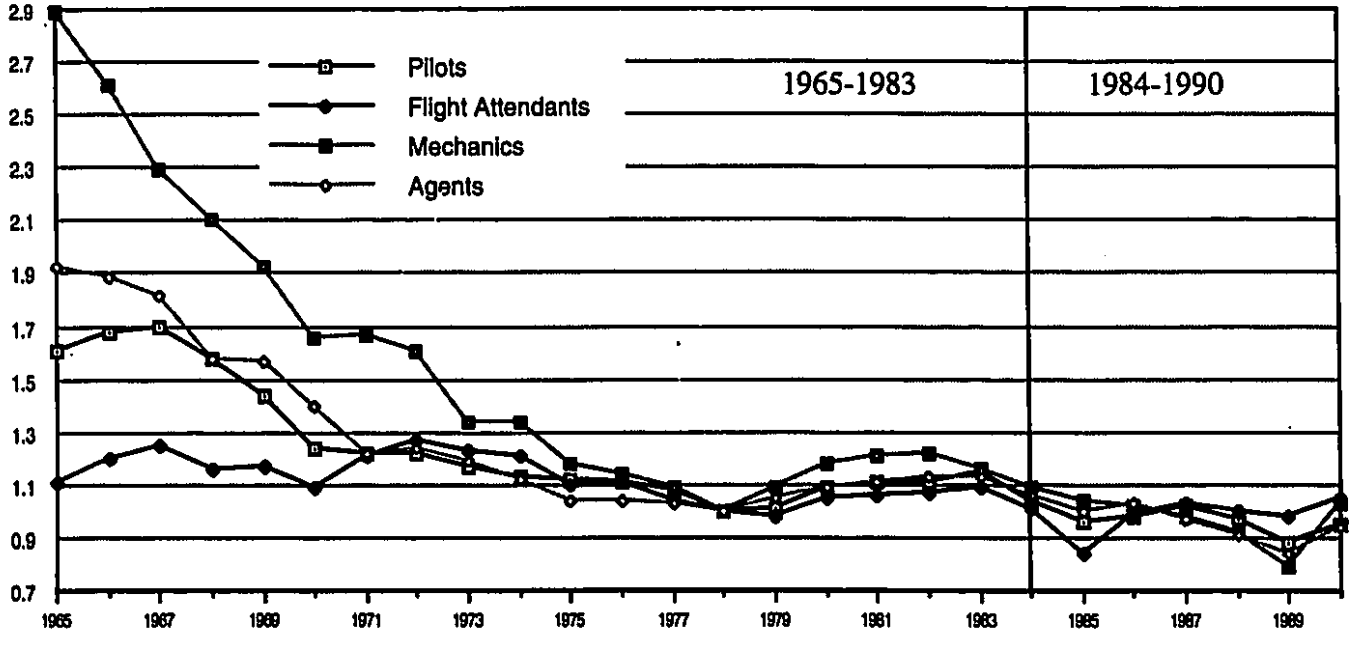
	PILOTS				ATTENDANTS				G.MANAGEMENT				MAINTENANCE				TRAF/SERVICE				OTHERS				TOTAL			TOTAL
	MAJORS		IND.		MAJORS		IND.		MAJORS		IND.		MAJORS		IND.		MAJORS		IND.		MAJORS		IND.					
YEAR	CHANGE	DIST	CHANGE	DIST	CHANGE	DIST	CHANGE	DIST	CHANGE	DIST	CHANGE	DIST	CHANGE	DISTR	CHANGE	DISTR	CHANGE	DIST	CHANGE	DISTR	CHANGE	DIST	CHANGE	DIST	MAJORS	CHANGE	DIST	INDUSTRY	
1964		0.06		0.06		0.07		0.07		0.01		0.02		0.22		0.23		0.33		0.32		0.31		0.29	14268		0.91	15733	
1965	8.7%	0.06	7.8%	0.07	10.3%	0.07	10.6%	0.07	-2.2%	0.01	-1.2%	0.02	4.0%	0.21	4.3%	0.23	6.9%	0.34	6.9%	0.33	3.9%	0.31	4.5%	0.29	15058	5.5%	0.91	16635	5.7%
1966	22.0%	0.06	19.3%	0.07	26.5%	0.08	25.3%	0.08	3.9%	0.01	5.9%	0.02	6.0%	0.20	6.1%	0.22	14.4%	0.34	14.0%	0.33	9.5%	0.30	9.9%	0.28	16906	12.3%	0.91	18636	12.0%
1967	26.8%	0.07	22.7%	0.08	30.0%	0.09	28.5%	0.09	8.0%	0.01	13.6%	0.02	9.7%	0.19	8.3%	0.20	20.5%	0.35	19.5%	0.35	9.7%	0.28	9.7%	0.27	19629	16.1%	0.91	21456	15.1%
1968	12.8%	0.07	12.3%	0.08	13.3%	0.10	14.2%	0.09	5.0%	0.01	9.4%	0.02	11.5%	0.20	10.9%	0.21	5.8%	0.35	6.0%	0.34	3.6%	0.27	3.1%	0.26	21092	7.5%	0.91	23057	7.5%
1969	-1.7%	0.07	2.8%	0.08	8.6%	0.10	12.2%	0.10	8.5%	0.01	14.0%	0.02	-1.2%	0.19	0.3%	0.20	7.3%	0.36	8.4%	0.35	7.2%	0.28	8.4%	0.26	22163	5.1%	0.90	24607	6.7%
1970	-0.2%	0.07	-0.2%	0.07	7.1%	0.10	8.9%	0.10	16.1%	0.01	16.7%	0.02	-0.7%	0.18	0.7%	0.19	2.8%	0.36	3.7%	0.34	5.1%	0.29	7.3%	0.27	22863	3.2%	0.89	25722	4.5%
1971	-0.9%	0.06	1.5%	0.07	12.5%	0.12	11.3%	0.11	-27.7%	0.01	2.3%	0.02	2.2%	0.18	2.3%	0.19	-12.0%	0.31	-9.9%	0.31	10.9%	0.32	9.9%	0.29	22893	0.1%	0.88	25984	1.0%
1972	2.7%	0.07	7.4%	0.06	8.0%	0.12	9.0%	0.12	3.6%	0.01	0.5%	0.02	-1.6%	0.18	-0.7%	0.19	4.5%	0.32	6.9%	0.32	-1.6%	0.31	-2.6%	0.28	23291	1.7%	0.87	26704	2.8%
1973	10.4%	0.07	11.8%	0.06	11.6%	0.13	12.7%	0.12	3.0%	0.01	17.0%	0.02	-3.6%	0.16	-1.0%	0.17	10.7%	0.33	10.7%	0.32	10.7%	0.31	11.1%	0.28	25197	8.2%	0.87	29129	9.1%
1974	15.1%	0.07	15.5%	0.08	16.8%	0.13	19.1%	0.13	9.2%	0.01	26.6%	0.03	17.6%	0.16	17.8%	0.17	11.7%	0.32	13.9%	0.32	10.9%	0.31	11.6%	0.27	28534	13.2%	0.85	33491	15.0%
1975	7.8%	0.07	7.8%	0.08	-1.0%	0.13	2.6%	0.13	-3.6%	0.01	6.4%	0.03	-3.8%	0.16	-1.6%	0.17	1.8%	0.33	2.5%	0.32	1.6%	0.31	1.9%	0.27	28749	0.8%	0.84	34222	2.2%
1976	-1.2%	0.07	-1.1%	0.06	1.4%	0.13	1.0%	0.13	-12.4%	0.01	-3.3%	0.03	-3.2%	0.15	-2.3%	0.17	-0.4%	0.33	0.3%	0.33	-4.4%	0.30	-4.3%	0.27	28177	-2.0%	0.84	33707	-1.5%
1977	-2.5%	0.07	-1.5%	0.08	-6.2%	0.13	-4.1%	0.13	12.6%	0.01	5.8%	0.03	-4.4%	0.15	-3.1%	0.16	-0.6%	0.34	0.3%	0.34	-5.3%	0.30	-5.2%	0.26	27219	-3.4%	0.83	32933	-2.3%
1978	-0.4%	0.07	0.0%	0.08	2.9%	0.13	2.4%	0.13	1.9%	0.01	4.0%	0.03	-1.3%	0.15	-1.2%	0.16	3.9%	0.35	3.5%	0.34	-2.2%	0.29	-0.5%	0.25	27448	0.8%	0.82	33356	1.3%
1979	11.8%	0.08	10.0%	0.08	8.3%	0.13	7.4%	0.13	9.8%	0.01	3.7%	0.03	19.9%	0.17	15.6%	0.17	16.4%	0.38	16.1%	0.37	-12.2%	0.23	-10.8%	0.21	29451	7.3%	0.82	35758	7.2%
1980	12.1%	0.08	9.8%	0.09	11.7%	0.14	9.5%	0.14	5.9%	0.01	15.0%	0.03	12.6%	0.17	9.7%	0.18	5.0%	0.38	5.4%	0.36	1.6%	0.22	0.6%	0.20	31817	8.0%	0.83	38320	7.2%
1981	1.5%	0.08	0.6%	0.09	0.2%	0.14	2.2%	0.14	2.4%	0.01	-2.4%	0.03	2.8%	0.18	4.4%	0.18	1.1%	0.36	0.4%	0.37	-0.6%	0.22	1.6%	0.20	32120	1.0%	0.83	38905	1.5%
1982	-2.4%	0.08	-3.6%	0.08	-1.4%	0.14	-1.9%	0.14	3.5%	0.01	-8.5%	0.03	-2.2%	0.18	-2.1%	0.18	-1.2%	0.36	-1.0%	0.38	0.7%	0.22	-2.4%	0.20	31774	-1.1%	0.83	38108	-2.0%
1983	-4.2%	0.08	-5.3%	0.09	-6.0%	0.14	-6.1%	0.14	-11.9%	0.01	-7.8%	0.03	-11.9%	0.17	-10.9%	0.17	-7.1%	0.38	-7.9%	0.38	-8.7%	0.22	-8.6%	0.20	29245	-8.0%	0.84	35019	-8.1%
1984	-3.5%	0.08	-2.6%	0.08	-1.6%	0.14	0.5%	0.14	5.5%	0.01	15.5%	0.03	0.4%	0.17	2.0%	0.18	0.5%	0.39	-0.4%	0.37	-1.6%	0.22	-1.2%	0.19	29107	-0.5%	0.83	35099	0.2%
1985	-0.6%	0.08	0.8%	0.08	-10.2%	0.12	-6.1%	0.13	-6.4%	0.01	7.9%	0.03	2.1%	0.17	1.2%	0.18	0.8%	0.40	1.6%	0.38	-0.4%	0.22	0.3%	0.19	28834	-0.9%	0.82	35199	0.3%
1986	1.9%	0.08	1.1%	0.08	18.2%	0.14	12.4%	0.14	13.2%	0.01	-4.5%	0.03	-0.6%	0.17	-4.9%	0.17	4.0%	0.39	2.1%	0.38	2.3%	0.21	1.5%	0.19	30130	4.5%	0.84	35830	1.8%
1987	14.6%	0.08	-10.7%	0.08	14.9%	0.14	-5.6%	0.14	880.2%	0.07	124.2%	0.07	5.1%	0.15	-12.2%	0.15	3.6%	0.35	-9.8%	0.35	9.7%	0.20	2.0%	0.20	34683	15.1%	1.00	34683	-3.2%
1988	7.0%	0.08	7.0%	0.08	7.8%	0.14	7.8%	0.14	-5.5%	0.07	-5.5%	0.07	5.8%	0.15	5.8%	0.15	5.5%	0.36	5.5%	0.36	3.4%	0.20	3.4%	0.20	36335	4.8%	1.00	36335	4.8%
1989	4.0%	0.08	4.0%	0.08	13.3%	0.16	13.3%	0.16	-9.5%	0.06	-9.5%	0.06	-2.2%	0.14	-2.2%	0.14	5.4%	0.36	5.4%	0.36	5.6%	0.20	5.6%	0.20	37911	4.3%	1.00	37911	4.3%
1990	6.0%	0.06	6.0%	0.08	5.9%	0.16	5.9%	0.16	-30.5%	0.04	-30.5%	0.04	29.2%	0.18	29.2%	0.18	9.7%	0.37	9.7%	0.37	-7.0%	0.18	-7.0%	0.18	40149	5.9%	1.00	40149	5.9%

SOURCE: STATISTICS CANADA
Source: 1964-1969, Civil Aviation; 1970-1990: Air Carriers Operations in Canada

Figure 5.8 (Table II.9) presents the ratio of employees to seat miles in index form, so a fall in the index reflects growing productivity.

From the mid-1960s until the recession of the 1980s, labour output grew steadily, requiring less employees for a given amount of output. This trend was less significant for mechanics, probably due to outside contracting and it was rather stagnant for flight attendants. The number of cabin crew is proportional to the size of aircraft, thus the absence of productivity gains on the part of attendants was probably due to government safety norms that require a minimum of one attendant for each fourty seats or fraction thereof.

Fig 5.8 – Canadian Major Carriers
Productivity Index (ASM)



In the decade of the 1980s, probably under the impact of overcapacity and employment redundancy, the number of employees per miles first increased, then fell again. Compared to the previous period, in the deregulated period productivity increments were smaller. But it is important to bear in mind that labour output in the airline industry has been linked to aircraft technology. In the 1980s technological improvements changed at a much slower pace than in the previous decade while carriers made operational adjustments that are not reflected by this variable.

5.4.ii. Trends in Average Real Compensation.

Figures 5.9 and 5.9.1 (Table II.9) present predictive trends in real annual earnings for each work group in the dominant sector. Table 5.9 shows the equations generating these trends while Table 5.11 reviews employment and compensation levels and growth rates for selected periods.

During the regulated period, compensation grew rapidly for all labour groups. From 1965 to 1977 real earnings increased by roughly 3% per year for all work groups.

This rate of growth slowed down in the following years, 1978-1983, with the liberalization of regulatory controls, a severe recession and the imposition of monetary constraints on the crown carrier. Real compensation grew by the rate of inflation for pilots and attendants, it declined by .30% per year for agents while mechanics experienced a .30% growth.

In the deregulated period, 1984-1990, wage raises began to diverge across occupations. Real earnings declined by over 1% per year for cabin crew and agents,mechanics roughly matched inflation, and pilots experienced a 1.6% increase.

To see the impact of employment on wages, regressions were estimated for each labour group in the major carriers. As shown in Table 5.10, which reports the equations generating these trends, significant results were obtained for all groups except mechanics, for whom the relationship was positive but not significant.

During the period of full direct regulation, 1965-1977, wages of pilots, cabin crew and ground service employees grew by 19, 3 and 2 for every additional employee. In the period 1978-90 pilots' wages increased by 10. However, during 1987-1990, this rate of growth amounted to 8 for a similar rise in employment and the coefficient became highly correlated (.96 compared to .65 for the period 1978-90). The correlation turned negative for cabin crew and ground service employees. From 1978 to 1990, the earnings of both groups decreased by 1 for every new employee. This decline became more significant during deregulation, 1984-1990, decreasing by 1.45 and 1.33 for a similar rise in employment respectively while the negative correlation became strong for both groups.

Part 5.4.iii compares employment and earnings trends across occupation in each of the two national carriers.

Fig 5.9 – Canadian Major Air Sector

Predictive Trends in Average Real Wages: Pilots

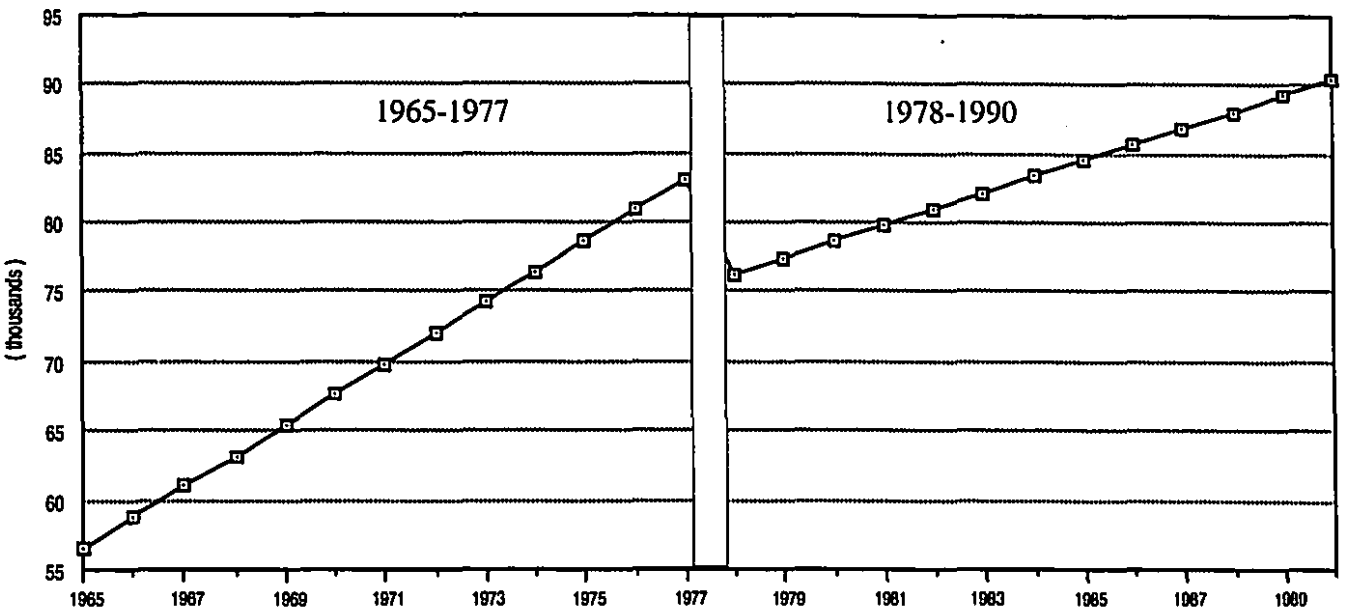


Fig 5.9.1 – Canadian Major Air Sector

Predictive Trends in Average Real Wages: Cabin and Ground Service

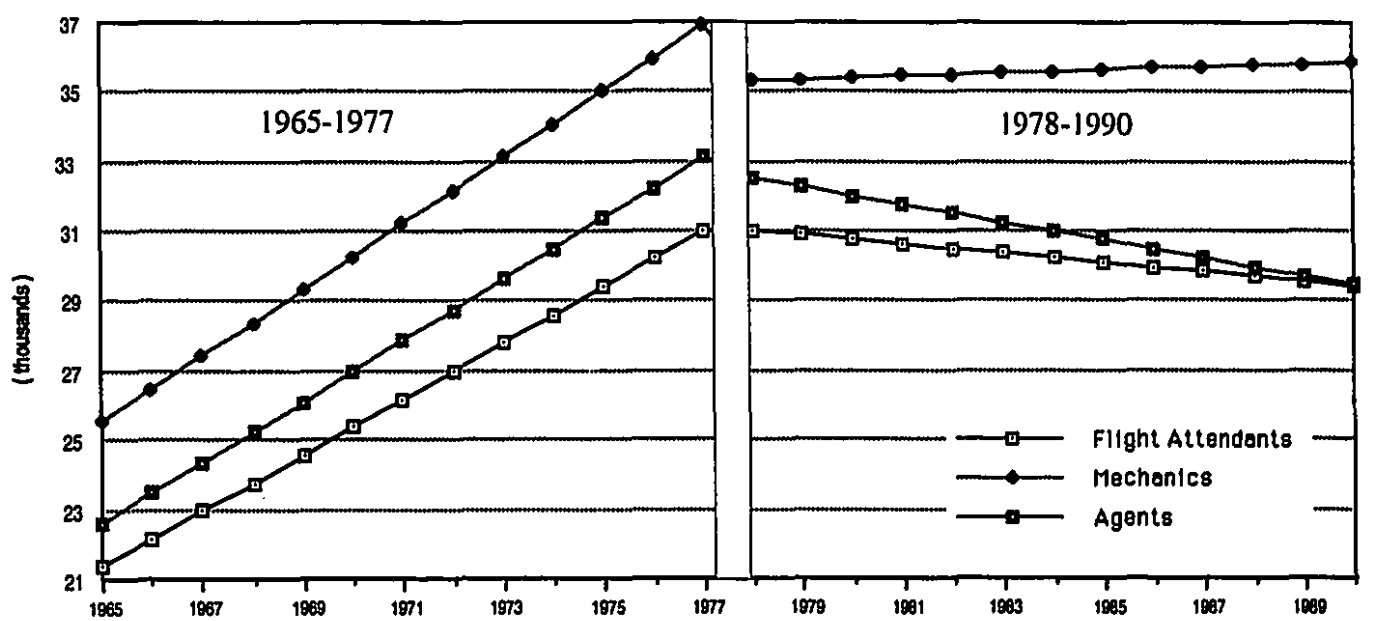


TABLE 5.9
Regression results of the two equations relating average real earnings to year for the periods 1965-77, 1978-90 for each labour group in the two major carriers.

MAJOR	PILOTS		FLIGHT ATTENDANTS		MAINTENANCE		TRAFFIC-SERVICE	
CARRIERS	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90
Constant	$ 56544	$ 76251	$ 21345	$ 31034	$ 25523	$ 35323	$ 22617	$ 32545
	(4226)	(2138)	(1037)	(1211)	(1041)	(1193)	(931)	(1139)
Year	$ 2217	$ 1182	$ 808	$ -132	$ 947	$ 43	$ 875	$ -255
	(313)	(158)	(76)	(89)	(77)	(88)	(69)	(84)
R Squared	.820	.835	.909	.165	.932	.022	.936	.454

TABLE 5.10
Regression results of the equations relating average real earnings to employee for each labour group in the major carriers.

MAJOR	PILOTS			FLIGHT ATTENDANTS			MAINTENANCE		TRAFFIC-SERVICE		
CARRIERS	1965-77	1978-90	1987-90	1965-77	1978-90	1984-90	1965-77	1978-90	1965-77	1978-90	1984-90
Constant	$ 39036	$ 57565	$ 65235	$ 17731	$ 35521	$ 37122	$ 3159	$ 37268	$ 11644	$ 42812	$ 47278
	(6503)	(3975)	(491)	(1576)	(831)	(877)	(2746)	(1185)	(2152)	(790)	(715)
Employee	$ 19	10	8	3	- 1.17	- 1.45	7	- .32	2	- .98	- 1.33
	(5)	(3)	(1)	(.5)	(.28)	(.35)	(2)	(.51)	(.45)	(.17)	(.22)
R Squared	.574	.430	.940	.790	.607	.769	.527	.034	.658	.737	.881

TABLE 5.11
CANADIAN MAJOR CARRIERS
Employment and earnings growth rates for selected labour groups (percent per year)

YEAR	PILOTS		FLIGHT ATTENDANTS		MAINTENANCE OVERHAUL		GROUND AGENTS	
	Employm	Earnings	Employm	Earnings	Employm	Earnings	Employm	Earnings
1965-77	7.6%	3.0%	10.7%	3.0%	2.4%	3.0%	5.5%	3.0%
1965-78	7.0%	2.2%	10.0%	2.2%	2.0%	2.4%	5.4%	2.5%
1977-83	3.0%	0.0%	2.6%	0.0%	3.3%	0.3%	3.5%	-0.3%
1978-83	3.0%	1.0%	2.5%	1.0%	4.0%	1.0%	3.4%	0.2%
1983-90	4.2%	2.0%	7.0%	-1.3%	5.7%	-0.1%	4.0%	-1.8%
1977-90	3.7%	1.0%	5.0%	-0.7%	4.6%	1.0%	4.0%	-1.1%
1978-90	4.0%	1.5%	5.0%	-0.4%	5.0%	0.3%	4.0%	-1.0%

Source: Statistics Canada.

5.4.iii Diversity among carriers:employment and earnings.*

Throughout the regulated period, 1964-1977, Air Canada had the greatest proportion of labour in all occupations.

During 1979-80, with the liberalization of regulatory controls on Canadian and price competition, employment grew rapidly in all occupations. However the recession that followed had a negative effect on all labour groups. In 1981 Air Canada and in 1982 Canadian began a series of lay-offs. From 1981 to 1983 Air Canada laid off 9% ground service labour, 26% cabin crew (1981-1985) and 10% pilots (1981-87); in 1982-1983 it also cut 13% of maintenance workers. The lay-offs were more extensive at Canadian. From 1982 to 1984 the company laid-off 25% of its pilots and maintenance labour and in 1983-84 13% of its ground servicing labour and 5% of its cabin crew (1983-85).

Employment recovered only in 1986. From 1987 to 1990, with the creation of the CAIL conglomerate, both carriers shared a relatively similar proportion of these work groups. The exception was flight attendants and maintenance labour who in 1990 accounted for a larger share of Canadian's employment than of Air Canada' employment.

During the regulated period there was also a historical relationship in the two carriers with respect to labour

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*. See Tables II.8 to II.10 for employment and earnings data for the two national carriers.

earnings. From 1960 to 1979, average real compensation of pilots at the two carriers were closely matched. At Air Canada, mechanics and passenger agents' real earnings slightly exceeded those at the private carrier, whereas those of cabin crew were higher at Canadian. These variations could be partly due to different classifications for ground workers and route network and/or longer hours for flight attendants at Canadian.

Although the level of earnings of these groups varied to a certain extent, they were highly correlated ($r=0.90$ for pilots; $r=0.89$ for attendants; $r=0.95$ for mechanics and agents) and the respective rates of growth were rather similar. From 1965 to 1977 real compensation increased by 3% annually and this growth was shared by all work groups.

Thus, it appears that unions used pattern bargaining, making their demands at Air Canada and then forcing the private carrier to simply match them.

This pattern began to change during the period of 'controlled competition', from 1978 to 1983, mostly for pilots and agents. Under the impact of the monetary controls on the crown carrier, the rate of increase of pilots' wages at Air Canada fell slightly behind the rate of inflation, whereas at Canadian, with 25% of its pilots laid-off, wages grew by 2% per year. On the other hand the earnings of ground agents at Canadian, whose employment had been growing by 13% per annum, declined by over 1% annually

and this downward trend persisted until 1990.

In the deregulated period, 1984-1990, the earnings correlation between the two carriers declined (r=0.67 for pilots; r=0.77 for attendants; r=0.71 for agents and r=0.87 for mechanics), earnings turned negative for cabin crews and agents in both carriers and the decline was more significant at Canadian. Mechanics' real compensation grew by a bit more than inflation in both carriers, whereas that of pilots increased by 2% at Air Canada and .2% annually at Canadian. However this variation could have been the effect of wage restraints on the crown carrier and the following 'catching up' since from 1978 to 1990 pilots' earnings grew by 1% in both carriers.

These data suggest that while the implementation of deregulation led to relatively small changes in labour outcomes, the pre-deregulation high correlation between wage growth across work groups in the two carriers declined. Pilots and mechanics were successful in maintaining a constant rate of growth of earnings but those of flight attendants and ground agents turned negative. While these data may reflect different skills and labour market conditions, the lower entry wages and the larger share of part-time labour in these last occupations, and their employment growth, may bias the results. While an analysis of contract data is undertaken in a later chapter, what

seems clear is that the effects of deregulation on earnings was relatively small. However the industry is still under the effects of major changes. In 1992, both carriers, under profit losses and fare-wars, sought wage cuts to avert bankruptcy or ease their debts.*

5.4.iv. Trends in Industrial Conflicts.

During the 1960s and 1970s there were several industrial disputes in the industry. These conflicts involved ground occupations, maintenance and passenger service employees, and were mostly directed against the crown carrier. From 1963 to 1978 maintenance workers struck Air Canada at almost every contract negotiation, while passenger agents were involved in two prolonged strikes. At this time, airlines interrupted operations during strikes.

In the mid-1980s there was a wave of unrest among all work groups, involving almost all carriers. The issues during these years differed from the earlier ones since they arose from the carriers' demands for major concessions, such as the 'two-tier' scale and modifications to work rules.

In 1984 flight attendants struck Quebecair unsuccessfully over the two-tier wage structure, and this carrier was the first to implement this system in Canada. In 1985, flight attendants and passenger agents struck Air Canada. The first opposed this carrier's demands for a 'two-tier' scale and higher monthly and daily hours; the

others over increases in part time employment and cross-utilization or the use of labour in tasks not covered by their contractual classifications. This same year, flight attendants, mechanics and passenger service workers all struck PWA over demands for changes in work rules that allowed the firm more flexibility in the use of labour.[10] All of these conflicts were rather ineffective and ended with the carriers achieving most of their goals. At this time both carriers, with the pilots not striking, operated most of their flights with striker replacements.

In 1988 the mechanics struck Air Canada over the issue of pension-indexation. This conflict was more successful for the union. The carrier shut down its operations, and it ended only after the government mediated the dispute.

An overview of strike activity in the industry for the period 1960-1990 is presented in Table II.13 in the Appendix.

It thus appears that during the period of the evolution to price and route deregulation, when the price of labour was excluded from the fare index, all carriers became 'tougher' bargainers. They were succeessful with flight attendants and agents, as real wages for these groups declined, despite the strikes. Pilots, who seldom used the strike,[11] and mechanics seem to have been almost immune from major changes.

This review suggests that the change from a regulated to a competitive environment led both carriers, in 1985, to implement measures to decrease labour costs while the tougher posture of most carriers during strikes is a clear break from past practices.

While data on aggregate earnings and productivity fail to show any significant changes, the market expansion and employment growth of Canadian after 1984 broke up the previously linked pattern of bargaining in the major sector and led Canadian to secure conditions of employment probably more related to market forces and output improvements.

Aggregate data on earnings of single occupations indicate that in the post-deregulation period pilots and to a certain extent mechanics maintained a relatively high rate of growth of earnings while attendants and ground agents did rather poorly. This drop in earnings has been more significant at Canadian than at Air Canada. While this decrease may have been made possible by an excess supply of these workers (in 1985 PWA replaced striking agents and attendants with replacements at 40% of the salary paid to regular staff) it also appears to be related to the various concessions given by these groups, such as low entry wages and higher part time labour, and to the employment variations in the two carriers.

Thus, while the change from a regulated to a competitive environment resulted in small changes in labour

outcomes, the late and gradual adoption of the economic reforms and the lack of any significant entry of new carriers, by failing to thrust wages into competition, may have influenced the rate of change. However the major air sector is still under the effects of structural changes brought about by the 1990s recession and the government 'free sky' policy with the US. This will enventually lead to a new structure of the industry and affect labour outcomes.

5.5 INTER-INDUSTRIES COMPARISON: EMPLOYMENT AND EARNINGS.

To complete the examination of the effects of the economic reforms on the airline industry, this section compares trends in employment and compensation of the labour force in the air industry and in the national carriers with those in manufacturing and in the utilities, communication and land transport aggregate.[†]

5.5.i. Trends in Employment.

Figure 5.10 (Table II.11) and Table 5.12, which show predictive trends in employment in index form with 1978 as base year, and the equations originating these trends, indicate that employment in the airlines increased rapidly in the mid-1960s and by 1974 it exceeded the growth level of the other industries.

In the post 1978 period there was at first a rapid increase in employment then, from 1982 to 1984, employment fell in all economic sectors. However while the recession had a more negative effect on the airline industry than on the other industries, and the recovery was slow, by 1987 the rate of growth of employment in the airlines was above the rate of the other sectors.

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†. Data for this sector were obtained by deducting the total labour compensation expenses and employment of the air industry from the utilities-communication-transportation aggregate.

Fig 5.10 – Canada: Selected Industries
Predictive Trends in Employment Indexes

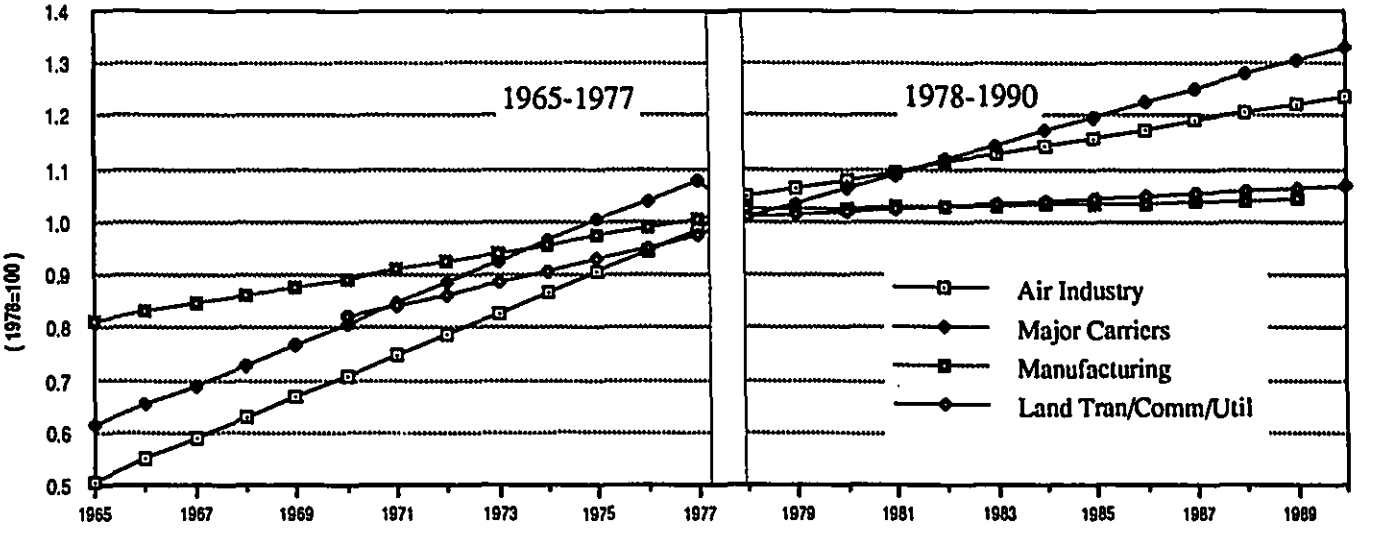

TABLE 5.12
Regression results fro the equations relating employment indexes to year for the periods 1965-77 and 1978-90 in selected industries.

	MAJOR AIR SECTOR		AIR INDUSTRY		MANUFACTURING		LAND TRANSPORT UTILITIES COMMUNICATION	
	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90
Constant	.611	1.00	.507	1.04	.813	1.02	.818	1.01
	(.049)	(.092)	(.038)	(.070)	(.027)	(.045)	(.015)	(.031)
Year	.039	.027	.044	.015	.016	.001	.022	.004
	(.003)	(.006)	(.002)	(.005)	(.002)	(.003)	(.022)	(.002)
R Squared	.911	.592	.956	.462	.852	.022	.937	.273

5.5.ii. Trends in Average Real Compensation.

Fig. 5.11 and Table 5.13, which display predictive trends in average real wages, and the equations generating these trends, reveal that from 1965 to 1977 real earnings grew faster in the airlines as well as in the utilities-communication and land transport industries (1970-1977) than in manufacturing. While in the first two sectors real compensation increased by 3% (2.7% in the air industry) and 2.6% annually, it grew by 2% in manufacturing.

In the next years, from 1977 to 1983, real earnings declined in all sectors. However the decline was more significant in manufacturing. In this sector real earnings fell by approximately 1% per year while they increased at roughly the rate of inflation in the other industries.

From 1983 to 1989, as the economy got better, real earnings recovered gradually in manufacturing, increasing by 1.3% annually; they fell below the rate of inflation in the major carriers (-.50% annually) and in the utilities-communication-land transportation industries (-.70%) and by 1% per year in the total air industry.

Fig 5.11 – Canada: Selected Industries

Predictive Trends in Average Real Wages

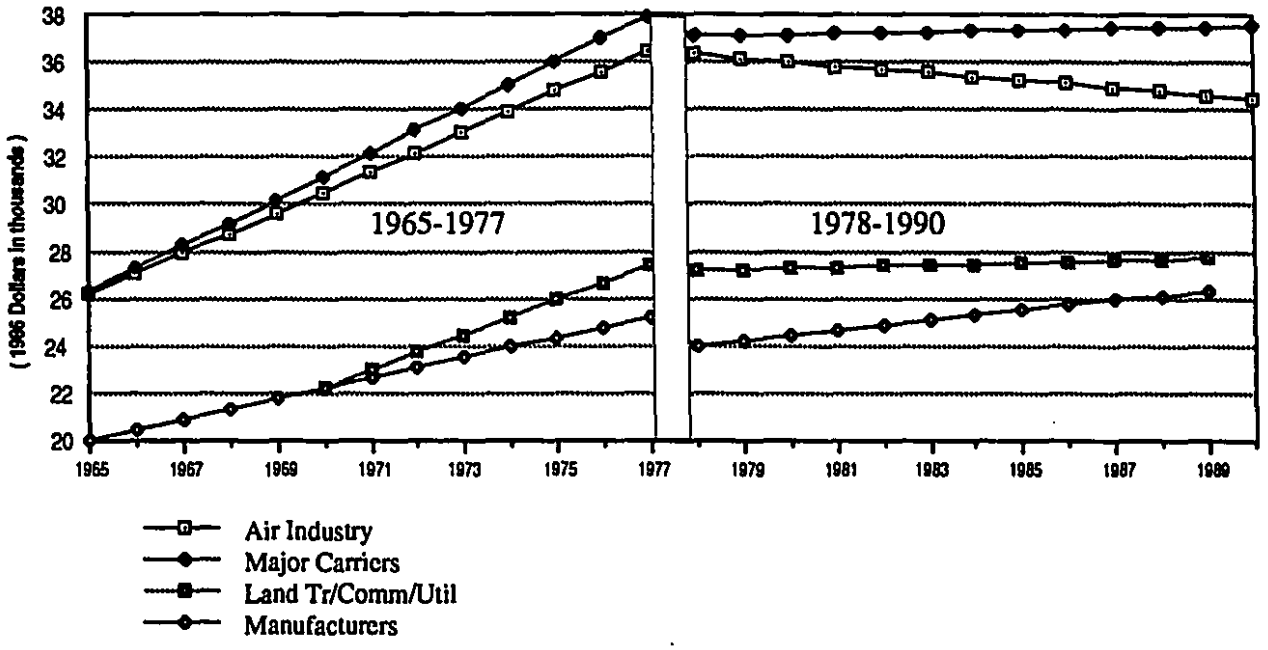

TABLE 5.13
Regression results of the equations relating average real earnings to year for the periods 1965-77 and 1978-90 in selected industries.

	MAJOR AIR SECTOR		AIR INDUSTRY		MANUFACTURING		LAND TRANSPORT UTILITIES COMMUNICATION	
	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90
Constant	$ 26292	$ 37089	$ 26121	$ 36303	$ 20005	$ 24013	$ 22229	$ 27176
	(831)	(704)	(774)	(1014)	(663)	(571)	(723)	(700)
Year	$ 971	$ 35	$ 855	$ - 152	434	$ 210	$ 737	$ 46
	(61)	(52)	(57)	(75)	(49)	(47)	(111)	(58)
R Squared	.958	.041	.953	.273	.877	.660	.879	.060

Table 5.14, which summarizes employment and earnings data, indicates that during the period of full regulation, employment and real earnings increased faster in the air industry than in manufacturing. From 1965 to 1977 the annual rate of growth of earnings in the major carriers exceeded by 1% that of the manufacturing.

From 1977 to 1983, employment declined in all sectors. However in the post-1984 period employment growth in the airlines exceeded the growth rate of the other industries.

During the period 1977 to 1983, the annual rate of growth of real earnings approximately matched inflation in the airlines; it increased slightly above inflation in the land transport-communication-utilities aggregate but dropped by roughly 1% in manufacturing. In the following years, 1983-1989, earnings fell by .5% per annum in the major carriers, by 1.2% in the total air industry and by 1% in the land transport-communication-utilities but increased by over 1% in manufacturing. Thus whether this decline of earnings in the airlines was due to the loss of regulatory rents is not very clear. It depends on the comparison group. While earnings in the airlines fell in relation to those in manufacturing, the rate of decline in the major carriers was inferior to that of the utilities-communication-land transport aggregate. Thus if the relative rate of wage change of airline employees during 1983-89 when the economic reforms took place are compared with those earned prior to

the reforms, 1965-1977, the annual decline in real earnings in the airlines ranged from about 0 to 1% relative to those of the other industries. If the whole competitive period, 1977-1989, is considered, real earnings fell by .2% per annum in the major carriers and in the land transportation-communication-utilities aggregate compared to an increase of .4% in manufacturing. In this case the relative decline of earnings in the major carriers ranges from 0 to approximately .5% annually. The substantial wage gap between the air industry and the major sector is probably the result of the drastic changes that occurred following deregulation. The fusion of the regional carriers into the nationals left the industry with a number of small commuter and charter airlines and this affected aggregate earnings data.

This review suggests that if union bargaining power had been enhanced by regulation, regulatory rents seem to have been rather small. Depending on the comparison groups and the time periods, earnings in the major carriers declined by roughly .5-1% per annum relative to those of manufacturing and about the same amount as in the utilities-communication and land transportation aggregate. However there are several problems associated with these data, such as the extent of unionization, the firms' size and the quality of labour. These factors may have introduced errors in the analysis. Thus these results should be interpreted with caution.

TABLE 5.14
VARIOUS INDUSTRIES
EMPLOYMENT & COMPENSATION
LEVEL & GROWTH RATES

YEAR	MAJOR SECTOR		AIR INDUSTRY		MANUFACTURING		LAND TR./UTIL/COMM	
	EMPLOYM.	EARNINGS	EMPLOYM.	EARNINGS	EMPLOYM.	EARNINGS	EMPLOYM	EARNINGS
						.000		
1. ANNUAL LEVELS								
1960	13878	24218	17080	24146	1265	18029		
1965	15058	26907	19007	26560	1570	20062		
1970	22861	31697	30698	31600	1768	21466	667302	22773
1975	28749	35176	40321	33873	1871	24230	771679	25144
1977	27219	38191	39466	36542	1888	25574	779534	27374
1978	27448	36451	40167	35279	1956	25113	818833	26872
1981	32119	36877	47534	35626	2124	24217	863466	27415
1983	29244	38002	42093	36800	1879	24571	822907	27826
1984	29107	38038	42282	36653	1954	24646	809718	28835
1987	34683	36845	46359	34403	2018	26249	852644	27236
1989	37757	37202	51072	34232	2126	26835	909928	26618
1990	39150	36679	52490	33829			898510	
2. GROWTH RATE (percent per year)								
1960-68	5.3%	2.4%	6.0%	2.2%	3.4%	2.4%		
1968-77	3.0%	3.3%	4.5%	3.0%	1.8%	1.9%	2.4%	2.7%
1977-83	1.3%	0.0%	1.3%	0.1%	0.2%	-0.7%	1.0%	0.3%
1983-89	4.4%	-0.5%	3.1%	-1.2%	1.8%	1.3%	1.3%	-0.7%
1965-77	5.1%	3.0%	6.4%	2.7%	1.7%	2.0%		
1977-89	3.0%	-0.2%	2.3%	-0.6%	1.0%	0.4%	1.2%	-0.2%

5.6. SUMMARY

These pages review the major findings concerning the impact of deregulation on labour outcomes and relate them to previous theoretical formulations and hypotheses.

I have argued that in Canada the combination of fewer carriers, institutional arrangements, and the government legislative interventions into the economy should have acted as a constraining force to the hypothesized regulation 'high wage' relationship. It follows from this that (i) during the period of full regulation, 1960-1977, the relative rate of wage change should have been highly uniform across carriers and inter-industry wage differentials should have been small. If this hypothesis is correct then (ii) the impact of deregulation on labour earnings should have been relatively modest although this should not have exempted unions from the wage-employment dilemma and carriers from offsetting wage raises with output adjustments.

These hypotheses are only partly supported by the evidence.

During the period of full regulation, 1965-1977, under the effect of the jet revolution, low inflation, outstanding growth, a protected market, and with Air Canada dominating the industry, real compensation increased by 3% per year in the major carriers and at a slightly lower rate in the total industry. This growth was shared by all labour groups. However, the annual rate of growth of compensation in the

major air sector exceeded by about 1% the rate of increase in manufacturing. Thus it seems that regulation did benefit labour to a certain extent.

In the next years, between 1977 and 1983, the effects of competition and the recession were on employment rather than earnings and the previously similar trend persisted with wages increasing at about the rate of inflation in contrast with manufacturing where earnings fell by roughly 1% annually.

The policy changes that occurred in the post-1984 years altered the structure of the market and had some repercussions on labour relations. These seem to support the second hypothesis. At this time both carriers sought labour concessions, such as low entry rates for new employees and an increase in part-time labour. Air Canada, in particular, took a 'tough' posture in labour conflicts. From 1983 to 1989 average real earnings in the major carriers declined by .5% annually compared to an increase of over 1% in manufacturing. Although, as these data suggest, the power of organized labour in the airlines may have been enhanced by regulation, this decline in earnings in the major air sector in the post-deregulation period also reflects the effect of lower wages paid to new employees after the mergers and the increase in part-time labour that began in the airlines in 1985.

The historical wage pattern in the two carriers broke

down in 1987, following the consolidation of the industry and the merger of several airlines into the Canadian conglomerate, which increased this carrier's employment share from 25% in 1978 to 43% in 1990. At this time, probably due to employment redundancy, aggregate real earnings and labour costs decreased while productivity grew faster at Canadian than at Air Canada. These data suggest that unions may have been forced to trade wage and productivity concessions for employment security, whereas at Air Canada, without any substantial employment growth, they may have been more resistant to making concessions.

The effects of deregulation on aggregate earnings also varied across work groups. Real earnings of cabin crew and ground service labour decreased while pilots and, to a certain extent, mechanics were able to offset market pressures produced by deregulation, and their earnings kept up with the rate of inflation. While it appears that flight attendants and ground agents became the most vulnerable to the carriers' demands for concessions, probably due to the large pool of applicants for these jobs, this decline in earnings also seems related to the higher employment growth in these categories at lower wages which may have decreased their average earnings.

Overall these data suggest that if union bargaining power was enhanced by regulation, the extent of regulatory rents was rather small. It is also possible that the

imposition of monetary controls on the crown carrier, the gradual passage of the economic reforms which inhibited the entry of significant competitors, and the creation of a duopoly in the industry may have modified the impact of the recession and 'deregulation' on labour earnings.

NOTES TO CHAPTER 5.

1. Carriers in levels other than Level I are relatively speaking, of modest size. In 1989, 8 Level II carriers accounted for 3% of total revenues; 109 Level III airlines generated 10% of total revenues; 453 Level IV airlines accounted for 3% of total revenues, and 216 Level V (speciality flying services only) carriers accounted for 1% of the industry revenues.

2. Between 1977 and 1980 the CTC increased significantly the numbers of licences in major markets. These increased from 75 in 1977 to 91 in 1980 (Transport Review, 1980).

3. In 1979 AC purchased 86.5% of NA'shares and controlled this carrier until 1984 when these were sold to Innocan. In that same year the Government of Quebec acquired 34% of NA. Between 1974-1984 PWA was owned by the Government of Alberta. TA was bought in 1978 by PWA and merged in 1980. In 1980, the Government of Quebec injected 15 million dollars into the financially troubled QA after an offer of acquisition by AC. Although in 1981 QA restructured its finances, route system and sold all of its aircrafts, except jets, the Government of Quebec had to intervene and at this time it acquired the whole carrier. In 1986 it was sold to private capital and it eventually merged with CP.

4. In 1987, the Department of Transport, following extensive discussions with the two carriers, reallocated international routes between them. In addition to its Pacific routes, CAIL was to operate to Danmark, Sweden, Norway, the URSS, Mexico, Central and South America, Frankfurt and Munich. AC was designated routes to Greece, Spain, Portugal and Yougoslavia.

In 1988 AC expanded its network to the Orient, introducing services to Bombay and Singapour, while CAIL began to service Bangkok, Thailand and Beijing.

5. In 1977, the CTC allowed Charter Class Fares on scheduled flights. In 1978 AC introduced 'nighthawks' fares and CP 'Courrier' fares. Moreover in 1979 AC began seat sales on its domestic network and CP began operating low cost flights or 'Skybus'.

6. This point is extensively dealt by Baldwin, J., 1975.

7. Some of these divergent outcomes in the economic performance of the two carriers may also be due to the disadvantage of Canadian Pacific vis-a-vis Air Canada concerning the cost of capital and the dividends CP had to pay to its stockholders. Air Canada as a crown corporation

enjoyed lower interest rates on borrowing because of the implicit government guarantee and it has not been unusual for the government to convert some of the carrier's debts into equity throughout the regulatory period.

8. This increase was mostly due to the high wages paid by PWA in the period 1981-86 and by QA during 1984-86.

9. In 1992 CAIL (PWA Corporation) to avert bankruptcy entered into partnership with American Airlines. Under the letter of understanding, employees at all levels would invest $200 million of their pay over the next four years in exchange for shares of the company. Wage reductions ranged from 4% for pilots and 10% for flight attendants in the first year and from 9% to 5% respectively in 1994. The airline also expected to lay-off 1300 workers (The Gazette, Dec.16, 1992).

In 1993 AC President cut his salary by 10% and all officers took a two years 5% wage reduction. AC sought a similar wage cut for all unionized employees. It also announced a 'Share Appreciation Rights' (SAR) program that would award employees a number of SAR units based on the amount of salary reduction (Internal AC memo, April 1993).

In June 1993 the mechanics (IAM) exchanged limited job security for a 3-year agreement stipulating reduced overtime benefits and wage freezes between June 1992-1993, followed by a one-year rollback of 4% and restoration of half of the rollback in June 1994 and the reminder in December 1994 (The Financial Post, June 15, 1993:3). This agreement would probably set a precedent for the negotiations between the carriers and the other unions.

10. The carrier demanded cross utilization, fewer restrictions on overtime, more part-timers, contracting out and greater use of smaller affiliate airlines. The strike began in October 1985 and lasted several months. Passenger agents returned to work at the end of January and attendants on March 1986. During this time PWA was able to hire staff at 40% of the salary of regular workers and with the pilots not striking, it was able to operate most of its flights (Barone et all. 1986).

11. In 1976, CALPA declared a national strike over the government policy of bilinguilism in the air. The strike lasted roughly a week and ended after the government legislated compulsory return to work. In 1978, CALPA struck Air Canada on what was called the 'firemen strike'. During a strike of airport firemen, Air Canada cancelled all flights operated by wide-bodied aircraft, thus laying-off the most senior pilots. This unilateral decision, resulted in a 12 days strike.

CHAPTER SIX

BARGAINING OUTCOMES IN TWO MAJOR US AND CANADIAN CARRIERS

6.1 INTRODUCTION

After having examined the general trends on bargaining outcomes, this chapter assesses the extent to which market forces, firms' strategies and the relative power of single unions influenced the effort bargain. It compares data obtained from collective agreements of the major labour groups in two former trunk carriers in the US, American (AA) and Northwest Airlines (NW) and in the two major airlines in Canada, Air Canada and Canadian Airlines. The data include wage rates for fixed job classification and seniority levels, selected work rules, fringe benefits and pension plans. The labour categories are pilots, flight attendants, mechanics and passenger agents.

In section 6.2 wages and work rules of each work group are compared before and after deregulation while Section 6.3 presents a review of fringe benefits, insurance and pensions plans in the two US and Canadian carriers.

6.2 COLLECTIVE BARGAINING OUTCOMES: CONTRACT DATA.

Sections 6.2.1 to 6.2.4 compares wage and work rules of the four labour groups in the two US and Canadian carriers.[1]

6.2.1. PILOTS: EARNINGS AND WORK RULES.

6.2.1.i. Pay formula and career pattern.

In 1960, pilots in the two US carriers were represented by the Air Line Pilots Association (ALPA). In 1963 pilots at American split from ALPA and formed a new union, the Allied Pilots Association (APA), and they have been represented by APA since 1963. In Canada they are represented by the Canadian Air Line Pilots Association (CALPA).

As shown in Table 6.1 pilots' pay is based on three categories: a wage formula, the 'guarantees' and a variety of miscellaneous payments.

The wage formula consists of four elements: a base or longevity pay; an hourly pay, based on the aircraft speed, including a night-day differential; mileage pay, which varies with the 'pegged' speed of the aircraft, and gross weight pay. Thus it has a built in productivity factor which results in automatic wage raises with the introduction of bigger and faster aircraft. In 1974 Northwest and in 1990 American combined the the hourly pay and the longevity

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[1]. Wages for the American carriers are in US dollars while for the Canadian ones are in Canadian dollars.

pay components into a single element. In 1989 Northwest added an 'aircraft range pay' component to the pay formula.

Compensation is also linked to a well established career pattern. New pilots, after an initial training, are placed on a flat salary for the first year in the US and during the first two years in Canada. They then go through a career progression, starting as a second officer or as copilot of a two-pilot crew, to first officer, to captain, moving from small to large aircraft types. It usually takes 6 to 15 years, depending on the firm's growth rate, before they reach the status of captain. Pay varies according to the length of service, the aircraft type and the status.

In 1960 the pay progression was spread over ten years at American, nine at Northwest. This was lenghtened to twelve years in 1968 at American and in 1979 at Northwest. In the Canadian carriers, until 1977, the pay progression extended to eight years of service. In 1978, this increased to twelve years. First and second officers are paid a percentage of the captain's pay and this varies according to years of service.

The contractual 'guarantees' established in the 1950s to protect employment and improve working conditions accrue to pilots, with additional pay credits for each period of time they are on duty. They include: a minimum monthly guarantee, minimum daily credits, the duty period and the trip hours guarantees or the ratio of straight flight time

to the time a pilot is on-duty. The 'duty period guarantee' (DPG) applies to trips within a day when the duty time is higher than the straight flying time, whereas the 'trip hour guarantee' (THG) applies to a cycle of flights extended over several days beyond the home station.

Miscellaneous payments include training, dead-head, lower category pay credits, stand-by, operational duty, taxi pay and overseas supplement pay.

TABLE 6.1
PILOTS' WAGE PAYMENTS

PILOTS PAY FORMULA	CONTRACTUAL GUARANTEES	MISCELLANEOUS WAGE PAYMENTS
1. BASE OR LONGEVITY PAY 2. HOURLY RATE BASED ON AIRCRAFT SPEED AND NIGHT-DAY DIFFERENTIAL. 3. HOURLY MILEAGE PAY BASED ON 'PEGGED' SPEED OF AIRCRAFT. 4. HOURLY GROSS WEIGHT PAY BASED ON AIRCRAFT WEIGHT.	MINIMUM MONTHLY HOURS GUARANTEE DUTY PERIOD PAY GUARANTEE (Ratio of straight flight time to 'on-duty' time per day)	TRAINING PAY DEAD-HEAD TIME AND PAY CREDITS. Apply when crew members travel as passengers to protect a flight or to get to the home base after termination of duty at a different station.
IN 1984 NW AND IN 1992 AA ELIMINATED POINTS 1 AND 2 AND ESTABLISHED A LONGEVITY PAY BASED ON AIRCRAFT TYPE. IN 1986 NW ADDED AN AIRCRAFT RANGE PAY COMPONENT.	TRIP HOURS GUARANTEE (Ratio of straight flight to on-duty time over a cycle or two or more days)	LOWER CATEGORY PAY STAND-BY, REPORTING AND TAXY TIME CREDITS. OVERSEAS SUPPLEMENT PAY.

6.2.1.ii. American and Northwest Airlines: Pilots Wages.

Figures 6.1 and 6.2 show captains' top real hourly rates and entry rates (in US dollars) for 2-year B-727s first and second officers (Table III.1).[2]

Hourly rates, which in the 1960s were lower at Northwest than at American, in 1972, probably due to pattern bargaining and a bitter strike at Northwest, reached parity. At this time, earnings grew steadily. Except for a decline in 1972-74, from 1965 to 1977 pay rates at the upper and lower end of the pay scale grew annually by over 2% at Northwest and by 1% at American. This upward trend continued up to 1983 when rates began to diverge within each of the two carriers.

American, which during 1980-1983 laid-off 24% of pilots, reduced the wage rate for new pilots by 50% with no parity with the earlier scale, bargained minor wage raises for current pilots in exchange for job-security, recall of laid-off pilots,[3] commitment to growth and opportunities for promotion. In 1985, as the demand for pilots rose, American increased pay rates for pilots still in their first

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[2]. For convenience I have assumed an equal distribution of time over day and night flying.

[3]. On November 1983 American Airlines made a commitment to APA that as of December 1985 the number of first pilots would be increased by a minimum of 250 above the November 1, 1983 level; by December 1984, a minimum of 400 furloughed pilots would be recalled; an additional 200 before December 1985 and all of the remaining pilots would be recalled before December 198.

four employment years with the firm over 8% and agreed to negotiate revised pay rates for the fifth year and beyond, while top pay raises fell below inflation. Further changes occurred in 1987, when a shrinking pool of pilots and ALPA's ability to contain concessions, after United's failed attempt to break the union, reinforced the union's position. American increased two-tier pilots' pay rates by 15-30% (according to years of service); it established parity by the ninth year; it froze pay rates for 9 to 12-year pilots and gave senior pilots minor pay raises by lengthening the pay-scale from twelve to fifteen years. In 1991 this was reestablished at 12 years.

Northwest, with no employment loss and a long term contract, maintained the status-quo and from 1978 to 1986, real pay rates increased by 1.6% annually. In 1987, after the merger with Republic which delayed negotiations, pilots' wage rates remained unchanged and, without accounting for 'lump-sum' payments awarded in lieu of retroactive pay rises,[4] from 1987 to 1990 the real hourly rate at the upper end of the scale decreased to offset all previous gains. Moreover the introduction of a B-scale which merged with the A-scale after 5-years, reduced pay for new pilots by roughly

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[4]. In 1990, after the merger with Republic and the ratification of the new contract, Northwest set aside a total of $17,500,000 as retroactive wage fund. The amount of payment to individual pilots was to be determined by the union. These funds were excluded from the definition of earnings for the purpose of determining pension benefits.

30% depending on the status and years of service, thus making pay rates for new pilots comparable to those at American.

Thus after substantial pay raises following deregulation (a total of 5% at AA from 1978 to 1983 and 14% at NW up to 1986) in the subsequent years, hourly rates of pay for captains at the upper end of the scale declined by 15% at both carriers while the rates of new pilots (2-year first and second officers) declined by roughly 30%.

Miscellaneous payments differed to some extent between the two airlines and remained unchanged in the post-1978 period.

Both carriers guarantee that pilots flying in a lower status category receive their regular category pay. Deadhead credits, previously paid at half rate, became fully credited in 1978 at Northwest, and in 1979 at American. For stand-by, reporting, taxi, test and courtesy flights credit, pilots are guaranteed minimum pay or credits under the contractual guarantee (DPG). Reporting for duty without 'take-off', that previously had been unpaid, became credited with two hours at American in 1977 and one hour at Northwest in 1971 for pay purposes only.

This review indicates that the previously similar trend in earnings broke up in 1983 when the APA at American traded wages for employment and growth. At Northwest, wage concessions in the form of the B-scale occurred only in 1989 when, after the merger and the addition of 3000 pilots, it could benefit from lower starting wages. Thus in 1983 wages became more sensitive to the carriers' needs and less sensitive to precedents set by other settlements. Although from 1978 to 1990 top real hourly rates fell by a total of 9% at American but grew by the rate of inflation at Northwest, in later years both carriers reduced their top hourly rates by 15% while new pilots experienced a decline of about 30%.

Fig 6.1 – American and Northwest Airlines
B-727 Real Hourly Rates – Captains

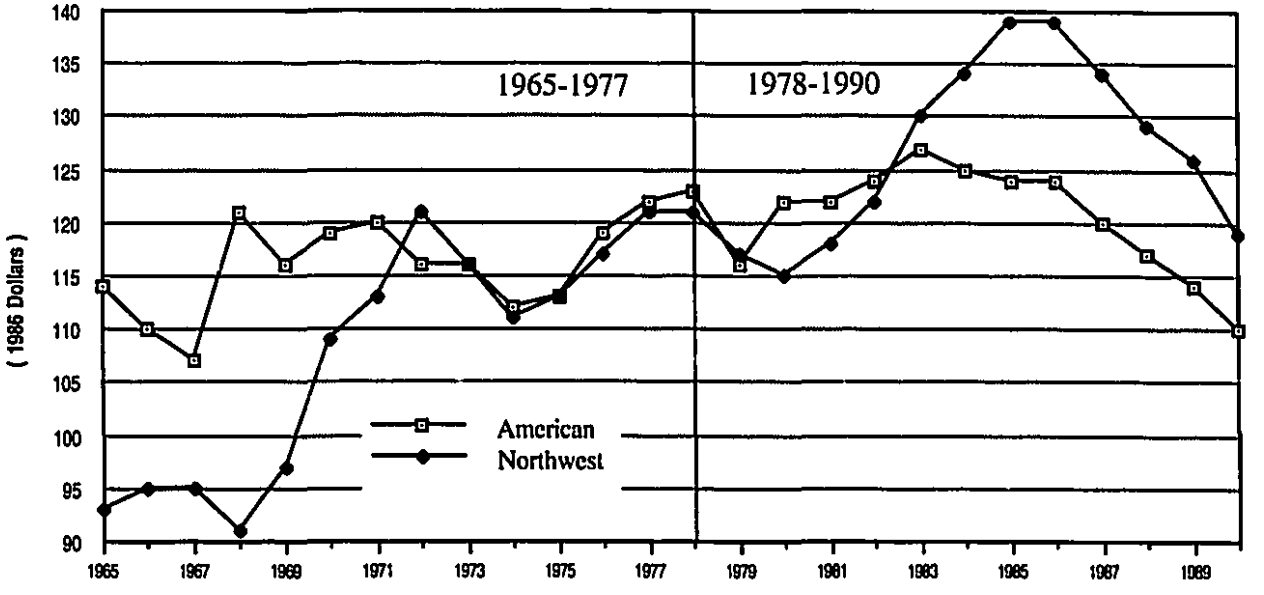
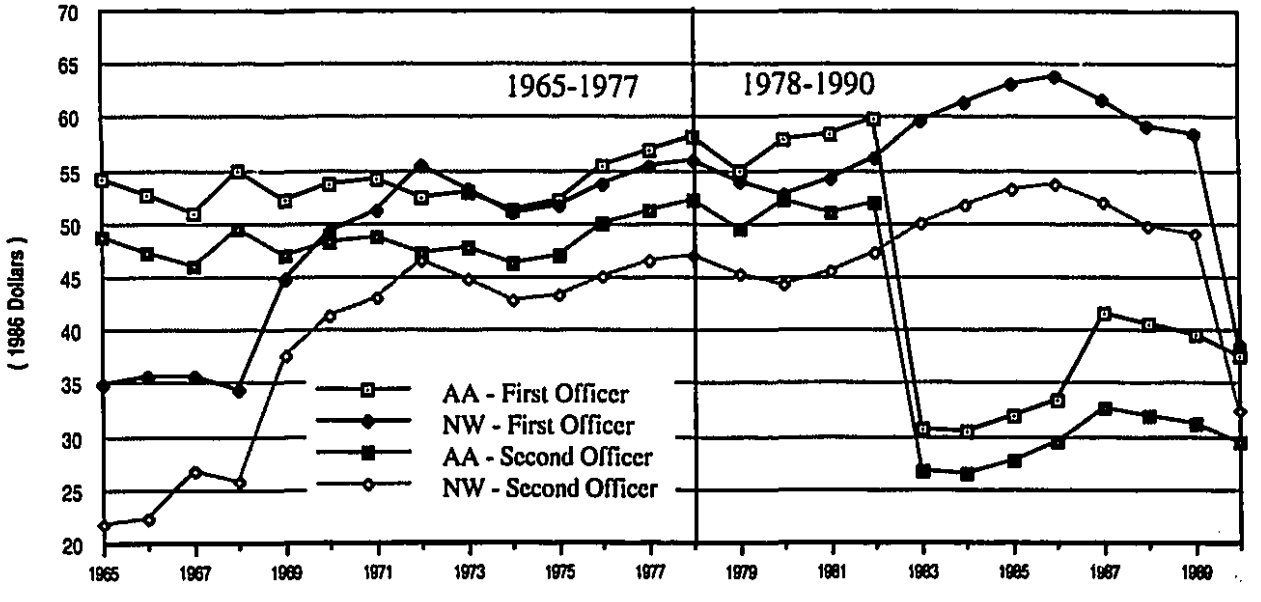


Fig 6.2 – American and Northwest Airlines
B-727 Real Hourly Rates – 2-year Co-pilots



6.2.1.iii. Air Canada and Canadian: Pilots' Wages.

Figures 6.3 and 6.4 illustrate top real hourly rates, in 1986 Canadian dollars, for captains (DC-9 at Air Canada and B-737 at Canadian) and for 3-year first and second officers in the two carriers (Table III.1).[5]

While in the early 1970s, with the advent of jet aircraft, rapid growth and low unemployment, real wages increased at an annual rate of 4%,[6] in the following years, 1973-77, under the impact of the recession, the oil crisis and the government wage and price controls, this rapid growth slowed down with the rate of increase lagging by 1% the annual rate of inflation.[7]

The phase of regulated competition, 1978-1983, coincides also with a deep recession, fare wars, profit

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5. For convenience I have assumed an equal distribution of time over day and night flight. In Fig. 6.4 hourly rates for second officers at both carriers are for B-727s since DC-9s (AC) and B-737s (CAIL) do not require a second officer. The use of different equipments for computation of the hourly rates is due to the retirement of B-727 aircraft from CAIL's fleet in 1987. In 1986, Air Canada and, in 1987, CAIL implemented a monthly salary for second officers and CAIL for first officers. Thus the hourly rates have been computed by dividing the salary by 75 hours.

6. Data for 1965-1972 are for Air Canada only since I was unable to get Canadian contracts for this period. However it seems that wage rates followed the same trend.

7. Wage raises negotiated at Air Canada in August 1975 were rolled back by the Anti-Inflation Board. In 1975, pay components (equipment, mileage, speed and monthly base rates) were increased by 6.38%. In 1976, as a result of the ruling of the Board of August 22, 1978, limiting total earnings to an average of $2400 per pilot in guideline year II, the previously agreed increase of 6.5% to all pay parameters for September 1977, was reduced to 5.69%.

losses, lay-offs and the application of the Public Employment Restraint Act to the crown carrier. These events limited wage growth. From 1978 to 1984 wage rates grew by roughly the rate of inflation in the public carrier whereas they grew by .5% at Canadian.

In the first years of the deregulated period, 1984-1986, slow output growth, higher competition and, probably, the effects from the US deregulated airlines with whom the Canadian carriers competed on some routes, all began to affect collective bargainings.

In 1984 pilots' variable pension plan (Equity Plan) was cancelled due to the government revision of pension rules.* Air Canada's pilots took a 5% wage raise in lieu of the plan payments while pilots at Canadian took a 7% wage cut in response to that carrier's financial losses. In 1985, Air Canada and, in 1986, Canadian extended the time new pilots acceded to the pay formula from two to four years for second officers, and to three years for first officers, abolished licence premiums and shortened to ten years the pay scale for second officers. However in 1987 Air Canada re-established the previous pay scale for first officers and in 1990 shortened by one year (from 4 to 3) the time before second officers acceded to the pay formula. Canadian also

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*. Under this plan the carriers contributed 5% of the members' gross monthly pay and the pilots contributed on a voluntary basis up to a maximum percentage of their total salary.

established differential salaries for co-pilots according to the equipment and the number of pilots required.

From 1984 to 1990 while real hourly pay rates for captains at the upper end of the pay scale grew by roughly the rate of inflation at both carriers, under the impact of the change from the wage formula to the fixed salary, 3-year second officers' rates fell by roughly 10% below the 1985-86 level. Although pay rates of captains and first officers are higher at Canadian, this could be the effect of equipments with different productivity levels and variations in wage payments.[*]

The 1990-92 Canadian agreement shows an annual pay increase of 4%. However, in 1991, in view of this carrier's profit losses, wage rises were frozen and in 1992, with the carrier on the brink of bankruptcy, pilots made significant concessions to reduce costs. In 1991 with traffic slump and financial losses, pilots at Air Canada extended the current collective agreement and in 1993 Air Canada asked for a 5% wage cut.

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[*]. These two aircrafts have different weight and 'pegged' speed which affect pilots'pay. The weight and speed of DC-9s are computed at 108000 pound and 470 miles, those of B-737s are 128100 pound and 510 miles. In addition, co-pilots at Canadian are paid a monthly salary independently of the hours worked. At Air Canada they are paid on an hourly basis.

Supplementary wage payments remained unchanged in the post-1984 period. Both carriers guarantee pilots flying on a lower status category their category pay; dead-head formerly credited at half-rate, in the 1980s became fully paid if resulting from the consolidation of operations. Overseas override and navigational pays are similar and followed the same general pay increases. For reporting time pilots are guaranteed two hours pay at Air Canada and one hour at Canadian. However this latter carrier credits reserve pilots with four hours pay.

These data indicate that in the post-deregulation period real wage rates at the upper end of the pay scale grew by the rate of inflation while real entry rates decreased by roughly 10% for officers in their first four years of employment. However the change from 3 to 2-pilot aircraft will eventually invalidate the effect of this concession.

Fig 6.3 – Air Canada & Canadian Airlines
DC9-B737 Real Top Hourly Rates – Captains

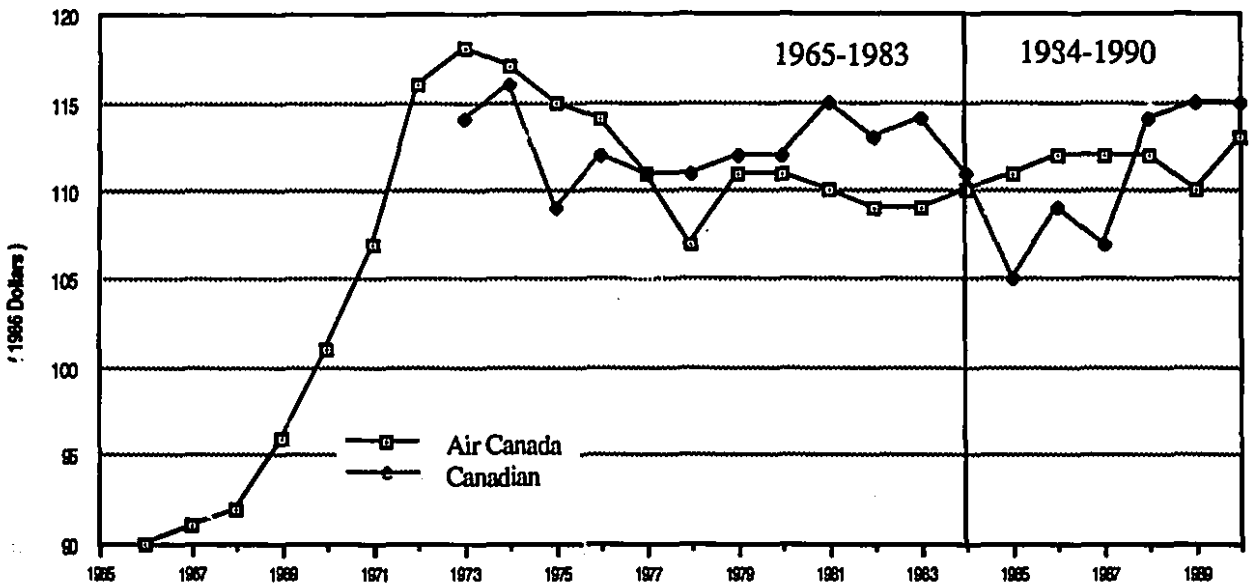
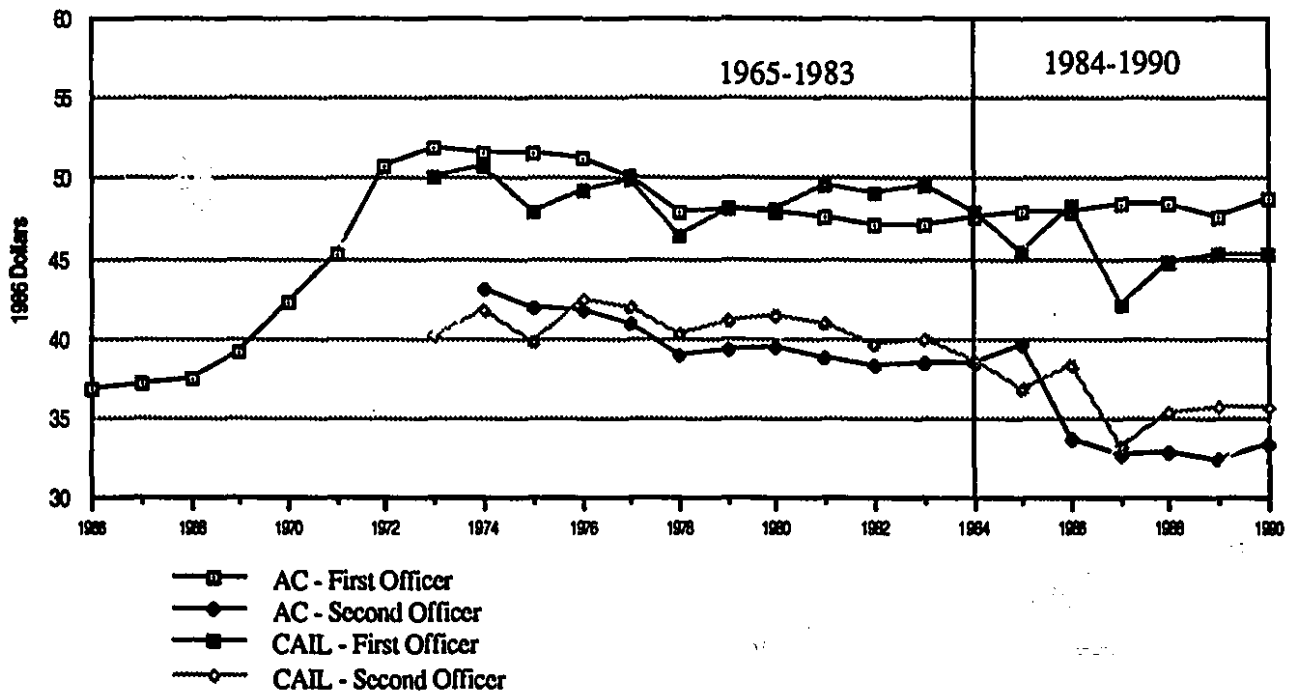


Fig 6.4 – Air Canada & Canadian Airlines
3 yrs Co-pilots Real Hourly Rates



6.2.1.iv. Pilots: Hours of Work and Selected Work Rules.

The advent of the jet aicraft in the 1960s greatly improved pilots' working conditions. It decreased the hours of work and the duty day and increased the time pilots accrue under the 'guarantees' while the greater speed and weight of the new aircaft protected or increased earnings.

In the 1970s (1963 at American) the maximum monthly flight limitation decreased from 85 to 75 hours,[10] daily duty time limits declined from 15-16 hours in the US and from 14 hours in the Canadian carriers to 12.30 at American, 14 hours at Northwest, and to 11-12 hours in Canada.[11] Similarly, minimum daily pay credits increased from 3 to 4 hours and in the mid-1970 to 4.30 at American and to 4.15 at Northwest; duty time credits or when the time on duty exceeded the flying time, rose from one hour pay credit for every 2.30 hours of duty time to one hour pay for every 2 hours while the trip time guarantee or when flights extended over several days, rose from one hour pay for every 4 hours of duty time to one hour for every 3.45 at American and 3.30 at Northwest and at Air Canada.

In the post-regulation years this package of rules

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10. Some of these rules were at time relaxed to accomodate both parties. For example in 1967 maximum monthly limitations were increased at American to allow the company to train new pilots whereas in 1971 these were lowered to avoid lay-off during the recession.

11. Both Canadian carriers maintained 16 hours duty time for 'dead-heading' and for irregular operations.

underwent a gradual change to increase pilot utilization.

All carriers implemented flexible monthly hour limitations according to traffic fluctuations ranging from 78.30 to 80 hours (82.30 at Northwest in 1989)[12] in exchange for a no lay-off guarantee, lower daily duty limitations for night flights and higher pay under the contractual guarantees. Daily duty time became 'flexible', with carriers extending the limits for operations outside the home base (Canadian), or implementing flexible rest periods at non-crew bases (American and Canadian).

A review of these contractual work rules is reported in Tables III.5 and III.6 in the Appendix.

These data indicate that all of these carriers made adjustments in the elaborate system of work rules established during regulation.

In the 1960s, it was estimated that this package of rules reduced actual flying by at least 8 hours[13] per month below 1950 levels while increasing employment by 20%. The

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[12]. In 1987, to facilitate training requirements necessitated by American's rapid growth, the maximum monthly limit was increased to 78.30 for the full year with voluntary overtime to 80 hours paid at time and half for time over 75 hours.

[13]. Kahn (1966:582) estimated that 20 hours of accredited time not actually flown were accounted as follows: 12 hours for training, vacation and sick leave, 3-4 hours were created by the guarantees (DPG, THG and the 4 hours guarantee per duty period), 1-2 hours were accumulated via the 'greater time' principle and 2-3 hours via dead-head and reassignment rules and the monthly guarantees.

restrictions implemented in the 1970s must have further reduced pilots' utilization while increasing employment. Thus it is not surprising that the carriers, to capitalize on the new competitive environment, made work rule changes a priority of their labour relations policies. The upward flexibility in monthly flying time (3-5 hours), and flexible crew rests enabled the carriers to increase labour utilization, to avoid the disruption and the cost of deviations when delays occurred, to decrease the number 'drafts' or 'displacements' when the standard reserve run out and to reduce the number of reserve pilots.

These work rule were also exchanged for various quid pro quos: shorter daily limits during 'silent' hour flights and higher credits under the guarantees, although the computerization of scheduling may have allowed the carriers to minimize the application of these guarantees and to avoid costly work schedules.

6.2.2 FLIGHT ATTENDANTS: EARNINGS AND WORK RULES.

6.2.2.i. Career pattern and union representation.

In the early 1960s both the US and Canadian carriers hired mostly women and by contractual agreement, forced them to resign on account of age or marriage.[14] In 1967-1968, both US carriers abolished all forced termination policies and gave reinstatement rights to attendants whose service had been terminated on this ground. In Canada this policy was abolished in 1976.

In 1960 flight attendants at both US carriers were represented by the Air Line Stewards & Stewardesses Association International (AL&SA) which in the mid-1960s (ALSSA) became affiliated with the Transport Workers of America (TWU). In 1972 ALSSA merged with TWU. At American Airlines TWU went on to represent them, while at Northwest they joined the Air Line Pilots Association (ALPA). In 1979 both changed union representation. At American, they joined the Association of Professional Flight Attendants (APFA), mainly a women's organization, and at Northwest, the International Brotherhood of Teamsters, Warehousemen and Helpers of America (IBT). In Canada, flight attendants were represented by the Canadian Airline Flight Attendants Association (CALFA). In 1986, after a failed strike and to

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[14]. In 1965 American gave employees reaching the age of 32 the option of job termination with severance pay or reassignment to other department, while Air Canada replaced the previous policy with a 10-year contract with severance pay after 5 years of service.

increase its bargaining power in a deregulated market, CALFA merged with the Canadian Union of Public Employees (CUPE).

As shown in Table 6.2, flight attendants'salary consists of a monthly base or longevity pay, 'incentive' hourly pay rates for hours in excess of the monthly minimum time, credits under the 'guarantees' and various forms of wage payments.

Their base and hourly pay is determined by their seniority within each carrier. In the early 1960s, top wages were reached after eight years of service (seven at Canadian). At Northwest, this pay progression was lengthened: top pay was reached after nine years in 1964, ten in 1974, and twelve in 1978. American Airlines moved to ten years in 1971, twelve in 1976, thirteen in 1990 and to fourteen years in 1992.

TABLE 6.2
FLIGHT ATTENDANTS WAGE PAYMENTS

ATTENDANTS'PAY	CONTRACTUAL GUARANTEE	MISCELLANEOUS WAGE PAYMENTS
1. MONTHLY LONGEVITY PAY BASED ON MINIMUM GUARANTEE	MINIMUM MONTHLY HOURS GUARANTEE	TRAINING CREDITS DEAD-HEAD PAY CREDITS
2. HOURLY PAY RATE	DUTY TIME PERIOD AND PAY GUARANTEE (Ratio of straight flight time to on-duty time per day)	STAND BY, REPORTING TIME CREDITS. GROUND SERVICE PAY SPECIAL ASSIGNMENT PAY
	TRIP HOURS GUARANTEE (Ratio of straight flight time to on-duty time over a cycle of two or more days).	LANGUAGE PREMIUM POSITION PREMIUM Apply to key position on board and to 'lead' or in charge' attendants. OVERSEAS PREMIUM

6.2.2.ii. American and Northwest Airlines: Flight Attendants monthly wages.

Figure 6.5 shows monthly real wages of attendants at the top and entry level of the pay scale, based on 75 hours per month (Table III.2).

While in the early 1960s wages increased slowly, in 1968, wages began escalating. From 1965 to 1977 earnings increased by 3% per year at American and 2% at Northwest and this upward trend continued up to 1983.

In 1983 both carriers instituted a B-scale that reduced pay for new employees by over 30% from previous rates, while from 1983 to 1986, the rate of growth of top wages increased by the inflation rate. However while the Northwest B-scale merged with the A-scale on the sixth year, the American B-scale never merged and top rates were reached at the fifth year. With these 'market' wages and growing employment, American also offered retirement incentives to attendants electing to sever employment and it instituted voluntary 'part-time' employment.[15]

In 1987 both carriers modified the B-scale. American increased B-scale rates by about 27% (thus making them similar to those of Northwest); set parity on the 9th-year, awarded minor pay raises to senior employees by increasing

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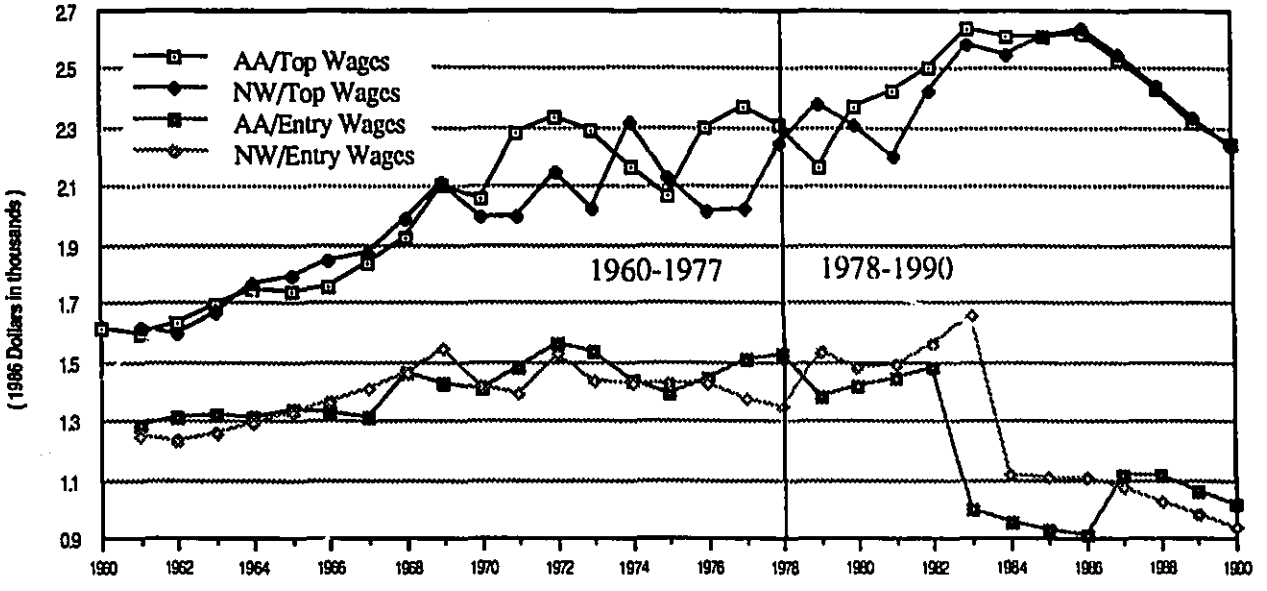
[15]. Under this system, flight attendants work only half of a monthly schedule and are paid at a straight hourly rate, thus it eliminates the minimum monthly guarantee and lowers overall costs.

Fig 6.5 – American and Northwest Airlines
Flight Attendants Real Monthly Wages



the pay ladder to 13 years as of 1990, and 14 years as of 1992, and re-offered retirement incentives. Northwest lengthened the B-scale from 5 to 8 years before it merged with the A-scale. To prevent wage and benefit costs from pyramiding, both carriers paid bonuses or 'lump-sums' in lieu of wage raises.[14] In the post-deregulation period from 1978 to 1990 top real earnings increased by the rate of

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[14]. American alloted attendants hired before 1987, two special transition payments of $600 each; in 1990 an additional $600 to attendants with 7-11 years and in 1992 to those with 9-10 years of service. Northwest, in 1988 paid bonus payments which varied with years of service ($700 to employees with 1-2 years to a maximum of $1700 to those with 12 or more years) and in 1989, $500 to attendants with at least one year and $3000 to those with 5 or more years of service.

inflation. However over the entire period 1986-1990, without accounting for these 'bonuses', top wages fell by 15% while entry earnings were 30% below the 1983 level. This decline persisted since, from 1990 to 1992, nominal wage grew by roughly 2% annually.

Miscellaneous payments, which differ to some extent between the two carriers, underwent minor changes during deregulation. Training credits, previously paid on a fixed daily rate, became paid at an hourly rate in the 1970s. Both carriers pay dead-head credits at half rate and apply ground credits after the first half hour. American pays higher rates for international and night flights, language premium, and a premium for 'lead' attendants and for key positions on widebodied aircraft. Northwest pays an overseas premium only for work in excess of 240 hours in the calendar quarter or 80 hours in a month.

These data indicate that following deregulation, flight attendants's wages underwent the same general decline as those of pilots. Over the period 1986 to 1990, top earnings decreased by 15% and entry wages by about 30%. However, the attendants B-scale is relatively longer and it was enforced without major employment losses. Furthermore the use of lump-sums as substitutes for wage increases had the effect of undermining future earnings and benefits.

6.2.2.iii. Air Canada and Canadian Airlines: Flight Attendants' Monthly Wages.

Figure 6.6 illustrates flight attendants'entry and top real monthly wages, in 1986 Canadian dollars, calculated on the basis of 75 hours per month.

In the late 1960s, under the impact of rapid growth, flight attendants'wages increased rapidly. This steady growth slowed down in the mid-1970s with the enactment of price and wage controls (1975-78) and again in 1982-84.[17] During 1965-77 real earnings grew by 3% annually. However from 1977 to 1984, under the effects of the Anti-Inflation Act, Bill C-124 imposed on the crown carrier, the recession, and with 20% of cabin crew laid-off at Air Canada,[18] wages declined by 1% per year at Air Canada and .5% at Canadian, and the level of earnings began to diverge in the two carriers.

In the deregulated period, in 1985 both airlines reduced pay rates for new employees up to the eigth year

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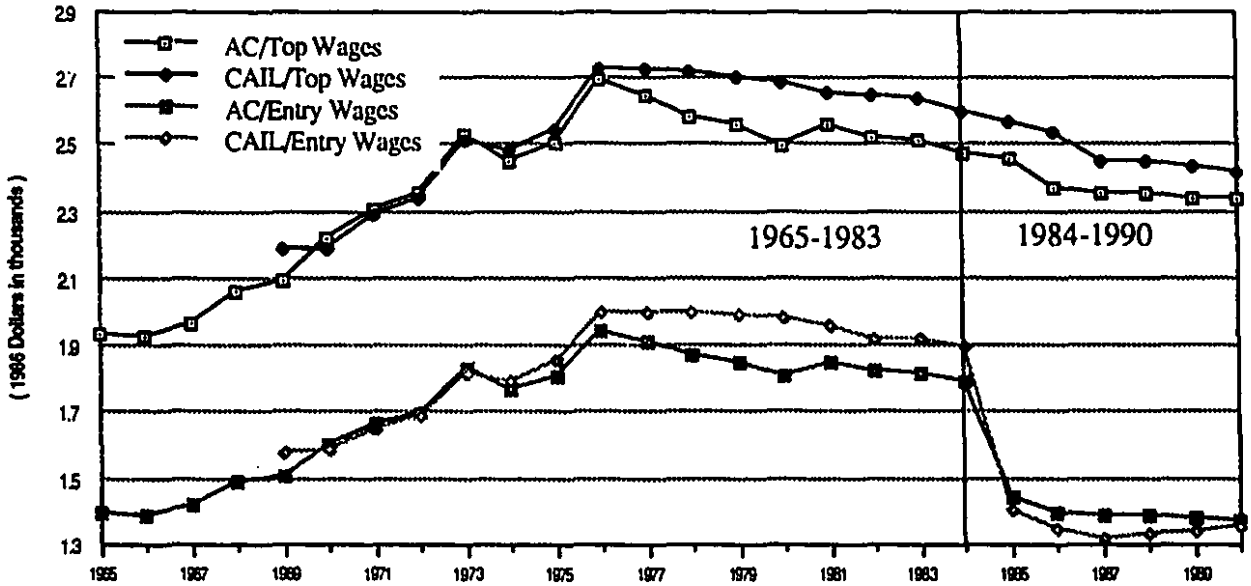
17. In 1977, a 7% wage raise negotiated at Air Canada was rolled back to 4.4% for the period July 1977-1978 by the Anti-Inflation Board. In September 1982, Bill C-124 imposed Air Canada's flight attendants a maximum increase of 6%. In September 1983, 5% less the cost of other compensation items agreed to by the parties. The net pay rate increase was estimated to be 4.2%.

18. To minimize the impact of lay-offs, AC gave special long term leaves of absence and implemented work-sharing schedules. In cooperation with the union and the government, it instituted 'reduced work schedules' with the Unemployment Insurance contributing to the difference between the actual hours worked and the average pay these employees earned during the last six months.

Fig 6.6 – Air Canada & Canadian Airlines
Flight Attendants Real Monthly Wages



when the reduced rates merged with the A-scale rates. From 1984 to 1990, earnings at the upper end of the scale fell by 1% per year at both carriers whereas those at the lower end, under the impact of the two tier salary, fell by 20% at Air Canada and by 24% at Canadian.[19]

In addition to wages, attendants received various premiums. Both carriers pay an overseas route language premium, a night premium and a draft premium of one hour. In

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[19]. In exchange for this concession Canadian awarded flight attendants a $500 'lump-sum' and job protection to all full time employees as of June 1985.

1980 Air Canada added one hour pay for each successive draft. In 1984 Canadian added a North American premium (5% of the hourly rates applicable to Mexico and Caribean routes) and in 1987, credited time in excess of the maximum limitations at one and half times the pay rates. Dead-head movements are paid at half-time.

Thus it appears that attendants wages began declining with the institution of the government monetary controls. This downward trend continued throughout 1990. Over the period 1984 to 1990, wages at the upper end of the pay scale decreased by a total of roughly 7-8% and in 1985, those at the lower end declined by 20-24% from the previous level.

6.2.2.iv. Hours of Work and Selected Work Rules.

The advent of the jet-aircraft greatly improved flight attendants' working conditions.

In the 1960s maximum monthly flight time limitations decreased from 85 to 75 hours in most carriers (80 hours at Northwest and Canadian). However both US carriers kept a built-in upward flexibility which allowed flight attendants to voluntarily exceed these limits. Daily maximum duty times decreased from 16 hours in the 1960 to 13-14[20] and, in the US carriers to 11-12 hours for 'silent' hour flights. However Northwest applied stiffer requisites than the other carriers concerning manpower utilization. In the early 1970s Northwest eliminated the minimum monthly pay guarantee when the flight time, due to vacation or flight conflict (overlap or illegality), fell below the minimum hours. Flight attendants had to make themselves available for flight reassignment or forfeit pay. In the 1970s all of these carriers applied the duty and trip time guarantees similar to those of pilots.

In the post-deregulation period there has been a general trend to relax most rules limiting crew utilization and to improve scheduling efficiency.

All carriers increased the monthly time limitations to approximately 80-85 hours, reduced the staffing level per

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[20]. In Canada the 16 hours limitations still applied for illegal operations at no-crew bases and 'dead-head' to home stations.

aircraft type according to loads, flight time, and service provided on board. However when flights left with a 'short' crew, both US firms paid 'bonus payments' to the operating crew members. The Canadian carriers also reduced from two to one the number of 'in charge' positions on wide-bodied aircraft and Canadian added the flexibility to fill these positions with flight attendants when short of qualified employees. In 1979, American Airlines and Canadian in 1990, applied the same scheduling rules already enforced by Northwest since the 1970s. They made minimum monthly pay contingent on working minimum hours and added flexible crew rests in exchange for longer rest times in the next duty period or at the home base.

Thus during deregulation the carriers effort was devoted to gaining greater crew utilization, flexibility in scheduling and to avoiding the costs of adding manpower. These concessions were bargained over job security, higher credits under the contractual 'guarantees', compensatory or longer rest periods and premium pay when 'short crew'.

A review of work rules for the period 1960-1990 is reported in Tables III.7 and III.8 in the Appendix.

6.2.3. MECHANICS AND RELATED WORKERS.

6.2.3.i. Career pattern and Union Representation.

Mechanics at American Airlines are represented by the Transport Workers of America (TWU) and, at Northwest and in the two Canadian carriers, by the International Association of Machinists & Aerospace Workers (IAM). Both unions, under the title 'mechanics and related workers', represent a variety of occupations with different levels of skills. In 1989, mechanics at American, split from the less skilled 'fleet service' employees and the TWU continued to represent them through different bargaining units.

Mechanics' salaries consist of an hourly pay rate based on their classification and years of service, and miscellaneous wage payments such as shift (night or day), longevity, licence and overtime premiums.

From 1960 to 1966 both US carriers implemented a similar pay-ladder, with pay raises after three and six months in the first half year, with biannual increases thereafter, reaching the top level after two years. In 1968, Northwest eliminated the first three month step and, in 1969, the last step. Thus in 1968, at Northwest, mechanics reached top pay after twenty one months and in 1969 after fifteen months. In Canada, in 1960 the scale progression extended to eight years, with pay raises in the second, fourth and eigth year. In 1967, this scale was shortened to four years, with annual pay raises.

6.2.3.ii. American and Northwest Airlines: Mechanics' Wages.

In the early 1960s, as shown in Figure 6.7, real hourly rates grew slowly, increasing by about 2% per year. In 1969 pay rates moved upward and although the recession and the government's monetary controls reduced this fast growth, from 1965 to 1977 the hourly rate increased by 2.6% annually in both carriers.[21]

During 1979-1981, as earnings lagged inflation, mechanics, at American, began illegal work stoppages and slowdowns and in 1982, they struck against Northwest's demands for flexible work-rules, increase part-time labour and the elimination of COLA.

In 1983, American, with 40% of its mechanics laid-off, lowered entry wage rates for new employees by 30%, extended the pay-ladder to 12 years with semi-annual pay raises, increased the number of part-time employees in lower classifications (12.5% in 1983 and 15% in 1985), applied extensive cross-utilization and some contracting out, in exchange for long-term job security, and offered severance pay and benefits to workers willing to quit. However in 1989, as the demand for mechanics increased, American implemented flexible pay rates in some local markets; offered accelerated seniority to current workers; and

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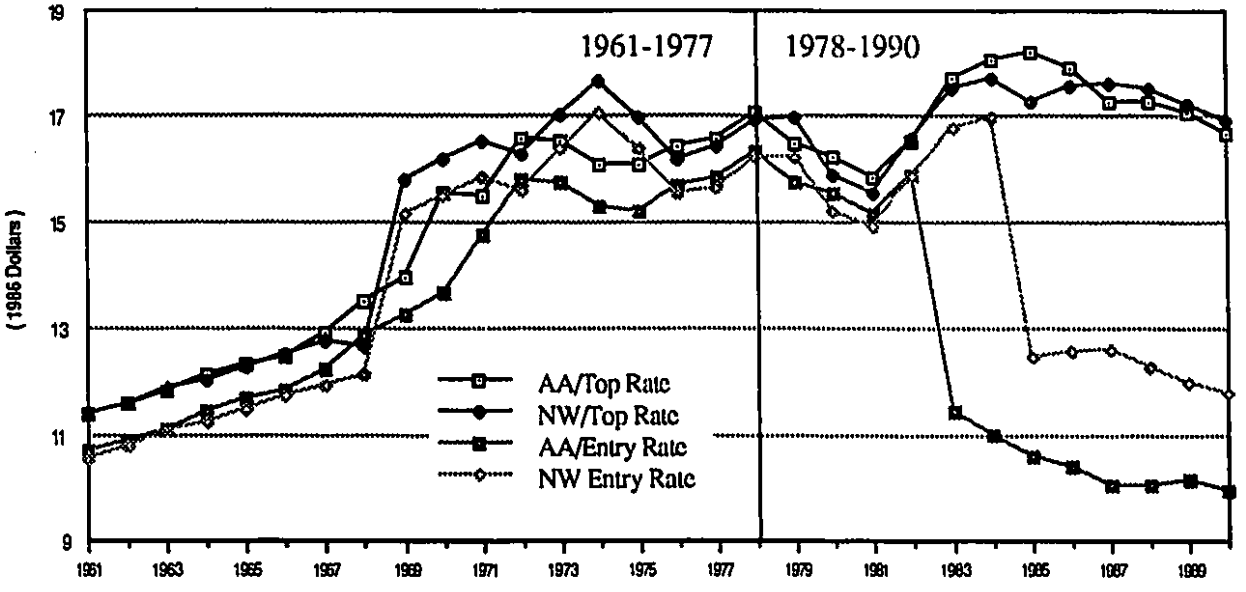
[21]. Northwest's rate are higher than those at American since they include 21 cents per hour in cost of living adjustment (COLA) which is not reflected in the American data.

Fig 6.7 – America & Northwest Airlines
Mechanics Real Hourly Rates



because since 1984, pay had lagged inflation by 1% per annum, awarded a 'one-time bonus payment'.[22]

In 1985 Northwest reduced entry wage rates by 21%, extended the pay scale from fifteen months to five years (with pay raises every 18-months), and paid lump-sums in lieu of wage raises.[23]

Thus, while from 1977 to 1985 top hourly wage rates grew by roughly 8% over the entire period, during 1985-1990

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22. For the period March-May 1989 it added an amount equal to 8% of the employee's total gross wage.

23. For the period January-June 1985 it awarded lump-sums of 1% above contractual rates to a maximum of $200 to all pre-1985 employees.

ignoring bonuses payments they fell to their 1978 level. Entry wage rates decreased by 30% at American and 20% at Northwest from the 1982-1984 level.

Supplementary payments underwent few changes during the period of deregulation.

Shift and longevity premiums[24] used to follow the same pattern as wage increases. However, since 1984 both premiums remained unchanged. Licence premiums which up to late 1970s were similar in both carriers, in the 1980s Northwest paid higher premiums. However, in 1985 American awarded various incentive payments to increase output and service standards.[25] Furthermore as part of what seem to have been a policy designed to ensure an adequate supply of workers with scarce skills, American offered 'high skill' premiums to employees working in skilled areas without a credited licence and granted tuition reimbursement upon qualification to those specializing in specific areas.

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[24]. Northwest paid a longevity premium after the first year, American after the third year. This ranged from a minimum of one cent to a maximum of 10 cents per hour (15 cents in the 1980s).

[25]. It awarded productivity bonuses of $500 to employees who worked 950 hours in the first 6-months and, in 1987, $1000 to those totalling 1900 hours per year. To reward team performance it gave LEAAP (Leadership, Excellence, Achievement, Appreciation Premium) awards to workers in stations which exceeded 'minimum acceptable standards' in areas such as departure, baggage and various productivity goals.

Overtime credits remained unchanged. Both carriers paid overtime credits at time and a half rate for work over 8 hours, up to 12 hours; double time for work over 12 hours, or over 8 hours on days-off; and paid two and half time the standard rate for work during holidays.

These data suggest that in the post-deregulation period, 1977-1990, mechanics' wage rises grew by the rate of inflation. However while up to the mid-1980s real hourly wages at the upper end of the pay scale grew substantially, in 1985 wages began moving downward declining (ignoring 'lump-sums' payments) by roughly 8% at American and by 5% at Northwest over the period 1985-1990. Mechanics also made work rule concessions that varied in the two carriers.

Mechanics, who previously had a relatively short wage progression scale, extended the length of this scale for new hires to 12 years at American and 4 at Northwest with wage rates 30% and 20% below the 1983-85 level. However, while in the early years the large supply of skilled workers who had been laid off during the 1980-83 recession may have facilitated this concession, the accelerated seniority that American had to use to keep workers means that earnings for this group may vary with market' supply and demand conditions. Furthermore the extensive cross-utilization implemented by American was supplemented by various wage incentives to stimulate workers performance.

6.2.3.iii.Air Canada and Canadian Airlines: Mechanics'Wages.

As shown in Figure 6.8, which illustrates real hourly rates, in Canadian dollars, for mechanics at the entry and top level of the progression scale, pay rates grew rapidly in the mod-1960s and, except for a decline in 1975 and at Air Canada during 1975-78, this upward trend continued until 1984 (Table III.3).

From 1966 to 1974, probably as a result of several strikes these workers undertook against Air Canada,[24] top hourly rates increased by over 3% per year. Although this rapid growth slowed down during the years of the government's monetary controls, from 1975 to 1983, earnings grew by 1.6% annually at both carriers.

While during the regulated period both carriers provided similar wages and work conditions, in the post-deregulation period, as a result of a manpower surplus at Canadian,[27] their conditions of employment began to diverge.

In 1984 Canadian implemented 'reduced work schedules' and extensive cross-utilization in all job classifications in exchange for job security. In 1987, after the mergers, this was extended to all employees of the merged carriers in

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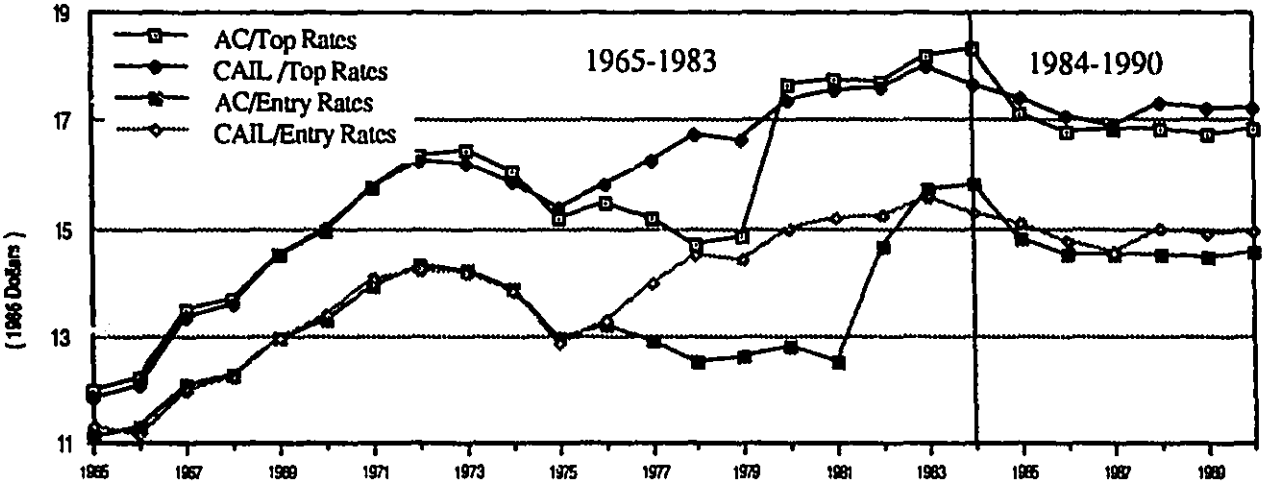
[24]. Strikes occurred almost at every contract negotiation (1966, 1971, 1973-74 and 1977-78) and totally shut down Air Canada's operations.

[27]. In 1982-84 Air Canada curtailed 13% and Canadian 25% of maintenance labour.

Fig 6.8 – Air Canada and Canadian Airlines
Mechanics Real Hourly Rates



exchange for higher part-time employment (from 10% in 1984 to 15% in 1987), upgrading of tasks of station attendants,[28] and the relinquishment of some contractual rules to increase the carrier's competitiveness in 'contracting in' work from other airlines, including the ability to keep junior workers in cases of lay-off, to save in labour costs. Labour surplus was dealt with through attrition, transfer, down/upgrading with pay protection and voluntary severance incentives.

While mechanics at Canadian exchanged specific quid pro

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[28]. Station attendants were to be trained and licenced to perform equipment related duties and to be responsible for routine services, fuelling and cleaning of equipments.

quos for job security, Air Canada increased the number of part-time station agents to 10%, applied lower entry rates to these workers and implemented compressed work weeks according to operational needs. In 1990, with the growing importance of feeder airlines, both firms extended job-security to employees affected by base closures or loss of ground contracts covering connector carriers in point previously served by them.

From 1984 to 1990, real wages, ignoring 'lump-sum' payments both carriers awarded in lieu of pay rises,[29] real wages fell by 1% per annum at Air Canada and .60% at Canadian.[30]

Mechanics also receive supplementary payments. Shift and longevity premiums (this applies after 10 years of service) are paid at an hourly rate. While these premiums were initially higher at Air Canada, in the 1980s they became similar in both carriers. Overtime pay is credited with one and a half times the hourly rate and double rate for time in excess of 8 hours during the first day off, for all hours during the next days off, for work on statutory

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[29]. Air Canada awarded 3% for the period March-November 1985 and Canadian $250 for cost reduction measures and, probably to reduce employment surplus, gave one week vacation in exchange for 2% salary reduction.

[30]. In 1991, wages at Air Canada were protected from the potential inflationary effects of the 'Goods and Service Tax' and pensionable earnings became indexed.

holidays in excess of 8 hours and for time over 12 hours.

Both carriers credit mechanics with licence premiums according to the number of aircraft certificates they have earned. In 1990, Air Canada paid various lumps-sum payments for up to four licence endorsements if these were completed in employees' own time.

As these data indicate, mechanics' hourly pay rates began to decline in 1984 under the effects of a deep recession and extensive lay-offs. Over the period 1983 to 1990 real earnings fell by roughly 7% at Air Canada and over 4% at Canadian. This decline in earnings was exchanged for job security and at Air Canada for minor work rules concessions and pensionable earnings protection. Work rules concessions were higher at Canadian in view of the greater employment losses at this carrier.

6.2.4. RESERVATION, CONTROL AND TICKET SALES AGENTS.

6.2.4.i. Career pattern and Union Representation.

At Northwest, these employees were represented by the Brotherhood of Railway, Airline and Steamship Clerks, Freight Handlers, Express and Station Employees (BRAC). In 1986, when Northwest merged with Republic, BRAC continued to represent them but in 1989, the IAM gained representation rights. These employees are not unionized at American Airlines. Thus, while data for Northwest are taken from collective agreements, those of American are incomplete and were obtained from company officials.

In Canada, these employees were represented by the Canadian Airlines Sales Employees Association (CALEA) at Air Canada, and, by BRAC at Canadian. In 1985 at Air Canada, after a failed strike, they moved to the National Automobile, Aerospace and Agricultural Implement Workers of Canada (CAW-Canada). At Canadian, in 1987, after the mergers, BRAC (named Transport Communication Union) retained representation rights, but in 1990, probably to gain a united front and increase their bargaining power, these employees also moved to CAW.

Agents' wages consist of a monthly base salary according to their classification and seniority, shift, longevity and overtime premiums.

At Northwest, in 1960 the pay progression extended to seven years. In 1961, this decreased to six years, with bi-

annual pay raises in the first year, and annual increments thereafter, up to six years. In 1984, Northwest extended the length of the pay scale for new employees and top pay rates were reached after ten years.

In 1960 at Air Canada, the pay scale extended up to five years with bi-annual increases during the first four years, reaching top pay in the fifth year. At Canadian the pay scale extended to six years with bi-annual pay raises in the first year, thereafter increasing yearly. In 1971, both carriers reduced the length of the pay scale to four and one half years. However, in 1985 they implemented a B-scale which merges with the A-scale on the fifth year.

In the late 1960s, all of these carriers used part-time workers to take care of traffic fluctuations. However their ratio increased over time but in exchange permanent employees were given job protection. At Northwest, the number of part-time employees increased from 100 in 1970 to 20% of the positions in larger bases (50% in small bases) and in 1989, the proportion increased to 25% of the entire workforce. At American, in 1974, part-time employees represented roughly 5% of the workforce but by the post-1980 period this had increased to approximately 30%. In Canada this proportion increased from 10% in 1970 to 20% in 1976 and to 30% in the mid-1980s.

In the post-deregulation period all carriers also made work rules adjustments. All carriers implemented flexible

shift starting times and work weeks, according to operational needs, and cross utilization of labour. The Canadian carriers, and probably the US as well, implemented work quotas and measures of work performance to increase the level of service and output. Northwest also introduced stiffer rules in 'trading days'.[31]

6.2.4.ii. American and Northwest Airlines: Agents' Wages.

Figure 6.9 shows entry and top monthly real wages of ground agents at Northwest, and average monthly real wages of full-time employees at American Airlines (Table III.4).

Real earnings in both carriers grew rapidly in the mid 1960s. This upward trend continued up to 1972 when, under the effects of the recession and the monetary controls, wage raises began to slow down. From 1965 to 1977 annual earnings increased by roughly 3% at both carriers.

In 1983 American and in 1984 Northwest, extended the wage progression scale for new employees. Over the period 1984-1990 average wages fell by about 15% at American while at Northwest top wages kept moving upward up to 1987 when

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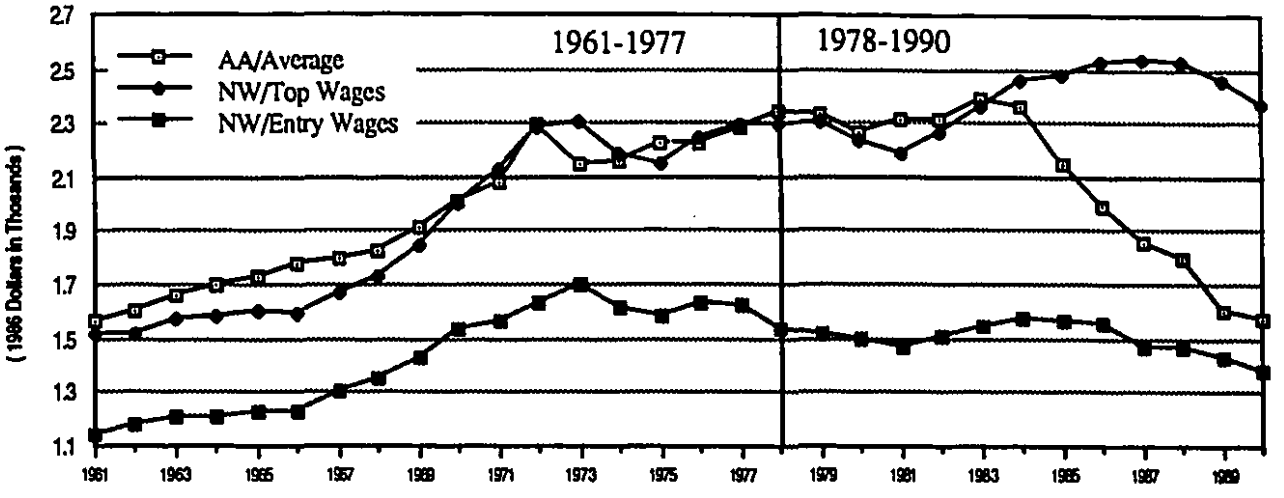
[31]. Employees were always able to trade days off for personal reasons. Often these days were paid back in cash while employees who had to work longer hours over several days due to trading used to 'book off' sick. In 1985 NW enforced rules to end this practice. Trading was limited to the first day-off, it could only be paid back by working time and employees booking-off sick during these days were penalized.

Fig 6.9 – American & Northwest Airlines
Agents – Entry & Top Real Monthly Wages



they fell.[32] Thus, while between 1977 to 1990, ignoring bonus payments, wages rises at the upper end of the pay scale at Northwest sligthly exceeded the rate of inflation, over the entire period 1987 to 1990 earnings fell by 7%. In 1990 top monthly wages were roughly 5% above the 1978 level whereas entry wages were 10% below it.

A look at wage movements in the two carriers reveals that, until 1983, union membership had little effect on earnings. But in the subsequent years, non-unionized

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32. In 1985 Northwest awarded bonuses up to a maximum of $170 and a further 1% wage raise over the period January-July 1985. In 1989 it added a 'lump-sum' payment ranging from $50 to $100.

earnings. But in the subsequent years, non-unionized workers have been worse off.[33]

These data indicate that in the post-deregulation period the rate of growth of earnings at the upper end of the pay scale grew slightly above the inflation rate. However, in later years, 1987-90, they underwent a decline similar to other crafts, about 7%. At the lower end of the scale real wages fell by about 10%.

During these years, pay rises appear to have been exchanged for productivity adjustments, such as higher use of part time labour and a management right to allocate and use labour more efficiently. Thus these changes gave carriers greater flexibility in controlling employment and labour costs.

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[33]. A comparison of nominal wages at the two carriers indicates that in 1990 American paid agents on the B-scale an average of $1509 and $2434 for those on the A-scale compared to $1645 for first year agents and $2824 for agents with 10 years of service at Northwest.

6.2.4.iii. Air Canada and Canadian Airlines: Agents' Wages.

Figure 6.10, which shows entry and top real wages, in Canadian dollars, indicates that earnings grew rapidly in the mid-1960s and, except for a decline during 1975-76, this upward trend continued until 1977. From 1965 to 1977 wages increased by roughly 3% per year at both firms. However, in the subsequent years, from 1978 to 1984, under the effect of the recession and the government monetary controls, earnings fell below inflation at both carriers.[34]

In 1985 both carriers implemented lower rates for new workers[35] and, from 1987 to 1990 due to employment redundancy, agents at Canadian took one to two weeks extended vacation in lieu of 2% of their gross pay. From 1984 to 1990, wages at the upper end of the pay scale fell by 1% annually at Air Canada and by .5% at Canadian while entry rates dropped by roughly 20% from their 1985 level at both carriers.

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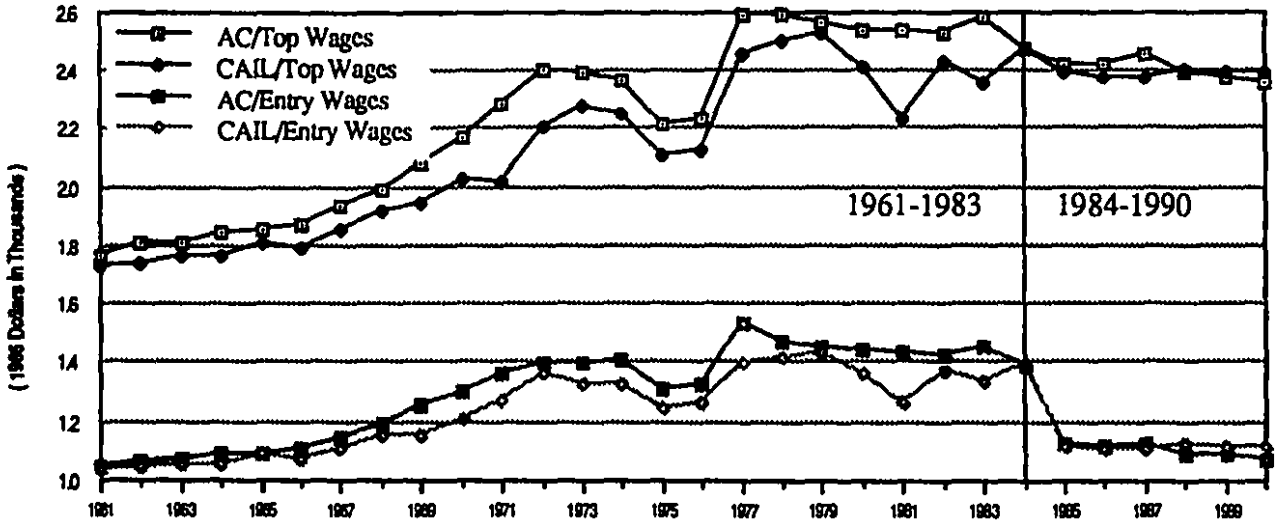
[34]. In the early 1980s to decrease the number of lay-offs agents at Canadian exchanged 2% pay raise for a 5-day leave of absence.

[35]. At Air Canada, this occurred after a strike, while Canadian awarded agents a $500 'lump-sum' in recognition for this concession and related productivity improvements.

Fig 6.10 – Air Canada and Canadian Airlines
Ground Agents Real Monthly Wages



These data indicate that over the deregulated period, 1984-1990, real earnings at the upper end of the pay scale fell by roughly 5% at Air Canada and 3% at Canadian while those at the lower end of the scale declined by 20% from the pre-deregulation period.

Both carriers also made extensive review of work rules, increased part-time labour and obtained various concessions to increase output and lower costs in exchange for job security. The number of concessions was higher at Canadian due to employment surplus.

The next section presents fringe benefits, insurances and pension plans in the four carriers.

6.3. FRINGE BENEFITS, INSURANCES AND PENSION PLANS.

Fringe benefits have grown to become a substantial part of the workers'compensation. Employers'supplements to wages include paid vacations, sick leave credits and extensive benefit packages which take the form of private security programs, such as medical, life insurance and pension plans.

This section describes the variety of benefits implemented in the two US and Canadian carriers. Although these are part of binding agreements between firms and unions, they are not always documented in the collective agreements that are considered in this thesis. Thus this description cannot be exhaustive.

6.3.1. Fringe Benefits.

These include vacations, sick leave credits, moving and transfer expenses and severance pay.

6.3.1.i. Vacations

Vacations are based on years of service. In 1960, both the US and Canadian carriers awarded two weeks after one year and a maximum of three weeks after twelve years of service.[34] In the mid-1960s the Canadian carriers added one more week for workers with 20 or more years of service.

In the 1970s, the number of vacation days began to

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[34]. Northwest awarded 3 weeks after 10 years and 4 weeks to mechanics with 20 or more years of service.

increase while the time for accrual decreased. In the 1960s, vacation allotments for all labour groups increased about one week for every ten years of service. In the 1970s, this changed to roughly one week every five years and in 1978 vacations in the four carriers ranged from a minimum of two weeks after four/five years to a maximum of five/six weeks after 20/30 or more years of service.

In the post-deregulation period, vacation allotments remained unchanged at Northwest (in 1980, it added an extra week for mechanics and agents with 29 or more years of service). In 1983, American introduced a two-tier vacation system for new employees, which reestablished the conditions prevailing in 1963. 'B-scale' pilots, mechanics and flight attendants and probably ground agents, were awarded two weeks vacations after the first year, with an extra week added for every ten years of service. Thus the maximum allotment for these employees became four weeks after 20 years, while A-scale employees enjoyed five weeks after 20 years and six after 25 years of service. In 1991, the pilots adopted a new system that equalized vacation allotments and benefitted new employees. Vacations ranged from 3-week for pilots with 1 to 3 years to a maximum of 5 for those with 20 or more years of service.

In Canada the pattern of vacation allotment remained

unchanged.[37] However, probably as a result of the mergers, some changes occurred among mechanics and agents at Canadian. Vacation for junior mechanics in the first two years of employment became credited at a reduced rate, while ground agents in their first year of employment had to wave vacation.

The Canadian carriers also award statutory holidays to all work groups according to the Canadian Labour Code. In the US carriers only mechanics and agents are granted 9 days per year of statutory holidays.

A review of vacation allotments is reported in Table III.9 and III.10 in the Appendix.

6.3.1.ii. Sick leave credits.

Employees are pay protected during sick leaves according to the sick day/hours they accrued during their employment.

In the 1960s pilots and flight attendants in the US carriers accrued 14 days per year and mechanics and agents, ten days. Part of these unused days could be accumulated and added to the next years allotment until a fixed quota was reached. This system was maintained for mechanics at both airlines, and for pilots at American. In the early

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37. In 1984 as a result of Canadian's financial losses the pilots took a 7-day vacation reduction. However in 1990 they increased the vacation allotment from 5 to 6 weeks for employees with 30 or more years of service, thus making it similar to Air Canada.

1970s (1989 for ground agents at Northwest) it was converted to an hourly basis for the other work groups, with five hours accrual per month, and eight for agent at Northwest.

In the mid-1960s, Canadian credited pilots and flight attendants with 2.35 hours per sick-day. This increased to 3.30 in 1978 and 6 hours in 1987. Air Canada credits all work groups with one day per month.

Concern over abuse of sick-leave credits led carriers to adopt various control measures. In the 1980s the carriers required flight attendants to obtain medical clearence prior to return to active status or to claim for sick pay. American awarded mechanics a sick day premium for unused days. In Canada, in the 1970s mechanics and ground agents were paid at 80% of the pay rate for any absence after the first illness. In 1987 both groups became pay-protected during the first three illnesses. Thereafter the first day for every subsequent sick absence remained unpaid. However, employees with 60 or more days of accumulated credits were exempted from this penalty.

6.3.1.iii. Moving and Transfer Expenses.

Employees transferred at company request were awarded relocation expenses (storage, transportation and incidental expenses during the trip). In the post-deregulation period most unions in the US (BRAC, ALPA and the IBT) included these expenses within the labour protective provisions in

their contractual agreements. In Canada, these benefits - governed by the Canadian Labour Code - were widely applied by Canadian as a result of the mergers and the employment protection clause enforced by the unions.

6.3.1.iv. Severance and Lay-off Pay.

In the early 1960s mechanics, in the US and pilots in the Canadian carriers were the only groups whose collective agreement provided for severance and/or lay-off pay. In the 1970s most work groups, with the exception of flight attendants in the US carriers and of agents at Air Canada, got severance pay included in their collective agreements.

Furlough pay ranged from 2 to 13 weeks (10 at NW) for mechanics; from half month to 3.1/2 months for pilots and from 10 days to 50 days for agents at Northwest (agents at Canadian were granted the same conditions as mechanics.). Severance pay for flight attendants ranged from 1 to 12 weeks at Air Canada and from 15 to 180 hours per year at Canadian. However, if lay-offs resulted from base closure this increased to 30 hours per year to a maximum of 360 hours. In 1987, both maximums increased to 225 and 450 hours.

In the 1980s most unions increased severance pay. Pilots increased it to a maximum 4 months at Northwest, 4.1/2 at American and 5 months in Canada and mechanics at Air Canada to 20 weeks.

6.3.2. Program of Insurance Benefits.

These include Group Life Insurance, Comprehensive medical benefits and pension plans.

6.3.2.i. Group Life Insurance

In the late 1960s all carriers established non-contributory programs for active employees. The amount of benefits is based on the employees classification and salary. These plans extend as well, at a reduced premium, to retired employees (age 65 and with at least 10 years of service) and their dependents.

All carriers upgraded the plan over the years. However, in 1990 American Airlines, to control costs, negotiated a flexible benefit program with the TWU covering mechanics and related workers. Under this plan, American provides a fixed amount of 'benefit dollars' with the employees choosing various options according to their priorities. Employees can select more or less medical care and less or more life insurance or can opt for limited benefits in exchange for cash for the unused share of the 'benefit dollars' provided by the carrier.

6.3.2.ii. Medical and Health Insurance Plans.

The expansion of health insurance in the USA is of critical importance given the absence of public health programs and the escalating costs of medical treatments.

The current non-contributory plan was established in 1964 at American and in 1970 at Northwest. Benefits for these plans evolved throughout the years to cover retired employees and their dependents, with limited benefits until age 65, or when the employee became eligible for Medicare.

In 1984 Northwest added new medical benefits to the plan. On the other hand, American imposed a ceiling of 1000 hours to mechanics and related workers before these employees became eligible to these benefits. In 1990 it implemented a participatory plan with all employees sharing the costs of providing these benefits,[30] and a pre-funded contributory retiree health plan for new employees who have to contribute for at least ten years to receive medical coverage at the time of retirement.

In Canada, in the early 1970s, both carriers enacted two plans: a basic one which applied to employees not covered by provincial medicare programs and a supplementary health plan designed to cover only services not included in the first program. In 1973 Air Canada discontinued the basic plan, paid employees a monthly medical allowance and

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30. The carrier covers up to 5% per year in cost increases with the remainder paid by the employees. Those opting not to contribute could select less costly plans.

in 1978 made the supplementary health plan non-contributory. Canadian, which continued to implement both plans, assumed the full cost of the basic plan while employees shared the cost of the supplementary one. In mid-1980s the employees paid the full premium of the basic plan in exchange for the carrier paying the full cost of the supplementary one.

In the mid-1970s all carriers added dental and vision care programs.

6.3.2.iii. Group Disability Income Plans.

All groups of employees at the four carriers are covered by various Disability Income Plans. These are mandatory contributory plans, fully paid by each labour group. However in the mid-1970 Northwest shared the premium for the mechanics'plan while Air Canada fully funded the Group Disability Plan of pilots and in 1981 that of mechanics.

6.3.2.iv. Pension Plans.

Pensions were initially designed to provide income support for workers with long years of service who were beyond working age. These evolved over time to include workers in other circumstances and to allow firms to make manpower adjustments. Pension contributions are shared between employees and firms.

Retirement for most workers, except pilots who attain

pension age at 60, is at age 65 with 10 or more years of service with the firms. In the mid-1970s, pensionable age was reduced to 62 in cases when workers had specified years of service, without reduction of benefits.

In the 1980s, American, Air Canada and Canadian made extensive use of early retirement plans to make manpower adjustments and to reduce employment costs.[34]

Pilot pension plans differ between the two US carriers. The American plan consists of two programs: a fixed income and a variable one, with the company contributing to both plans. The advantage of the variable plan is that, while it may provide higher benefits, it appears also to be a hedge against higher taxes. In 1970, a pre-retirement disability plan was added in lieu of the Long Term Disability plan with the firm administering and bearing the entire cost of the program. In 1982, this last plan was revised. Furloughed pilots were excluded from the plan's benefits, whether furlough occured prior to or during the period of disability while benefits for chemically dependent employees were

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[34]. For example, American granted flight attendants between the ages of 45 and 55, and with 20 years of service Retiree Life Insurance and major madical benefits. It granted those between the ages of 50 and 55 and with 15 years of service Retiree Group Life and medical expense benefits and a monthly allowance until these employees reached age 55, when they became covered by the Supplemental Retirement Program.

In 1983 and in 1987 Air Canada offered pilots under the age of 55, age 'make-up' at the rate of 50% of the months between their retirement age and age 50, to a maximum of 30 months. To non-pensionable pilots: two and a half week pay per year of service up to a maximum of one year pay.

reduced.[40]

In 1988 pilots at Northwest supplemented the fixed income plan with a Retirement Saving Plan with the carrier paying part of the contributions.

In Canada, in the 1960s pilots' pension plan consisted of a fixed income and a variable 'equity plan'. However, in 1984, due to government changes in pension rules, the variable plan was discontinued.

This review seems to indicate that in the post-deregulation years fringe benefits, like wages, became more related to the particular economic situation of each carrier than to other settlements in the industry. On the other hand, to protect their members from the adverse effects of the market place unions negotiated increased lay-off pay and labour protective provisions in their collective agreements.

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40. In 1979, a chemically dependent pilot was entitled to a lifetime maximum of 24 months of payments. In 1982 this was changed to 18 months of combined sick time and disability pension payments.

6.4. SUMMARY

This review of collective bargaining in the two countries indicates that the effects of the economic reforms on labour varied by carriers and work groups.

In the US, the initial impact of deregulation increased the unions' bargaining power even further and labour earnings moved upward up to the mid-1980s. Modification in labour relations occurred in 1983 when American Airlines, capitalizing on a changed market and with a large number of workers laid-off, made all of its unions to accept two-tier wage programs and less restrictive job provisions in exchange for job security and growth opportunities. The American agreement by giving AA considerable lower labour costs (which could be translated into lower fares and a competitive advantage) relative to other competitors, set a precedent for other carriers to match. This also led to a pattern of contract changes, specific to each carrier and work group and they were closely related to the degree of employment losses and the specificity of these jobs.

Northwest also applied a two-tier scale to most of its work groups. However, without employment losses, these scales were shorter than the American one while the two-tier scale was applied to pilots only in the late 1980s after the competitors had done so and when, after the merger with Republic, it could benefit from the expansion of this group.

From 1983 to 1987, wage raises of employees at the

upper end of the pay scale in both US carriers (except pilots and agents at NW) fell to the rate of inflation while wages of new employees dropped by 30% (20% for mechanics at NW). These small wage raises were exchanged for less restrictive work rules and, at American, changes in fringe benefits.

From 1987 to 1990, the pre-deregulation common trend in the two US carriers seems to resurface but, as both carriers replaced wage raises with 'lump-sums', wages at the upper level of the pay scale fell across work groups. This decline was more significant for industry related occupations than for mechanics and agents. Over the entire period 1986-1990, pilots and attendants' top wages fell by 15% each while those of mechanics and unionized agents dropped by 7-8%. American, to increase employees' turn-over and thus to benefit from lower entry rate, also offered retirement incentives to all work groups with the exception of pilots.

In Canada a new phase in labour relations began in 1984-85 with the evolution toward deregulation. It appears that at this time both carriers began to realign labour costs and make them more comparable to the more efficient US airlines. However the decline of labour earnings was less extensive than in the US and pilots and mechanics were able, to a certain extent, to contain the carriers' concessionary demands.

Over the entire period 1984-1990, real wages at the

upper end of the pay scale grew slightly above the inflation rate for pilots but fell by approximately 7% for flight attendants and agents. Those of mechanics fell by 4% at CAIL, and by 7% at AC, since AC in 1985 replaced wage rises with 'lump-sums' payments. Wages at the lower end dropped by 10% for pilots (second officers) and by 20%-24% for flight attendants and agents from the 1985 level. Mechanics could avoid the two-tier wage scale. The carriers also implemented work rules changes, some adjustments in fringe benefits and used early retirement incentives to make employment adjustments. Canadian, which grew through mergers that produced substantial employment redundancy, succeeded more in the goal of reducing labour costs and increasing labour productivity than Air Canada. In exchange for job security all unions conceded to Canadian extensive revisions of work rules.

It is certain that the change from a protected to a free market environment changed the behaviour of both carriers and unions. All carriers sought a variety of productivity and cost saving devices aimed at restructuring airline labour costs. Unions, faced with lay-offs, under the effects of the recession and, after 1986, the wave of mergers and acquisitions, and a changed labour market, traded off concessions for employment and growth. However, concessions were greater in the US than in Canada, when

employment was at stake (in this sense American and Canadian obtained more substantial cost savings than Northwest and Air Canada) and in occupations with skills specific to the industry, although for pilots this effect was probably mitigated by different labour market conditions in the two countries. Unions also applied protective provisions and increased lay-off pay in view of the changed market environment.[41]

This evidence also suggests that if regulatory rents were earned prior to deregulation, these were relatively modest. It is also possible that this modest reduction in earnings in the post-deregulation period may be due to the fact that all of these carriers retained a considerable degree of market power (control of hub-and-spoke route system, connector services, computer reservation systems and in the US of airport gates), and have a high level of unionization across labour groups, with the exception of agents at American.

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[41]. Labour contracts of pilots in the two US carriers stipulated that any carrier owned or controlled by American and Northwest Airlines must hire union labour. In addition pilots at Northwest stipulated a contractual clause that, in the event of a take over or route acquisitions of NW routes by another carrier, binds the acquiring carrier to hire NW pilots and to the conditions set in the NW agreement.

CHAPTER SEVEN

A COMPARISON OF COLLECTIVE BARGAININGS IN THE USA AND CANADA: INDUSTRY AND FIRMS DATA

7.1 INTRODUCTION

This chapter assesses whether different regulatory, institutional and legislative environments modified the effects of deregulation on labour outcomes. To this end it compares labour earnings in the US and Canadian airlines, over time, among similar unionized work groups using comparable US dollars.

Although comparison of two different countries and carriers involves some problems, there are similarities in the industry's operational environment which should allow for a meaningful comparison. The Canadian industry is smaller, more concentrated and with a higher degree of government ownership than the American one, nevertheless they are both influenced by the economic cycle, they have the same secular growth in markets and they are equally affected by changes in technology and labour conflicts. Deregulation also occurred at different times in the two countries. In the US, in 1978 the CAB gradually eliminated controls over routes and fares while substantial reforms occurred in Canada only in 1984. While it would have been instructive to compare labour outcomes under different market environments in the two countries (regulation; controlled competition in Canada and deregulation in the US;

and deregulation) variations in exchange rates do not allow for these comparisons. Thus, labour outcomes are compared under regulation, 1965-77 and under a competitive regime, 1978-90, in both countries. This will hopefully eliminate some of the bias introduced by the currency variations.

This chapter is organized as follows: sections 7.2 and 7.3 review the economic performance and the employment conditions in the two industries and in the four carriers for the periods 1965-77, 1978-83 and 1984-90. Section 7.4, assesses the effects of deregulation on the effort bargain. It compares wage rates in US dollars for fixed seniority and job classification of the four major labour groups across carriers.

7.2 INDUSTRY OVERVIEW: USA AND CANADA.

7.2.i. Traffic growth and market share.

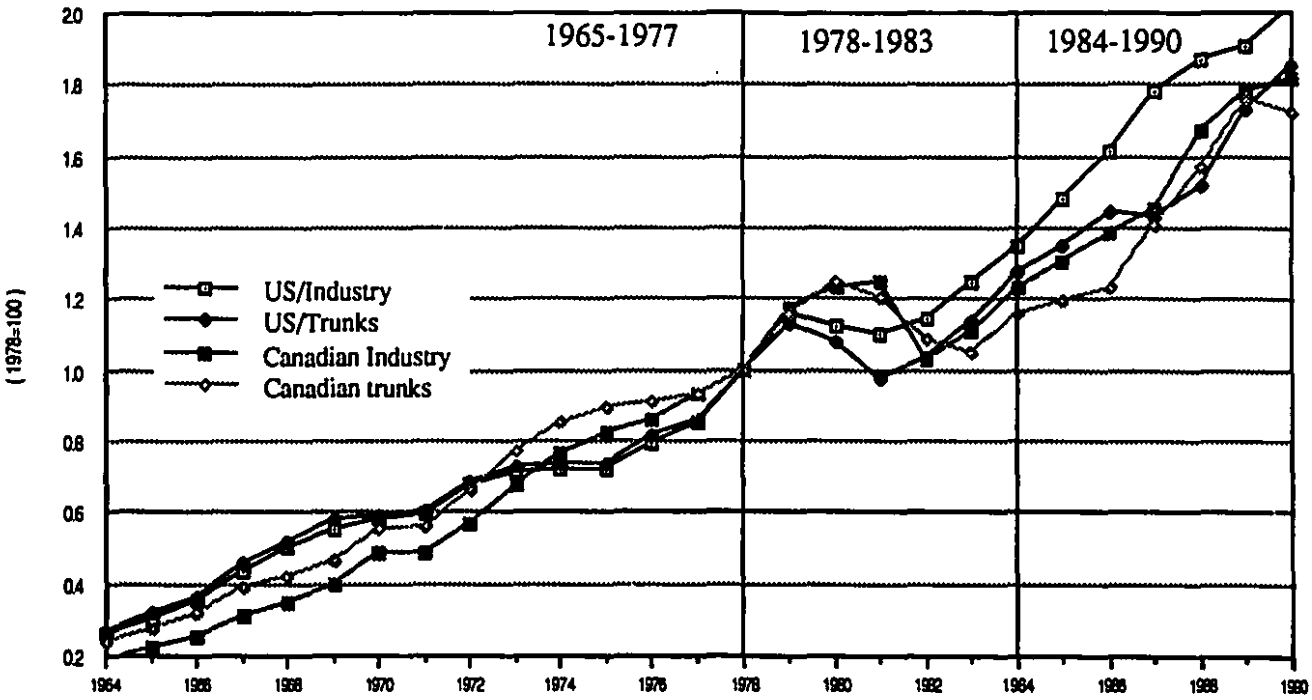
Figure 7.1 illustrates the volume of revenue passenger miles in index form, with 1978 as base year, for the two industries and the major sectors while Table 7.1 reports data for each carrier.

It is evident from these data that the air industry grew rapidly in the 1960's. Although the economic contraction of the 1970's slowed down this rapid growth, from 1965 to 1977, both countries experienced a dramatic output growth. Passenger volume grew by 9% per annum in the US and 13% in Canada, and this growth was shared by the carriers. Traffic increased by 8% and 10% annually at American and Air Canada and by 11% and 13% at Northwest and Canadian.

During the first year of the economic reforms in the USA, 1978-1979, which coincides with an economic upturn, the volume of traffic reached a record high in both countries. In the following years, 1980-1981, in the US, under the effects of a deep recession, new route entries and the various events which affected this industry, a shift occurred in the overall rate of traffic growth between the scheduled industry and the former trunk carriers. Traffic in the trunk sector declined by 14% from the peak of 1979 to the trough of 1981, whereas it fell by a modest 4% in the scheduled industry. Moreover, from 1977 to 1983, the volume

Fig 7.1 – US and Canadian Air Industry

Index of Traffic Growth (RPM)



of passenger miles grew by 7% per annum in the industry compared to 5% in the trunks.

In Canada, the effects of the recession and oil crisis on traffic lagged the USA by one year. Passenger mile volume plunged in 1982, reaching a trough in 1983, declining by 18% (1980-83) in the major sector and in the industry (1981-82). From 1977 to 1983 the volume of traffic grew by an annual rate of 3.6% in the industry and 2.2% in the major sector.

In 1983, with the economic recovery, the former trunks' traffic volume grew to equal their 1979 peak but the recovery was lengthier in Canada. The Canadian industry and the major carriers exceeded their previous peak level only

in 1985 and in 1987 respectively. From 1977 to 1990, after the concentration of the industry, passenger miles increased by 7% per annum in the USA, in both the former trunks and in the scheduled industry, whereas it grew by 6% in the total Canadian industry and by 5% in the nationals. However from 1983 to 1990 under a deregulated environment, an improved economy and probably an increase in discount fares, traffic grew at a similar annual rate of growth in both countries, increasing by 7% in the industry and 8% in the majors.

During these years, 1977-90, the performance of the carriers differed from the regulated period. The volume of traffic, after a steady growth (33% in 1978-79), during 1980-1981, dropped by 17% at American, whereas Northwest, with a small domestic network, was little affected. In Canada, after a surge (30%), passenger volume plunged at both carriers, declining by 18% at Air Canada (1981-83) and by 20% at Canadian (1982). In 1983 both US carriers recovered whereas growth remained erratic in Canada. From 1983 to 1990 traffic increased by 12% at American compared to 4% at Air Canada, while Northwest and Canadian, after the mergers, reported a 17% and 14% annual growth rate.

During the regulatory period, under the protection of regulation, the dominant sector market share declined modestly. In 1978, the US trunk lines still held 92% of the market (RPM), or a drop of two percentage point from the 1960 level. In Canada, the two national carriers' shares,

due to the expansion of the regional carriers, after the government implementation of the regional air policy, declined from 96% in 1960 to 75% in 1978.

In the US in the post-1978 period, with free entry opened up by deregulation, the trunk sector lost a bigger share of the market than they did throughout the years of CAB regulation, and in 1986 they accounted for 82% of the scheduled market. In Canada, with little change in the regulatory regime, from 1978 to 1983 the dominant carriers' shares remained rather stable. However in 1984, under a competitive regime, their dominant position began to decline reaching a low of 66% in 1986. In the following years, as both industries began to consolidate, the former US trunks and the Canadian carriers regained part of their previous losses and by 1990, they held 83% and 71% of the market.

Under a deregulated industry the performance of the carriers varied. In 1980 the market shares of American dropped from 14% in 1978 to 13% of the trunks market whereas Northwest's loss was minor. However in 1990 both American, through internal expansion and route acquisitions, and Northwest, through merger, increased their traffic shares to 20% and 13% of the market respectively.

In Canada, from 1978 to 1984 Air Canada's position remained stable, accounting for 70% of the major market. Its dominance began to erode in 1984 after the relaxation of regulatory controls and the expansion of Canadian. In 1990,

after the consolidation of Canadian, the market became nearly equally shared between the two carriers, and Air Canada' shares declined to 52% of the major market.

It thus appears that the negative output growth of the US trunk carriers during 1980-1981 was the net result of the open entry policy as well as the effect of the recession. In Canada, with no significant entry of new carriers, the major sector's market position remained almost intact but traffic plunged as well. However, in the US the combination of deregulation, competition and new entry forced the former trunks to seek new ways to grow. Both American and Northwest Airlines, by using deregulation'route freedoms, by rationalizing their route network through 'hub-and-spoke' operations and probably through competitive and innovative practices, were able to expand the scale of their operation and markets.

In Canada, partly due to a smaller route network, the relative closure of the US market and the gradual relaxation of regulatory controls which inhibited the entry of any significant carrier, growth was less subtantial, although Canadian became a prominent rival to Air Canada's supremacy.

Overall, what these data show is that deregulation led to significant growth in the US, relative to Canada, while both US carriers profited from deregulation freedom.

7.2.ii. Profits.

There are several measures of airline earnings. All of these measures have problems that have been described in previous chapters. In this section operating profit margins (the ratio of operating income to operating revenue) after interest expenses, as a percentage of operating profit, is used and illustrated in Figure 7.2 for the industry while it is reported in Table 7.1 for the carriers.

It is apparent from these data that in both countries, historically, the profitability of the major sector has been relatively erratic and linked to the business cycle and the carriers' financial commitments, even during regulation.

Returns decreased during cyclical contractions, for example in 1961 and in the 1970's. while they grew during upturns and in response to the productivity of more efficient equipment, as in the 1960's (a period during which the US airlines reported record profits).

In the early years the Canadian carriers fared poorly. From 1960 to 1963 both Canadian airlines experienced losses. However from 1964 to 1977, compared to Air Canada, which up to 1977 was exempted from making profit, Canadian's profits were consistently higher than those of the crown carrier and its performance was comparable to that of the US carriers.

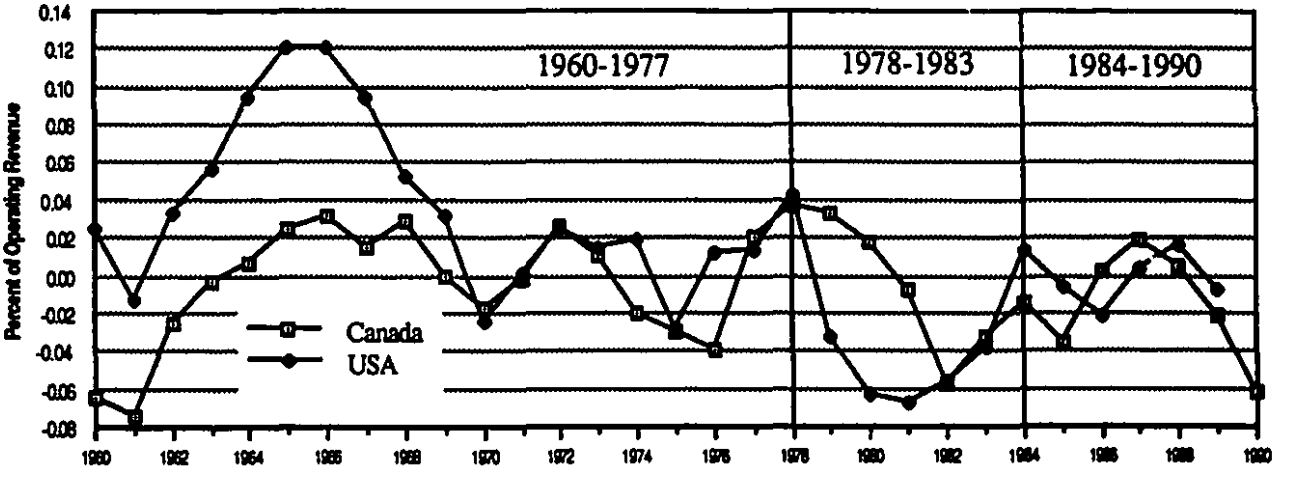
Under regulation, with the exception of Northwest, losses were incurred at American on several occasions (1970, 1973, 1975), at Air Canada in 1969-71 and 1974-76 and at

Canadian in 1975-76. However, in 1978 all carriers reported good profits.

In the post-1978 years, profits declined sharply in both countries. The trunks reported losses from 1979 to 1983 and again in 1985-86, and the Canadian carriers from 1981 to 1985. In the following years both sectors were profitable. However, in 1988 in Canada and 1989 in the US, with the beginning of a new recession, the profitability of these carriers moved downward which is indicative of the impact of the business cycle on the industry performance.

A comparison of the four carriers shows that both US airlines fared rather well under deregulation. After early losses, during 1983-1989 both carriers were able to retain about 3-5% of operating profits after interest expenses.

Fig 7.2 – USA and Canadian Major Sectors
Operating Profit after Interest Expenditures



In Canada, which was still under regulation, losses were incurred at Air Canada from 1982 to 1984 and at Canadian from 1981 to 1983 and in 1985. While from 1978 to 1983 both carriers were profitable, in the post-1984 period, profits remained erratic and both carriers reported losses. However, probably due to the rapid expansion of Canadian, losses were higher at this carrier than at Air Canada.

The external and operative environment in the post-1978 years was, arguably, the most difficult in the industry's history. As these data show, the downturn of the early 1980s negatively affected the performance of the industry. Traffic and profits, under the effects of overcapacity, fare wars and increases in overall costs, plunged in both countries. However in the following years, the US carriers, particularly American and Northwest, by using the freedom provided by deregulation, successfully expanded their markets and retained a considerable share of operating profits after capital expenses. In this they fared better than the Canadian carriers.

To see to what extent the competitive environment affected the conditions of employment, the next pages compare trends in labour outcomes.

TABLE 7.1
USA & CANADIAN CARRIERS
ECONOMIC PERFORMANCE
AND LABOUR DATA

	TRAFFIC VOLUME (RPM)				SHARE OF RPM				LOAD FACTORS				OP.PROFIT AFTER INT-EXP (% OF OP.INCOME)			
YEAR	AA	NW	AC	CP/CAIL	AA TRUNKS	NW	AC INDUSTRY	CP/CA	AA	NW	AC	CP/CA	AA	NW	AC	CP/CA
1. ANNUAL LEVELS																
1960	6371	1654	2041	519	0.18	0.05	0.76	0.19	0.65	0.54	0.65	0.58	3.3	0.8	-4.7	-36.
1965	9195	3304	3543	1024	0.14	0.05	0.68	0.20	0.59	0.54	0.65	0.56	9.5	31.2	0.8	8.3
1970	16623	4506	7160	2601	0.14	0.05	0.62	0.23	0.51	0.39	0.61	0.58	-3.3	11.6	-2.3	0.7
1975	20871	9471	11290	4426	0.14	0.06	0.56	0.23	0.57	0.45	0.63	0.61	-7.9	4.4	-2.7	-3.9
1977	24634	11100	11509	4900	0.14	0.06	0.53	0.22	0.59	0.48	0.63	0.72	1.6	9.2	2.2	1.5
1978	28987	12199	12239	5354	0.14	0.06	0.53	0.23	0.64	0.52	0.61	0.77	0.9	7.4	2.7	6.7
1980	28178	13811	15329	6632	0.13	0.06	0.52	0.23	0.60	0.55	0.69	0.79	-5.5	-2.4	2.4	-0.4
1981	27798	14252	14351	6901	0.14	0.07	0.48	0.23	0.61	0.57	0.63	0.78	-2.3	-0.7	0.8	-5.3
1983	34099	17712	12728	5735	0.14	0.08	0.48	0.22	0.65	0.60	0.65	0.70	2.1	3	-2.3	-5.1
1984	36702	19772	13905	6489	0.14	0.08	0.48	0.22	0.63	0.61	0.68	0.70	3.7	3.8	-2.5	1.2
1986	48792	28815	14425	7300	0.16	0.10	0.44	0.22	0.65	0.60	0.68	0.68	3.9	2.5	0.1	0.2
1987	56794	39550	14358	10483	0.19	0.13	0.42	0.30	0.64	0.64	0.71	0.70	3.4	1.8	-0.5	5.3
1990	77085	51490	16577	13855	0.20	0.13	0.38	0.32	0.62	0.65	0.71	0.65	-1.8		-6.4	-6
2. GROWTH RATES																
1965-77	8.8%	13.0%	11.0%	14.0%									0.7%	12.5%	-0.4%	2.2%
1971-77																
1977-83	6.3%	8.2%	1.8%	3.0%									-1.7%	1.8%	0.5%	1.9%
1983-90	12.0%	17.0%	4.0%	2.6%									3.8%	2.0%	-1.8%	-1.0%
1977-90	10.4%	14.0%	3.2%	10.0%									1.3%		-0.8%	-1.5%

TABLE 7.1 (Cont.)

	EMPLOYMENT				PILOTS				F.ATTENDANTS				MAINTENANCE/OVERHAUL				PRODUCTIVITY (ASM/EMPL)				LABOUR COSTS (% OF OPERATING EXPENSES			
YEAR	AA	NW	AC	CP/CA	AA	NW	AC	CAIL	AA	NW	AC	CAIL	AA	NW	AC	CAIL	AA	NW	AC	CP/CA	AA	NW	AC	CP/CA
1. ANNUAL LEVELS																								
1960	24102	6818	11195	2683	1550	434	707	213									405	450			0.46	0.42	0.43	0.35
1965	24500	7116	12253	2805	1572	754	670	250					5675	1107	4258	939	637	862	445	654	0.45	0.36	0.36	0.29
1970	37071	8356	17688	5173	3299	1603	1115	398	4545	1750	1987	599	6666	1421	4755	1193	880	1405	658	873	0.48	0.36	0.39	0.32
1975	35213	10923	21053	7696	2574	1456	1523	568	4808	2091	2652	910	5738	1215	5136	1599	1041	1914	845	941	0.41	0.31	0.40	0.33
1977	36946	11340	20364	6855	2793	1478	1468	528	5438	2207	2607	835	6071	1242	4699	1627	1132	2025	894	999	0.41	0.31	0.41	0.35
1978	37822	12077	20459	6989	2736	1502	1506	559	5616	2241	2602	858	6211	2164	4687	1695	1202	1942	972	995	0.41	0.29	0.40	0.33
1980	40656	12748	23316	8501	4037	1517	1902	668	6263	2481	3132	1066	8073	3083	4749	1988	1147	1953	965	984	0.36	0.24	0.37	0.31
1981	36469	13096	23199	8920	3630	1534	1871	679	5640	2526	3102	1204	6842	3156	3639	2076	1241	1894	948	991	0.37	0.24	0.35	0.29
1983	36924	14187	21289	7957	2574	1621	1805	527	6244	2684	2678	1157	7497	2186	4083	1571	1420	2080	920	1030	0.37	0.27	0.37	0.30
1984	38333	15185	21552	7555	2815	1716	1795	511	6811	2955	2916	1133	7425	5160	4291	1569	1530	2151	946	1232	0.37	0.27	0.36	0.29
1986	47898	33296	21743	8385	4104	4362	1700	621	8434	6260	2815	1271	9311	5418	4275	1783	1567	1448	980	1272	0.38	0.30	0.32	0.30
1987	57275	34172	21644	13039	4695	4557	1734	1007	10292	6347	2876	1948	11211	3904	4292	2088	1549	1821	933	1155	0.36	0.31	0.32	0.27
1990	85680	35775	22340	16810	6605	4497	1792	1458	15482	6771	3374	2851	10560	3264	3599	3737	1498	2217	1039	1272	0.33	0.32	0.32	0.26
2. GROWTH RATES																								
1965-77	3.6%	3.9%	4.4%	8.0%	6.0%	8.0%	8.0%	8.0%					1.0%	1.3%	1.0%	5.0%	2.6%	7.6%	6.0%	3.7%				
1971-77									3.0%	4.0%	4.0%	5.0%												
1977-83	0.2%	3.8%	0.8%	2.8%	0.5%	1.6%	4.0%	0.4%	2.4%	2.0%	0.7%	6.0%	6.0%	16.0%	0.0%	0.0%	3.8%	1.8%	0.7%	0.8%				
1983-90	12.0%	18.0%	0.7%	12.5%	15.0%	20.0%	-0.1%	17.0%	14.0%	17.0%	3.0%	15.0%	6.0%	14.0%	-0.5%	16.0%	0.4%	2.7%	1.9%	4.0%				
1977-90	7.3%	12.2%	0.8%	9.0%	8.0%	12.0%	1.6%	9.0%	9.0%	11.0%	2.5%	12.0%	6.0%	15.0%	-0.2%	8.0%	2.2%	2.5%	1.4%	2.7%				

7.3. EMPLOYMENT, LABOUR OUTPUT AND LABOUR EARNINGS.

To assess the extent to which the reforms changed the employment relationship, this section compares aggregate and firm-level labour outcomes in the industry, in the majors sector and across carriers. Part 7.3.i reports data on employment and productivity while in part 7.3.ii I discuss average real earnings of the labour force.

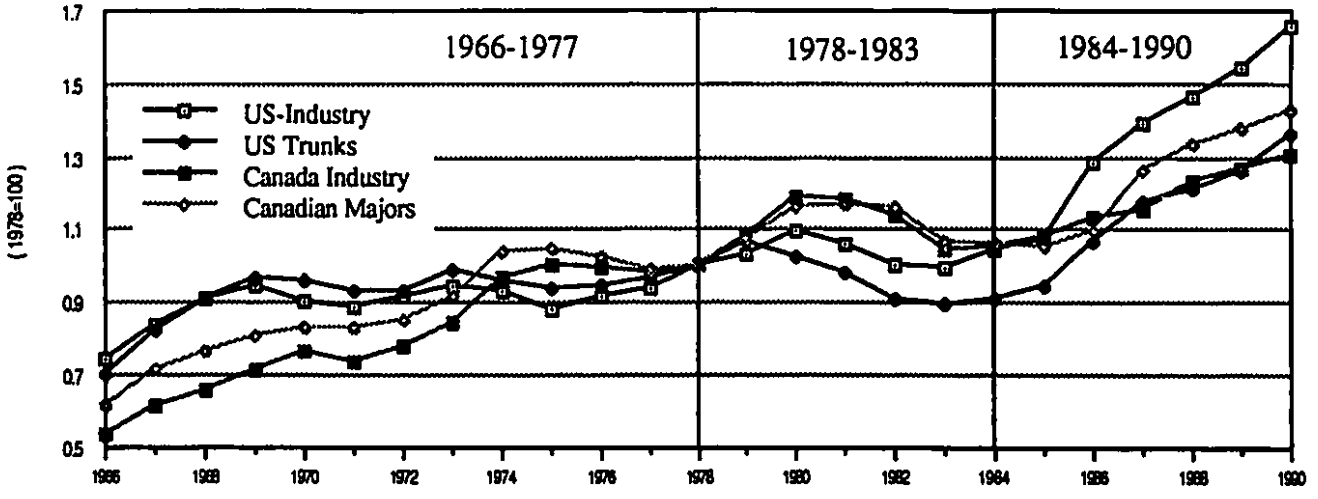
7.3.i. Employment and Output.

Figure 7.3 reports data on employment in index form for the industry and for the majors sector while Figure 7.4 displays predictive trends in labour output measured as available seat miles per employee, in index form, for the major sectors in both countries. Data for single carriers are reported in Table 7.1.

The expansion of the industry in the 1960s led to a dramatic growth in employment. This growth was checked by the recession of the 1970s but employment recovered steadily thereafter in both countries. From 1960 to 1978, the rate of growth was rather similar in both countries and across carriers. Employment grew by roughly 5% annually in the two industries, by 3% at American, by 4% at Air Canada and Northwest and by 7% at Canadian. In the mid-1970s all carriers curtailed some employment. These cuts were higher at Canadian and Northwest.

Fig 7.3 – US and Canadian Air Industry

Total Employment Index



In the immediate post-1978 period, employment grew rapidly in both countries, but in the next years it plunged. The trunk lines and the US industry curtailed about 17% (1980-83) and 9% (1981-83) of the labour force respectively.

In Canada the effects of the recession on employment lagged the US by two years. In 1982 employment began a steady contraction but, unlike the US, the employment loss was greater in the industry as a whole than in the major sector. From the peak of 1981 to the trough of 1983, the major carriers cut 9% of their labour force,and the industry 12% (1980-83). During this period, 1977-1983, employment in the US trunks declined by over 1% annually whereas it grew by slightly over 1% in Canada and in the US industry.

Employment picked up in both countries with the economic recovery. In 1985 the US industry and in 1986 the

trunk lines exceeded their 1980-1979 peak level. In Canada it was only in 1987, after the consolidation of the industry, that the major carriers reached their 1981 level while the industry reached its previous peak level only in 1988. From 1977 to 1990 while employment grew at a similar annual rate of about 3% in the two major sector, the rate of growth in the US scheduled industry was double the Canadian industry's growth rate (5% versus 2.5%). Moreover from 1983 to 1990 employment grew faster in the US than in the Canadian majors sector (6% per year versus 4.4% in Canada).

In the post-1978 period the carriers'rate of employment growth varied according to their market performance. Although in the early 1980s the growth of employment was checked by the recession (with the exception of Northwest), in the next years, 1983-1990, employment grew dramatically in both US carriers, exceeding their pre-deregulation rate of increase. From 1977 to 1990 employment increased by an annual rate of over 7% at American and 12% at Northwest. However from 1983 to 1990 it grew by roughly 12% and 18% respectively. In Canada, employment grew by over 8% per year at Canadian but it hardly attained 1% at Air Canada and in 1990 the level of employment of Air Canada remained below its 1980 peak. In the post-deregulation period both Northwest and Canadian grew because of mergers.

Figure 7.4 shows predictive trends in labour output in the US trunk and the major carriers in Canada. Table 7.2 reports the regression results of the equations generating these trends.

These data shows that during the regulated period, 1966-1978, productivity increased at a similar rate in the two countries' major sector, grewing by 5% annually.

In the post-1978 period, the rate of growth of productivity fell relative to the pre-deregulation years. However the US trunk sector outperformed the Canadian major carriers with labour output increasing by 3% annually in the US compared to 2% in Canada.

A comparison across carriers indicates that in the deregulated period, the rate of output growth was higher at Northwest and Canadian than in the other carriers, while American outperformed Air Canada.

These variations are probably also linked to different aircraft fleets and route networks. It is certain that both the US carriers and Canadian, by extending their domestic network, were able to increase their economies of scale and this may have affected labour productivity.

Overall these data indicate that with the economic recovery the US industry as a whole and the major carriers' use of deregulation'fare and route freedom stimulated enough traffic growth. This resulted in a significant increase in employment and the elimination of all previous employment

losses. In contrast, in Canada, although traffic and employment also increased, the rate of growth was lower than during the regulated period and below the rate of growth experienced in the US.

Fig 7.4 – US and Canadian Major Sectors

Predictive Trends in Labour Output (ASM per employee)

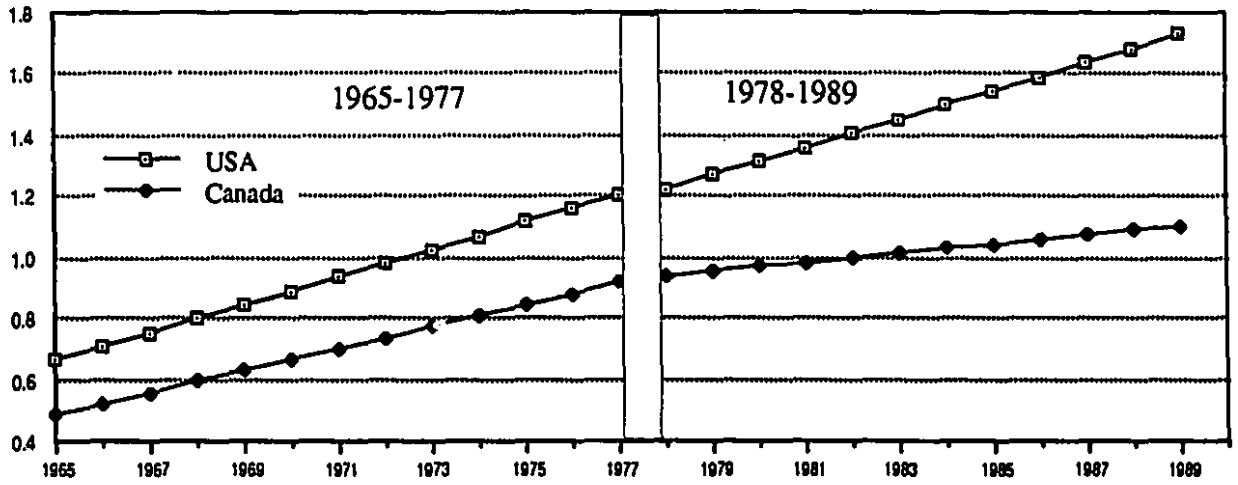


TABLE 7.2
Regression results of the two equations relating labour output to year for the periods 1965-77 and 1978-90 for the US and Canadian major carriers.

	US TRUNK CARRIERS		CANADIAN MAJOR CARRIERS	
	1965-77	1978-90	1965-77	1978-90
Constant	664	1222	485	939
	(38)	(56)	(18)	(51)
Year	45	46	36	15
	(2)	(4)	(1)	(4)
R Squared	.958	.906	.985	.562

7.3.ii. Average Compensation and Labour Costs.

Data on the ratio of labour expenses, as a percentage of operating expenses, for each carrier are found in Table 7.1. Figures 7.5 and 7.5.1 illustrate predictive trends in average real compensation per employee, in US 1986 dollars, for the US and the Canadian industry and for each carrier. Tables 7.3 and 7.4 report the regression results of the equations generating these trends. Due to fluctuations in the exchange rates between the US and Canadian dollar in the post-1977 period, the rate of change of compensation has been calculated over the entire period 1977-90 and the Canadian rate of change is shown in parenthesis.[1]

Labour costs are a major component of airline operating expenses. In the 1960s, labour costs, as a percentage of operating expenses, were over 40% of the budget. They increased in the 1970s and in 1978 they accounted for roughly 41% of the major air sector's share of operating costs. Labour expenses were also higher in the two bigger carriers. In 1978 they represented 40% of total operating expenditure at American and Air Canada, 29%, at Northwest, and 33% at Canadian.

In the first years of the post-1978 period, the ratio

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[1]. From 1961 to 1977 the US and the Canadian dollars had a roughly equal value. From 1978 to 1982 the rate of exchange of the US currency increased gradually to 1.10/1.20 and from 1984 to 1987 this moved to 1.30 and over relative to the Canadian dollar. However, in later years, 1988-90, the rate of exchange settled to 1.20/1.15 Canadian dollar for a US dollar.

of labour costs declined abruptly, as fuel prices increased dramatically. However, even when the price of fuel began to fall after 1984, labour expenses continued to decline. In 1990, labour accounted for about 32-33% of total operating costs in the two US carriers and at Air Canada and 26% at Canadian.

Traditionally the US trunk carriers have always paid higher compensation than the Canadian. The average amount of average real earnings per employee paid by the US carriers was approximately over 20% higher than that paid by the two national airlines in Canada.

During the regulated period, from 1965 to 1977, average real compensation grew at a slightly higher rate in the US than in Canada, increasing by 3.2% per year in the US trunk compared to 3% in the Canadian major carriers and at a slightly lower rate in both industries.

This growth trend was similar in all the carriers, with average real compensation increasing by roughly 3%.

In the post-1978 period, compensation declined in both countries. However, the rate of decline was greater in the US than in Canada. From 1979 to 1986 the rate of growth of labour earnings in the US trunk lines lagged inflation almost every year (except in 1983). In later years, 1987-1990, earnings moved upward, but the rate of increase was significantly below the pre-deregulation rate, approximately

matching the rate of inflation. From 1977 to 1990 real earnings per employee declined by 1% per annum in the US trunks compared to .6% (.3% in Canadian dollars) in the major carriers in Canada. Despite the steeper decline of labour earnings in the US than in Canada, in 1990 the wage gap between the two countries remained. In short, average real compensation is still substantially lower in Canada than in the US carriers.

In the post-1978 period, differences in average real costs per employee opened up across carriers. From 1977 to 1990 real earnings per employee declined by 2% annually at American but increased by over 1% at Northwest. In Canada they grew by .14% (.43%) at Air Canada but declined by 1.4% (1.1%) at Canadian.

This intra-firm difference seems to be related to the carriers' responses to the new competitive realities and to employment variations. The significant decrease in earnings at American and at Canadian after 1983, is partly related to the substantial labour concessions and employment growth both carriers were able to achieve.[2] On the other hand, the relative increase at Air Canada may be partly the result of lack of any substantial employment growth combined with a

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[2]. In 1983 American applied a lower wage scale to all new employees and an overall reduction in benefit costs. In 1984, Canadian obtained a 4% wage cut from the pilots and in 1985 implemented a two tier wage scale to most work groups. Since during 1983-1990, employment in both carriers grew by roughly 90%, these concessions should have permitted them to achieve a substantial reduction in labour costs.

labour force with more years of experience whereas Northwest, with employment increasing steadily, does not seem to have obtained any significant wage concessions.[3]

As these data indicate, in the deregulated period the US airline industry and the trunk carriers performed better than the Canadian ones. While traffic, profits and employment dropped in both countries during the 1979-82 recession, the rate of growth was relatively higher in the US than in Canada.

Average real earnings per employee have always been higher in the US than in Canada. While during the regulated period, 1965-77, the rate of growth was slightly higher in the US than in Canada, in the post 1978 period, the decline of average real earnings per employee was more significant in the US (-14% over the period 1978-90) than in Canada (-8% in US$ and -4% in Can.$). Nevertheless this decline of real earnings in the US did not substantially reduce the previous gap in the level of earnings per employee between the two countries.

The next section compares contractual wage rates of selected work groups in the four carriers.

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[3]. In 1984-85, Northwest applied a reduced B-scale to cabin crew and passenger agents but it implemented a B-scale to pilots only in 1990. In the pilots case, in 1983 this carrier exchanged higher wages for higher pilots utilization. The 1983 contract called for pay raises of 7.5% in 1984, 6.5% in 1985 and 3% in 1986 for an increase in hours from 75 to 83 per month.

Fig 7.5 – US and Canadian Airline Industry

Predicted Trends in Average Real Earnings

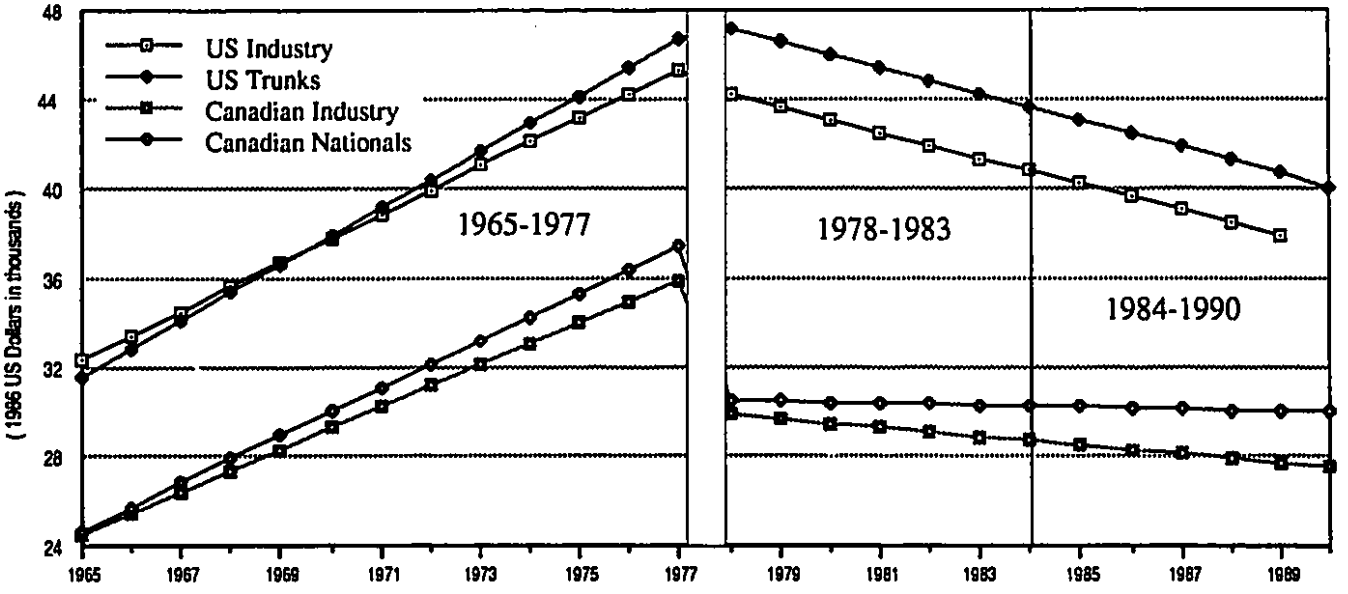

Fig 7.5.1 – US and Canadian Carriers

Predicted Trends in Average Real Earnings

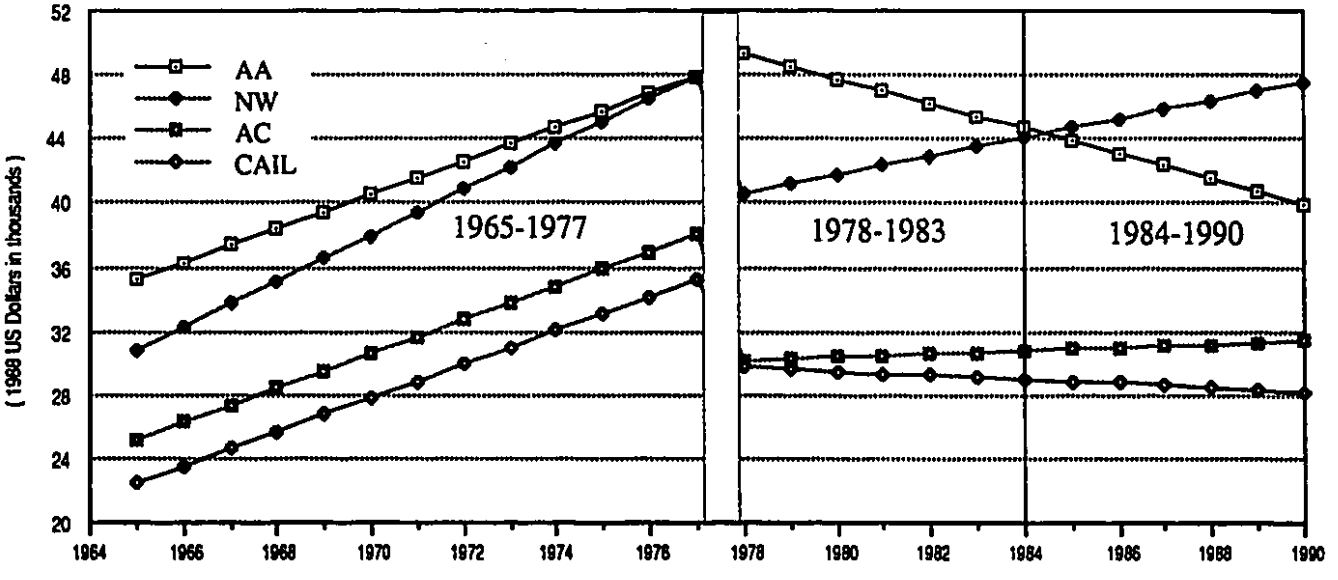

TABLE 7.3
Regression results of the two equations relating average real compensation to year for the periods 1965-77 and 1978-90 for the major US and Canadian carriers

	US TRUNK CARRIERS		CANADIAN MAJOR CARRIERS	
	1965-77	1978-90	1965-77	1978-90
Constant	$ 31580	$ 47234	$ 24628	$ 30477
	(1161)	(1126)	(1609)	(1673)
Year	$ 1258	$ - 598	$ 1069	$ - 42
	(86)	(83)	(119)	(124)
R Squared	.951	.824	.879	.010

TABLE 7.4
Regression results of the two equations relating average real compensation to year for the periods 1965-77 and 1978-90 in selected US and Canadian carriers.

CARRIERS	AMERICAN AIRLINES		NORTHWEST AIRLINES		AIR CANADA		CANADIAN AIRLINES	
	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90
Constant	$ 35226	$ 49298	$ 30841	$ 40627	$ 25213	$ 30157	$ 22492	$ 29743
	(1988)	(2486)	(1399)	(2890)	(1788)	(2017)	(1275)	(1759)
Year	$ 1053	$ - 777	$ 1424	$ 578	$ 1068	$ 103	$ 1061	$ - 128
	(147)	(184)	(103)	(214)	(132)	(149)	(94)	(130)
R Squared	.822	.618	.944	.398	.855	.041	.919	.081

7.4. COLLECTIVE BARGAINING CONTRACT DATA FOR SELECTED CRAFTS

This section compares wage data collected from collective agreements for pilots (7.4.1), flight attendants (7.4.2), mechanics (7.4.3), and for ground agents (7.4.4) across carriers. Due to fluctuations in the exchange rates in the post-1977 period, the rate of change is calculated over the entire period 1977-1990, and the level of wage in 1990 is compared with the 1978 level for all the labour groups, since during these years the exchange rates were rather similar (1978:US$=1.18 Can.$; 1990:US$=1.16 Can.$).

7.4.1. PILOTS: Trends in Real Hourly Pay Rates.

To see variations in pilots' pay according to classification and seniority levels, figures 7.6 and 7.6.1 display top real hourly rates, in US dollars, for B-727 captains and for third year co-pilots respectively in the two US and Canadian carriers.[4]

As shown in Fig. 7.6, in the 1960s pilots' wage rates varied significantly (Northwest and the Canadian airlines paid lower rates than American) but in 1972, probably as a result of pattern bargaining, similar wage rates developed across carriers.

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[4]. Due to Air Canada's late adoption of B-727s and the fact that Canadian phased out this equipment in 1988, data for Air Canada during 1966-1972 are for DC-9s while for Canadian from 1988 to 1990 are for B-737s. There are also inter-carrier variations in this aircraft (i.e.: seat configuration and engine options), which by changing the weight and the 'pegged' speed, affect pilots' hourly pay.

In the mid-1970s, this inter-country uniform pattern broke down. Pay rates declined in both countries in response to the governments' wage and price controls. In Canada the enforcement of these controls nearly coincided with their termination in the US. Thus in 1976 as wages began to fall in Canada while they moved upward in the US, the level of pay began to vary in the two countries. Overall, from 1965 to 1977, real wages grew by approximately 1% per annum at American and 2% at Air Canada and Northwest as both carriers probably tried to catch up with the higher rates of American.[5]

In the post-1978 period, hourly pay rates kept increasing in the US carriers while in Canada, ignoring for differences in the rate of exchange, pay rates kept relatively stable. However, in the mid-1980s differentials in the rate of pay opened up across carriers. In 1984 pay rates began a gradual decline at American whereas this occurred at Northwest only in 1987. In Canada, in 1985 wage rates between the two Canadian carriers began to diverge, after pilots at Canadian made wage concessions. From 1978 to 1990 the rate of pay grew at about the rate of inflation at Northwest and in the Canadian carriers but declined by 10%

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[5]. The rate of pay of pilots at Canadian could not be computed due to unavailability of data for this period. During the period 1965-1977, the exchange rate of the Canadian dollar relative to the US was rather stable. In 1965 the rate of exchange of the US currency was 1.075 and in 1977, 1.094 relative to the Canadian one.

at American. While in 1978 the difference in the level of wages between the Canadian carriers and the US ones was 20%, in 1990 this wage gap declined to roughly 10% compared to American but it still remained when compared to Northwest.

Figure 7.6.1. gives a different picture of the impact of deregulation on co-pilots' wages.

During the regulated period, due to differences in co-pilots wage payments in the two countries,[4] hourly rates were higher in the US than in Canada. In 1978 co-pilots in Canada were paid approximately 30% less than their counterparts employed by the US carriers.

In the post-deregulation years, all carriers made changes in the pay scale for new pilots but these were more significant in the US than in Canada. American, in 1983-87, and Northwest, in 1990, applied lower wages to new hires up to the ninth and fifth year respectively, while in 1986 both Canadian carriers increased from two to three years the time before co-pilots acceded to the pay formula. In 1987 Air

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[4]. Although co-pilots in both countries are paid a percentage of captain pay according to years of service, this ratio was higher in the US than in Canada.
In 1965, 3-year co-pilots were paid 46% at Northwest and 60% at American. In 1971, Northwest increased this ratio to 59% and in 1979 to 60%, thus reaching parity with American. In 1965, the Canadian carriers paid 44%. This increased to 46.2% in 1972 and 46.7% in 1975. A similar disparity existed for second officers.

Canada re-established the previous status quo.[7] Thus, as pay rates in the US decreased by roughly 30%, co-pilots hourly rates became rather similar across carriers.

These data indicate that during the regulated period there was a great deal of pattern bargaining in the two national industries. This pattern began to diverge in 1977, after the Canadian government implemented monetary controls to curb inflationary trends and under the poor performance of the Canadian dollar compared to the US currency.

In the deregulated years, over the period 1978-1990, real top hourly rates declined by roughly 1% per annum at American whereas they grew at about the rate of inflation at Northwest and in the Canadian national carriers. However, in 1990 real wage rates at the upper end of the pay scale are still higher in the US than in the Canadian carriers. On the other hand, while in 1978, the inter-country difference in 3-year co-pilot pay was over roughly 30%, in 1990 this gap was nearly eliminated.

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7. American implemented a fixed hourly rate for new pilots up to the 9th year; Northwest decreased the ratio for 3-year co-pilots from 60% to 42%; while Canadian applied a fixed monthly salary. Thus hourly rates for co-pilots at Canadian were obtained by dividing the monthly salary by 75 hours.

Fig 7.6 – US and Canadian Carriers

Top Hourly Rates – Captain B-727s

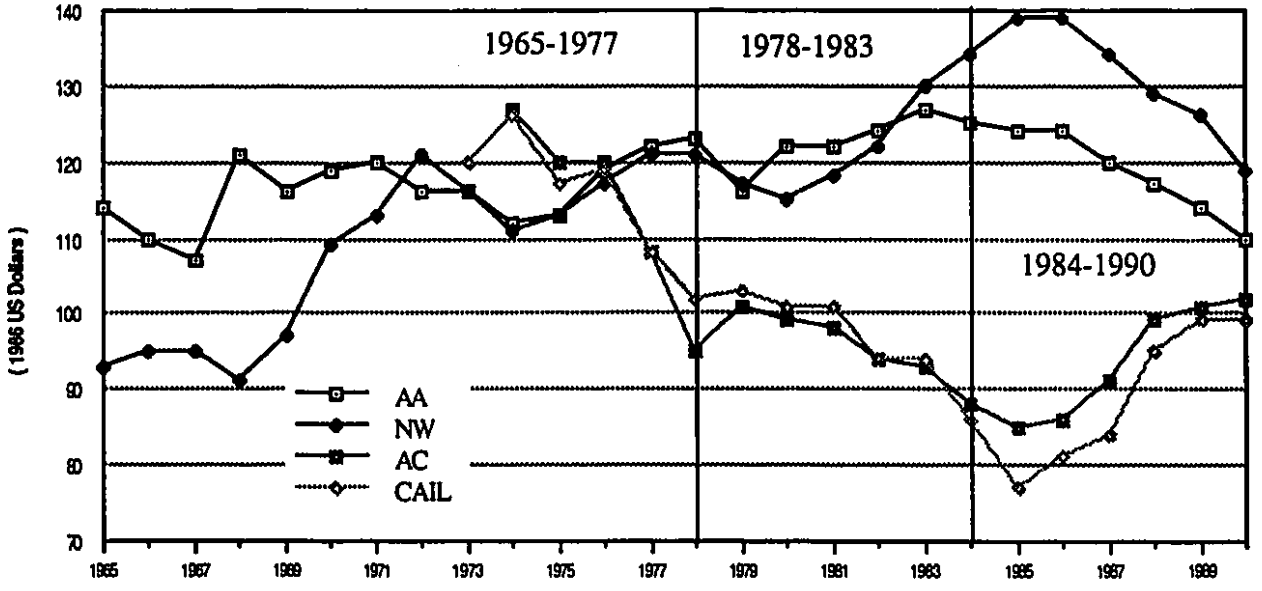
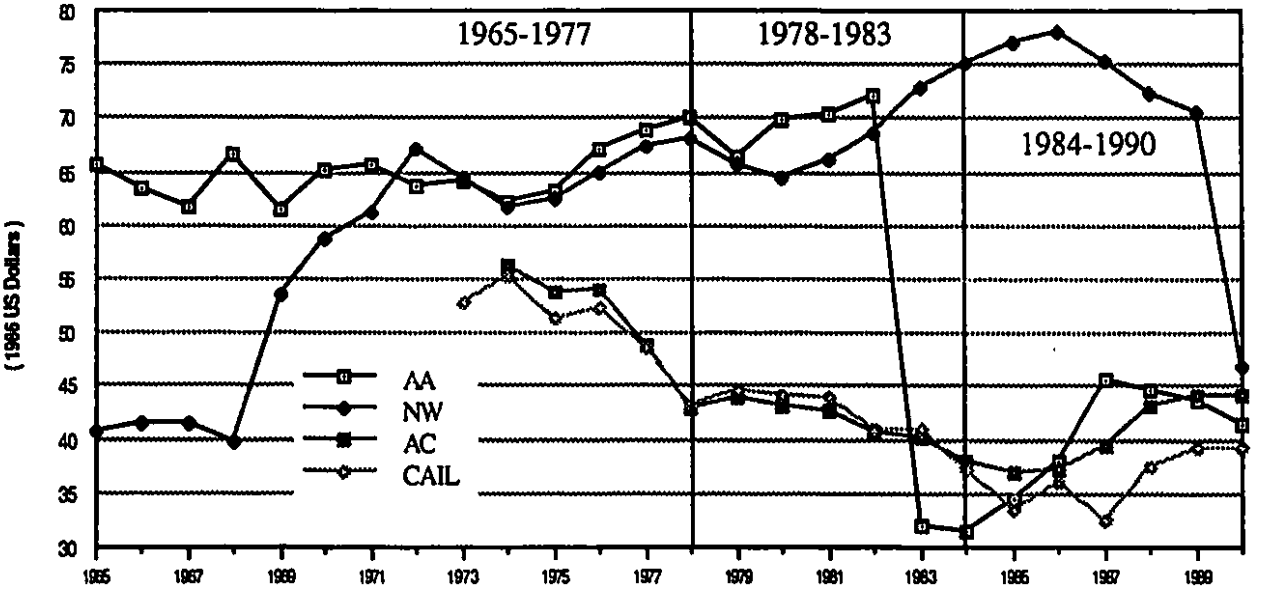


Fig 7.6.1 – US and Canadian Carriers

B-727s Hourly Rates 3-yrs Co-pilots



7.4.2. FLIGHT ATTENDANTS: Trends in Real Monthly Wages.

Figures 7.7 and 7.7.1 show real monthly wages, in US dollars, 75 block hours, for attendants at the top[e] and entry level (1-year) respectively.

In the early 1960's, real monthly wages were rather similar across carriers. In the 1970s this pattern broke down and from 1973 to 1977 wages in Canada rose above US wages. The rates shown in figure 8.7 apply to different years of service (10-12 in the US and 7-8 in Canada). Earnings for a similar seniority level (7-8 years), were roughly 25% lower in the US than in Canada. Overall, from 1965 to 1977, the rate of growth was rather similar across carriers, increasing by 2% annually.

In the post-1978 period, this trend reversed. Starting in 1977, under the impact of the government's monetary policies and variations in exchange rates, wages fell in Canada. In the US -as flight attendants at both carriers changed union representation- in 1980 wages at the upper end of the pay scale moved upward, peaking in 1983. However in the following years, 1986-90, as the US carriers replaced wage raises with 'lump-sum'payments, wages moved downward, erasing most of the post-deregulation wage growth and

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[e]. Due to differences in the length of the pay scale, top rates at American are for 8 (1965-70), 10 (1971-75) and 12 years (1976-1990). At Northwest are for 9 (1965-73), 10 (1974-77) and 12 years (1978-90). Data for Air Canada are for 8 years while for Canadian are for 7 (1965-1985) and 8 years (1986-90).

narrowing the gap with the Canadian carriers.

On the other hand, under the effect of the two-tier wage scale which all carriers applied to new employees until the eigth year and ninth at American (in 1983-84 in the US and 1985 in Canada), entry rates decreased by roughly 30% in the US and approximately 20% in Canada compared to previous levels.

From 1977 to 1990, wage increases of attendants at the top of the seniority scale were slightly below the rate of inflation in the two US carriers but declined by over 1% per year in Canada. In 1990, wages at the upper end of the scale -12 years in the US and 8 years in Canada- were 15% higher in the US; but wages for similar years of service - eight years- were rather similar. However wages at the entry level (1 year) were 15% higher in Canada than in the US carriers.

Thus it appears that while wages for senior attendants are now higher in the US than in Canada, this was attained by reducing the pay of new hires. Although this practice may have been 'costless' to current workers (Cappelli 1987), the dramatic employment growth and the lengthy B-scale certainly permitted these carriers to make substantial savings in labour costs.

Fig 7.7 – US and Canadian Carriers
Attendants: Top Level Real Monthly Wages

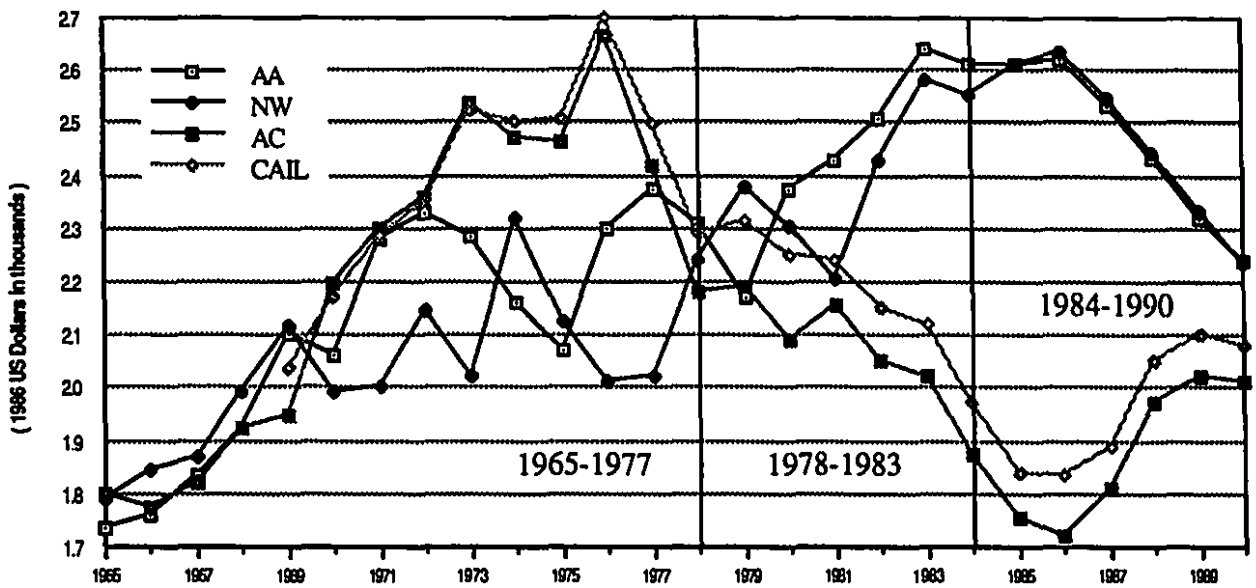
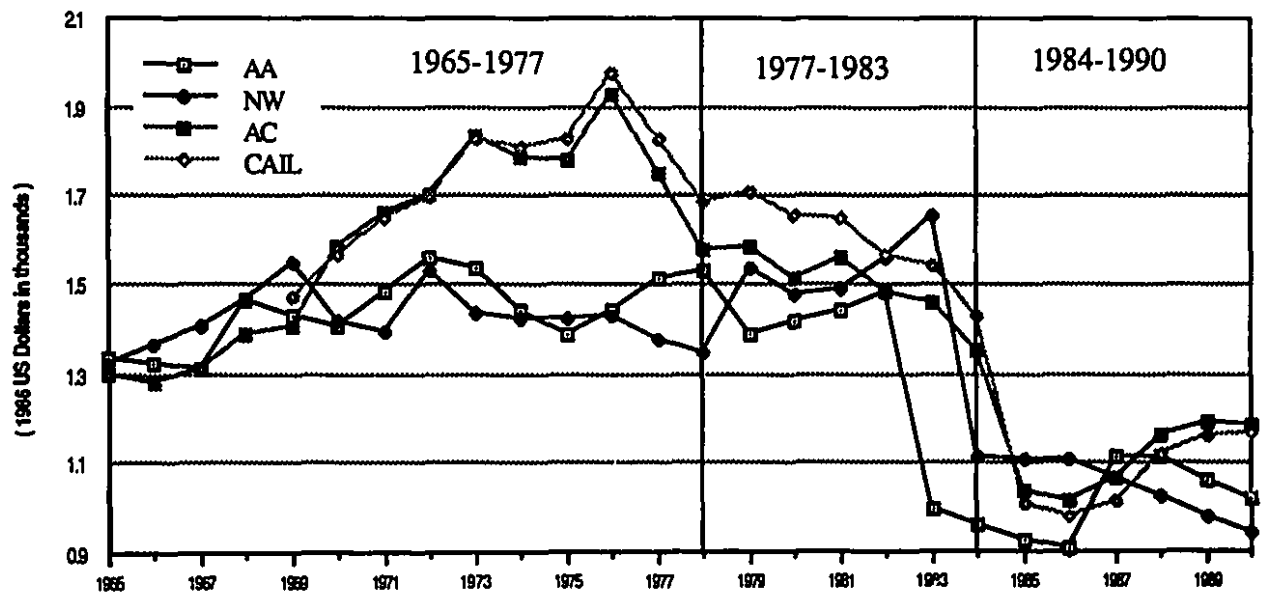


Fig 7.7.1 – US and Canadian Airlines
Attendants Entry Level Real Monthly Wages



7.4.3. MECHANICS: Trends in Real Hourly Rates.

Figures 7.8 and 7.8.1 display respectively real hourly rates, in US dollars, for mechanics at the top and entry level of the pay scale.[9]

In the early 1960s mechanics' top and entry rates were higher in the US carriers. During 1967-1974, partly due to high demands for this craft and pattern bargaining, top rates moved rapidly upward and earnings in Canada matched those in the US, although a gap still remained at the entry level. Overall, from 1965 to 1977, the annual rate of growth of earnings was relatively similar in the four carriers, increasing by roughly 2.7%.[10]

In the post-deregulation period in the US, wages, after a decline, in 1982 began to move upward peaking in 1983 at American and 1986 at Northwest. However, in the next years, 1987-1990, without accounting for lump-sum payments, wages began to decline gradually. Overall, from 1978 to 1990 real hourly rates at the upper end of the scale remained almost

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9. Due to differences in the length of the pay scale, top wages refer to 2 (1965-82) and 12 years (1983-90) at American; 2 (1965-84) and 5 years (1985-90) at Northwest; and 4 years in Canada. Entry rates refers to 6-12 months, although in the US the first step started on the third month.

10. I have taken as benchmark the rate of growth at Canadian due to an unexplained decrease at Air Canada during 1976-79. However from 1966-83, as rates at Air Canada recovered, the rate of growth in the two Canadian carriers became rather similar.

unchanged in both countries. On the other hand, under the effect of the extended pay scale applied by the US carriers (In 1983, American extended the pay progression from 2 to 12 years and, in 1985, Northwest from 18 months to 5 years), entry rates in the US dropped significantly below Canadian pay rates.[11]

Thus, while current union members in the US preserved past contract gains -in 1990 top wages were approximately 15% higher in the US than in Canada (this same gap existed in 1978)- wages at the lower end dropped by roughly 10-25% in the US compared to Canada, where both carriers maintained the status quo.

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11. Although the pay progression is lengthier at American than at Northwest, the 1985 mechanics' agreement at American allows for flexible rates and accelerated seniority in certain markets to workers on the extended seniority schedule.

Fig 7.8 – US and Canadian Carriers
Mechanics Top Level Real Hourly Wages

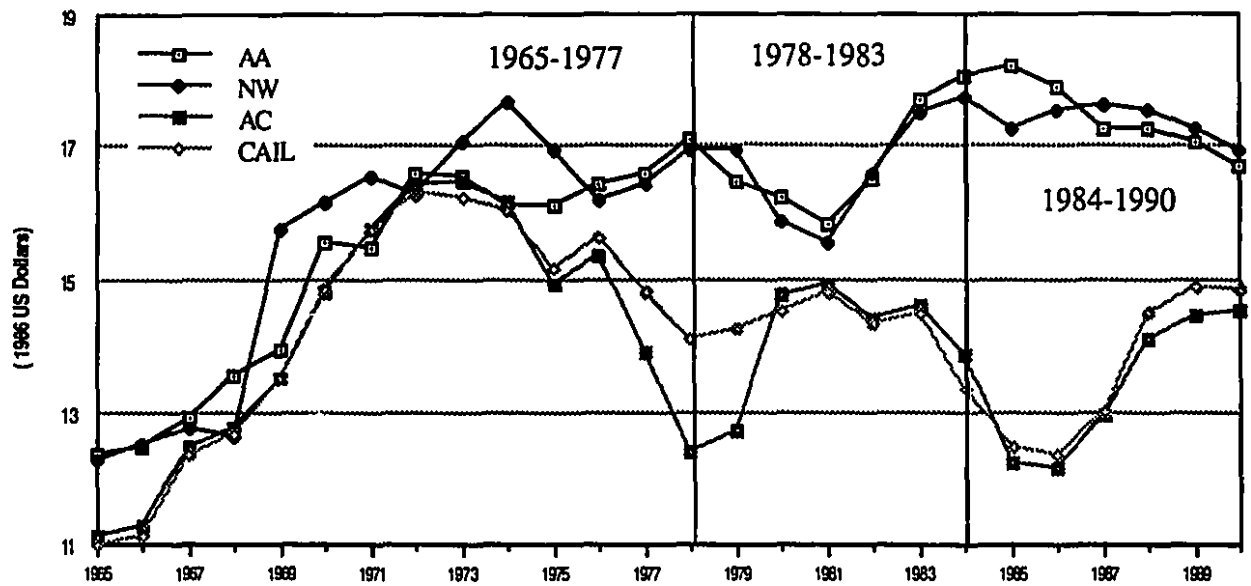
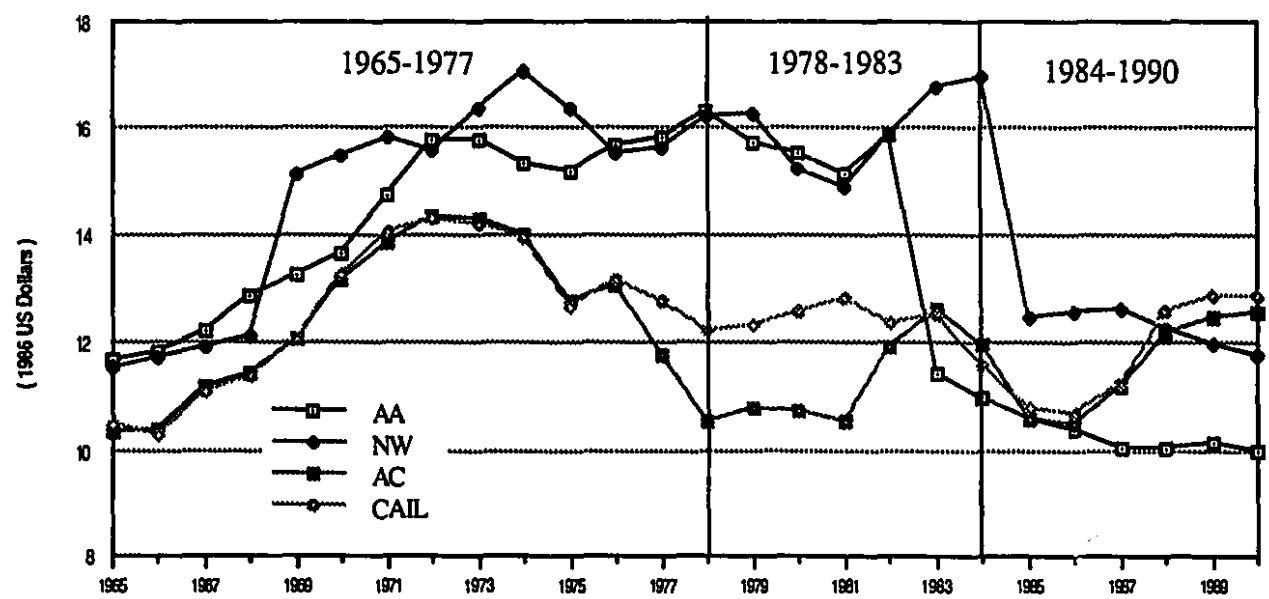


Fig 7.8.1 – US and Canadian Carriers
Mechanics Entry Level Real Hourly Rates



7.4.4. RESERVATION AND TICKET SALES AGENTS: Monthly Wages.

Figures 7.9 and 7.9.1 illustrate real monthly wages at the top and entry level of the pay scale, in 1986 US dollars, in the three carriers and average earnings at American Airlines.[12]

Agents' real monthly wages began to escalate in the late 1960's and kept moving upward until 1972-73 when a period of stagnation set in. From 1965 to 1977 real wages increased by roughly over 3% annually at Northwest, slightly below 3% in the Canadian carriers and at American (monthly average) and in 1977-78, top wages became rather similar across carriers. However these data apply to different seniority level (5 in Canada and 6 at Northwest). Wages for workers with similar years of employment (5 years) were approximately 10-15% higher in the Canadian carriers than at Northwest but wages at the entry level were 15-20% higher at Northwest than in Canada.

In the post-deregulation period, in the US wages, after a decline, from 1982 resumed their upward trend, and this continued until 1987 for current employees at Northwest. In

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[12]. Due to differences in the length of the progression scale, top wages are for 6 (1965-84) and 10 years (1985-90) at Northwest; 5 (1965-70), 4.6 (1971-85 Air Canada and 1971-87 at Canadian) and 5 years thereafter in the Canadian carriers; while data for American Airlines are monthly average for full time workers. In 1989 Northwest replaced the monthly salary with hourly rates, thus monthly wages were obtained by multiplying the hourly rates by 160 hours.

Entry rates are for 6 month level and for 12 month at Northwest during 1979 to 1990.

Canada, ignoring for variations in exchange rates, wages remained rather rigid.

In 1984 all of these carriers implemented an extended pay progression or a B-scale. These pay systems introduced wage differences for new workers in the two countries. From 1977 to 1990, top real wages at Northwest (after 10 years of employment), without accounting for 'lump-sums'(1985, 1989), grew by .3% per annum whereas they declined by approximately 1% (.7% in Canadian $) in Canada (5-years); those at the lower end decreased by 10% at Northwest and by 20% in Canada from the previous level.

In 1978 the level of top wages were roughly 5% and entry rates 15% higher at Northwest than in the Canadian carriers. In 1990 these differentials amounted to roughly 15% and 30% respectively. On the other hand, as the extended wage progression stretched wage increments over a lengthier time period, the level of wage for employees with similar years of service (5-years) which in 1978 was 10-15% higher in Canada, in 1990 this differential increased to roughly 30%. Furthermore monthly earnings for 5-year agents at Northwest matched the American average.

Thus in the deregulated period, although in the US both carriers and unions imposed most of the cost reduction on new employees, and top wages remained almost unchanged from the 1978 level, agents' entry rates remained relatively higher in the US relative to the Canadian carriers.

Fig 7.9 – US and Canadian Carriers
Agents: Top Level Real Monthly Wages

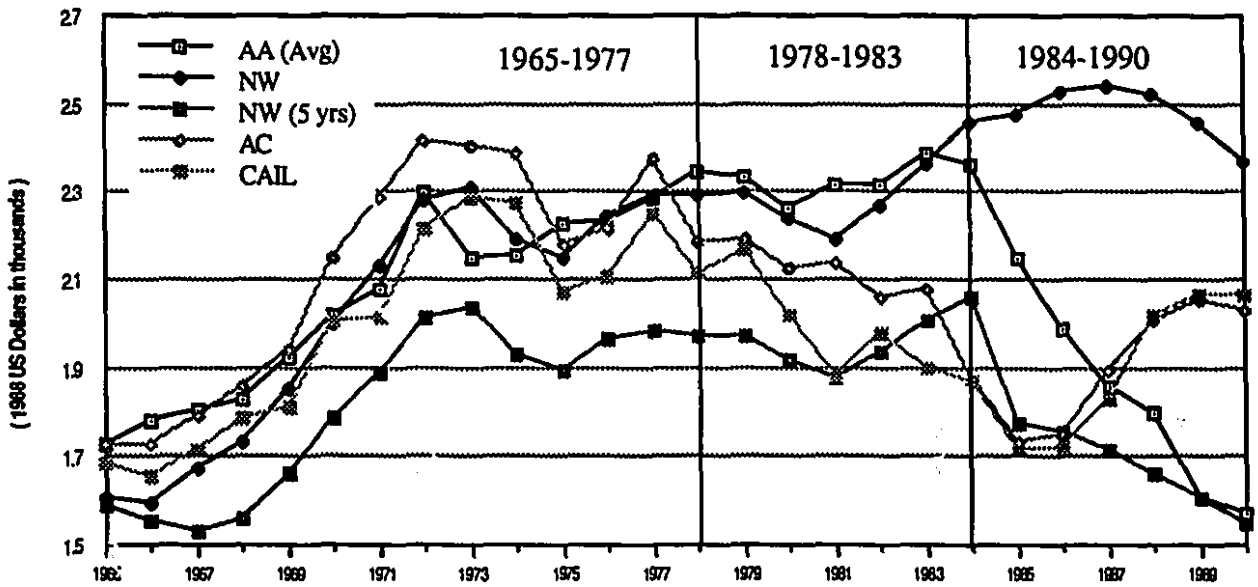
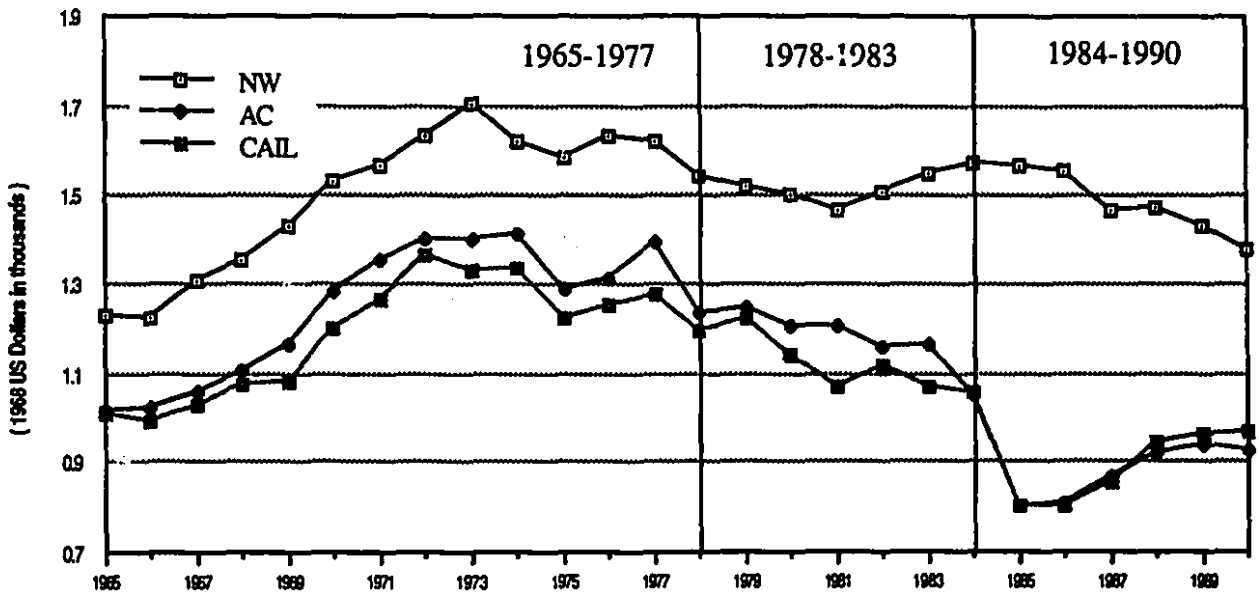


Fig 7.9.1 – US and Canadian Carriers
Agents: Entry Level Real Monthly Wages



7.5. CONCLUSIONS

These data indicate that after the turmoil of the first years of deregulation, both US carriers, by using the freedom provided by deregulation, successfully expanded their markets and retained a considerable share of operating profits. In this they fared better than the Canadian carriers. These findings also suggest that deregulation brought basic changes in the industry labour relations in both countries however, it did not substantially alter earnings of workers at the upper end of the seniority scale.

What emerges from this study is that the market pressures unleashed by deregulation led carriers to seek new ways to remain competitive and to benefit from expansion plans. The lower entry rates and the extended progression schedule helped expanding carriers to obtain permanent cost reductions while the substantial revision in work rules, and probably operational changes, led to a significant reduction in labour unit costs and overall employment costs. Given their impressive growth, the two US carriers and Canadian Airlines certainly benefited from both.

CHAPTER EIGHT

DISCUSSION, CONCLUSION AND RESEARCH IMPLICATIONS

8.1. INTRODUCTION

In this thesis I have closely examined the major effects of deregulation on organized labour, on capital and on measures of productivity and efficiency in the airline industry in general and for the major labour groups in two countries, the US and Canada.

In the next section (8.2) I will summarize the main findings concerning changes in the performance of the industry and labour outcomes since deregulation in both the US and Canada. In section 8.3 I will review the hypotheses stated in chapter three of this thesis and will link them to the empirical findings. Thereafter, in section 8.4, the scope of analysis widens giving some consideration to the plausability of the various theories of regulation and to the role of the state in the economic realm. In the last section (8.5) I will discuss recent trends in the industry and the implications of this work for future research.

8.2. SUMMARY OF FINDINGS.

Parts 8.2.1 and 8.2.2 report findingss for the US and Canadian airline industry while part 8.2.3 reviews data obtained from the comparison of the two industries and in the four carriers described in detail in previous chapters.

8.2.1. THE US AIRLINE INDUSTRY.

8.2.1.i. The performance of the industry.

1. After the poor performance in the first years of deregulation -which cannot be attributed solely to the economic reforms- from 1983 to 1989, capacity and traffic moved upward and the former trunk lines' market shares increased to roughly the pre-deregulation level. However, from 1978 to 1989, output grew less quickly than in the previous regulated period but load factors were higher. This suggests that the carriers eliminated part of the overcapacity produced under regulation.

2. In the post-1978 period average net profit margins were lower than those obtained during the regulated period; real yield or the cost per seat mile continued to decline; real unit costs and the ratio of labour expenditures, as percentage of operating expenses, fell below pre-deregulation's ratios.

8.2.1.ii. Employment and Labour Productivity.

3. From 1978 to 1990, employment grew by 3% annually in the former trunks and by 4% in the scheduled industry compared to 3% in both sectors during 1965-77.

4. From 1978 to 1990, the industry's proportion of pilots remained relatively uniform, that of cabin crew and mechanics increased, it grew significantly for traffic-service employees but it declined for office workers. These figures are associated with the changes that occurred in the industry following deregulation such as 2-pilot crew aircraft, 'hub-and-spoke' and the use of central reservation systems.

5. Since the recession, employment growth in the trunks and in the industry has exceeded the growth level of other economic sectors.

6. Labour productivity was higher during regulation but unit labour costs fell more rapidly in the post-1978 period. However, pilots and cabin crew flew more miles than they did during regulation while mechanics' productivity exceeded the level of flight crew, after 1986.

8.2.1.iii. Average real compensation per employee.

7. Over the period of 1978-90, average real earnings declined by roughly 1.3% per year; after 1983, the inter-firm wage dispersion increased; and the correlation between earnings and employment became negative. This suggests

that compensation became more sensitive to the carriers' performance while deregulation created new jobs but at lower wages.

8. Over the entire period 1978-1990, aggregate average real earnings declined by over 10% for pilots and cabin crew; but they roughly kept up with the inflation rate for mechanics and ground agents. However, from 1983 to 1990 earnings decreased for all labour groups. The decline was more significant for pilots, flight attendants, and to a certain extent, for the partially unionized group of ticketing-sale and promotional personnel. Although this downward trend persisted in recent years, 1988-1990, it appears that earnings in strong carriers are above average.

9. A comparison of average real earnings in the trunk lines with those of other industries indicated that during the regulated period of 1965-77, the annual rate of growth of earnings in the air industry exceeded these industries by 1.5%-2%. This inter-industry earnings-gap widened over time. This pattern changed in the post-deregulation period. Although from 1979-1983, real earnings turned negative in all industries (except utilities) this downward trend continued in the airlines and by 1989 the trunks' average compensation declined to the level of the utilities and the substantial gap with manufacturing narrowed.

8.2.1.iv. Real Wages for selected work-groups.

10. Data from collective agreements in the two US carriers, American and Northwest Airlines, revealed that from 1978 to 1983 real wages increased significantly in all work groups. From 1983 to 1985, while wages at the upper end of the pay scale remained rigid or increased slightly, the dual or extended wage structure led to cross-occupation wage differences. From 1986 to 1990, with carriers replacing wage raises with 'lump-sum' payments, real wages declined in all occupations.

11. In 1990, real wages for senior captains were 10% lower at AA than at NW where the level of wages remained virtually unchanged from the 1978 level. Real wages of mechanics at the upper end of the pay scale remained similar to the 1978 level; those of cabin crews were 3% lower but those of ground agents at NW were 5% above, the 1978 level.

12. From the peak of the mid-1980s to 1990, top real wages of pilots and cabin crew at the upper end of the pay scale declined by 15%, those of mechanics by roughly 8% (AA) and 5% (NW) and those of agents by 7% (NW).

13. Real entry wages of new employees decreased by 30% for pilots and cabin crew, by 20% (30% at AA due to a steeper pay scale) for mechanics and by 10% for agents (NW).

8.2.2. THE CANADIAN AIRLINE INDUSTRY.

8.2.2.i. The performance of the industry.

1. In the deregulated period, 1984-1990, capacity and traffic in the major carriers grew at a lower rate than during 1965-1977; real yields decreased at a similar rate; unit costs declined at a lower rate than during the regulated period; net profit ratio were below the pre-deregulation ratio; and labour expenditure, as a proportion of operating costs, fell by 4 percentage points from 1978.

8.2.2.ii. Employment and Productivity.

2. Total employment in the national carriers dropped during 1981-84 and this downward trend persisted in the first years of the economic reforms. The dominant sector regained its 1981 peak only in 1987, after the take over of the regional carriers.

3. From 1984-1990, employment grew by 4% per year in the major sector and by 3% in the industry or roughly half the pre-deregulation rate. In 1990, total employment in the major carriers was slightly above the 1981 level of the former scheduled sector.

4. In the post-1980 period, the major carriers' proportion of pilots and cabin crew grew by one and four percentage points respectively. in 1990, maintenance labour accounted for the same proportion as in the 1980s whereas the proportion of servicing labour was one percentage point

below the mid-1980s level.

5. A comparison of the airlines with other industries showed that in the post-1984 period, employment in the airlines exceeded the rate of growth of these industries.

6. From 1978 to 1983, labour output declined while unit real labour costs spiralled upward. This trend changed after 1984. Although from 1978 to 1990 these variable were below the rates attained during regulation, from 1984 to 1990 unit labour costs declined faster than during the period 1965-77 but productivity lagged behind.

8.2.2.iii. Average Real Compensation per Employee.

7. During the period 1978-1983, average real costs per employee in the major carriers increased by the inflation rate. However, from 1984 to 1990 real earnings declined by about half percent per year.

8. From 1978 to 1983, average real earnings grew by the rate of inflation for pilots and attendants, they declined by .3% annually for ground agents but increased by .3% for mechanics. From 1984-90, wage raises diverged across work groups. Real earnings declined by 1% per year for cabin crew and agents, mechanics roughly matched the inflation rate and pilots experienced a 1.6% annual raise.

9. A comparison of average real earnings in the major carriers with those in other industries showed that during 1977-83 the annual rate of growth of average real earnings

matched inflation in the airlines, it was slightly above inflation in the land transportation-communication and utilities aggregate but declined by 1% in manufacturing. From 1984 to 1989, real earnings fell by .5% in the major air sector and by 1% in land transport-communication-utilities, but grew by 1% in manufacturing. However, over the entire competitive period, 1977-1989, real earnings fell by .2% per annum in the airlines and in the land transport-communication-utilities aggregate, compared to .4% increase in manufacturing.

8.2.2.iv. Real Wages for selected occupations.

10. Data from collective agreements in the two Canadian carriers, Air Canada and Canadian Airlines, indicated that during 1984-1990 real wages of pilots at the upper end of the pay scale grew by the rate of inflation; those of mechanics, (ignoring 'lump sums') cabin crew and agents fell by roughly 4%-7% over the entire period.

11. After the implementation of the two-tier wage scale, pilots' real wages at the entry level declined by 10% for officers in their first four years of employment, those of flight attendants and agents fell by 20-24%, from the 1985 level. The two-tier wage scale was not applied to mechanics.

8.2.3. INTER-INDUSTRY AND ACROSS CARRIERS COMPARISON.

8.2.3.i. The industry and the carriers' performance.

1. During the period 1978-90, traffic (RPM) grew faster in the US than in the Canadian industry, (7% per annum in both the US trunk and the industry compared to 5% and 6% in the Canadian major sector and in the industry). However, from 1984 to 1990, the rate of growth was similar in both countries (7% in the industry and 8% in the major airlines).

2. From 1984 to 1990, traffic growth was higher at NW and CAIL, due to the mergers (17% and 14% per year) and at AA (12%) while it lagged at AC (4%).

3. In 1990, the former US trunks and the major carriers in Canada still accounted for 83% and 71% of the passenger market compared to 93% and 75% in 1978, respectively.

4. In 1990, AA and NW's market shares increased, from 13% and 6% in 1978, to 20% and 13% of the trunks' market. In Canada, in 1990, after the creation of CAIL, the market became nearly equally shared between the two carriers and AC shares declined to 52% of the major market.

5. In the deregulated period, the carriers' operating profits, as percent of operating revenue after interest expenses, appear to have been lower than in the previous period.

6. From 1983 to 1989, AA and NW were able to retained about 3-5% of operating profits after interest expenses. The Canadian carriers were poor performers and reported

losses.

8.2.3.ii. Employment and Productivity.

7. In 1985-86, the employment level in the US industry and in the trunk lines exceeded their 1980-79 peak. The Canadian major carriers reached their 1981 peak only in 1987 and the industry in 1988.

8. From 1978 to 1990, employment grew by 3% per year in both countries' major sectors, but the rate of growth in the US scheduled industry was double the rate of the Canadian industry (5% versus 2.5%). However, from 1983 to 1990, employment grew faster in the US than in the Canadian major sector (6% per year versus 4.4%).

9. Employment grew dramatically in both US carriers. From 1977 to 1990, employment increased by over 7% per year at AA and 12% at NW. From 1983 to 1990, employment grew by 12% per year at AA, 18% at NW, 8% at CAIL but it hardly attained 1% at AC and in 1990 the level of employment at AC remained below its 1980 peak.

10. The higher employment growth rate of both NW and CAIL was the result of mergers and at AA of internal growth and acquisition of routes.

11. From 1978 to 1990, productivity increased faster in the US than in Canada (3% per year in the US trunks versus 2% in Canada). Productivity was higher in the two US carriers and CAIL than at Air Canada.

8.2.3.iii. Average Real Compensation (US dollars)

12. Traditionally average real costs per employee have always been higher in the US than in Canada. The average amount of compensation per employee in the US trunks was 20% higher than in the Canadian carriers.

13. From 1965 to 1977, average real earnings per employee grew by 3.2% per year in the US compared to 3% in Canada. However, in the deregulated period of 1978-1990, they declined by 1% in the US compared to a decline of .6% (.3% in Can.$) in the Canadian major carriers.

14. The pre-deregulation trend of pattern bargaining broke up in the early 1980s and inter-firm variations in average earnings occurred. Real earnings declined by 2% per year at AA, by over 1% at CAIL but they grew by over 1% at NW. and by .14% (.43% in Can.$) at AC. These differences seem related to variations in labour concessions and employment growth in the four firms.

8.2.3.iv.Real Wages in US dollars for selected occupations.

15. In 1978, in the US, the level of real wages at the upper end of the pay scale was 20%, for pilots and 15%, for mechanics above the level of the Canadian carriers, while it was rather similar for flight attendants and agents. Wages at the entry level were 30%, for pilots, 15%, for mechanics and agents, above the level in Canada.

16. In 1990, these differentials in top wages declined to approximately 10% for pilots, they remained unchanged for mechanics but the level of top wages of flight attendants and agents in the US increased to approximately 15% above the level in Canada.

17. The two-tier salary, first implemented in 1983 in the US and in 1985 in Canada, was applied to all work groups with the exception of mechanics in Canada.

18. The dual wage structure decreased wages for new employees in both countries but the decline was more significant in the US than in Canada. In the US, real wages at the lower end of the pay scale of co-pilots declined to approximately the level of pay in Canada. Those of cabin crew were 15%, of mechanics, 10% (25% at AA, due to the steeper pay scale), below the level in Canada. However, entry real wages of agents at NW were 30% higher than in Canada.

8.2.3.v. Other aspects: work rules, benefits and strikes.

19. Part-time employment increased significantly in both countries. The proportion of part-time agents grew to 30% of the labour force in all of these carriers and part-time schedules were applied to cabin crews at AA and AC.

20. All work groups made significant work rule concessions.

21. Monthly and daily maximum hour limitations (all carriers) and minimum crew rests (AA and CAIL) of pilots and flight attendants became flexible according to the carriers' performance. Flight attendants' rules concerning minimum monthly pay and crew complement were revised to minimize costs and increase scheduling efficiency.

22. Mechanics at AA and CAIL, due to employment losses or redundancy, conceded extensive cross-utilization or multiple tasking in all classifications and revision of some rules concerning the contracting-in/out of work.

23. Shift and work week schedules of ground agents became more flexible while carriers implemented work quota.

24. All of these concessions that began in the mid-1980s were exchanged over job security and various quid pro quos. These varied across carriers and occupations.

25. All carriers enforced stiffer rules concerning sick leave pay.

26. Fringe benefits and programs of insurance benefits underwent major change at AA but they remained almost unchanged in the other carriers reviewed in this study.

27. Most unions increased lay-off pay and, in the US, inserted labour protective provisions in their collective agreements.

8.3. HYPOTHESES AND EMPIRICAL EVIDENCE.

I have argued in this thesis that different macro-economic and legislative environments of the industry in the two countries should have acted as additional elements to the regulation 'high wage' hypothesis and produced different effects.

In the US, the combination of the industry's economic characteristics and protective labour laws, competitive unionism and the carriers' vulnerability to strike suggest that unions could exert considerable leverage at the bargaining table. In Canada, while economic regulation may have enhanced the power of unions, fewer carriers, the lack of union rivalry, bargaining modelled on the crown airline, and the government's legislative intervention into the process of collective bargaining should have acted as constraining forces to the unions' high wage settlements.

On the basis of these premises I have hypothesized that:

(i) the rate of growth of real earnings in the US airlines should have increased above that found in other US economic sectors and in the same industry in Canada. In Canada, the rate of increase should have been similar to that of other industries.

If these hypotheses are correct, deregulation should have decreased labour earnings as price competition and open entry subjected carriers to cost pressures. However, if in

Canada the combination of economic, legislative conditions and the lack of competitive unionism acted as constraining forces to the regulation 'high wage' hypothesis, the impact of deregulation in Canada should have been relatively modest compared to the US. Nonetheless, it should not have exempted unions from the wage-employment dilemma and carriers from offsetting wage raises with output-employment adjustments. Thus:

(ii) in the post deregulated period, in both the US (1981-1986) and Canada (1984-1986), under the influence of market forces, carriers should have been resistant to wage raises unless these were matched by some output-employment adjustments.

In the US, the macro-economic context should have led to inter-firm and within-occupation wage dispersal as firms should have set conditions of employment more related to their performance and market forces. In both countries, there should have been a downward shift in the rate of growth of real earnings relative to the regulated period and a trade-off between wage raises and various output-employment adjustments. These effects should have been greater in the US than in Canada.

(iii) The re-emergence of an unregulated oligopoly after 1986 should have lowered pressures on earnings, narrowed the inter-firm wage dispersion, and increased earnings in both countries.

(iv) Furthermore, institutional forces should have influenced bargaining outcomes. Labour groups with skills transferable outside the industry and a centralized structure, such as mechanics, should have been partly immune to concessions, unless economic contractions threaten job security.

The evidence of this study supports the hypothesis that regulation benefited both carriers and unions in the US but it also benefited labour in Canada, to a certain extent.

In the US, from 1965 to 1977, the average real cost per employee increased by over 3% per annum and it exceeded by 1.5%-2% the rate of increase found in other economic sectors (land transportation, utilities and manufacturing). The gap in the level of real compensation in the trunklines compared to manufacturing was substantial and it widened over time.

In Canada, during the period of full direct regulation, 1965-77, the average real cost per employee also increased by 3% per year in the major carriers and this growth was shared by all labour groups. However, the annual rate of growth of earnings in the major air sector exceeded that of manufacturing by 1% and it was about the same as that observed in the land transportation-utilities-communication aggregate.

A comparison between the two countries showed that while earnings, in US dollars, were historically higher in

the US than in Canada (this amounted to a 20% gap), average real costs per employee increased by 3.2% per year in the US compared to 3% in Canada.

Thus, regulation did benefit labour in both countries. This suggests that, with a protected product market, unemployment almost unknown and generally linked to cyclical contractions, and the high productivity of the jet aircraft, unions in both countries had little to loose by pushing up labour costs. However, the larger increases in the US compared to other national economic sectors and to the same industry in Canada, indicate that unions in the US could exert a considerably higher leverage at the bargaining table than in Canada.

The results also support the hypothesis that the policy changes, by altering the structure of the market and enhancing price and route competition, forced carriers to decrease overall costs and unions to face the wage-employment dilemma.

In the US, during 1979-1983, average compensation turned negative in all industries (except utilities) and employment was curtailed. This downward trend in labour earnings persisted in the airlines but employment, after 1986, increased above the rate of growth of the other industries. From 1978 to 1989, real compensation fell by 1.3% in the trunklines but grew by the rate of inflation in

manufacturing. In 1989, average real costs per employee in the trunklines declined to the level of the utilities and the substantial gap with manufacturing narrowed. However, in 1983 the inter-firm wage dispersal in the trunklines (which began in 1979) increased significantly suggesting a substantial decline in average costs per employee. This decline was greater for pilots, cabin crew and the partially unionized group of ticket-sales and promotional personnel than for mechanics. The correlation between earnings and employment for pilots and flight attendants became negative (agents were not included due to missing data), suggesting that the trend toward a dual wage structure for these groups spread across carriers, with newly hired employees earning less than current workers.

In Canada, during 1984-89, employment and average real costs per employee in the major airlines also fell, but the decline in average costs per employee was modest. The decline in compensation was about the same or only slightly larger than that observed in other industries. From 1984 to 1989, average real compensation fell by .5% per annum in the major carriers compared to a drop of 1% in the land transport-utilities-communication aggregate and an increase of 1% in manufacturing. However, over the entire competitive period of 1978-1990, average real compensation fell by .2% per annum in the airlines and in the surface

transport-communication-utilities aggregate compared to an increase of .4% in manufacturing. On the other hand, employment in the major carriers increased above the rate of these industries.

In 1984, the high correlation in the rate of growth of earnings across work groups in the two carriers declined and the historical wage trend in the two national carriers broke down in 1987, after the creation of the CAIL conglomerate. From 1984 to 1990, average earnings of cabin crew and agents fell by 1% per annum, mechanics' earnings matched the rate of inflation while those of pilots increased by over 1%. A negative correlation between earnings and employment was found for all labour groups except for mechanics.

Furthermore, while average labour costs per employee fell in both countries, the decrease was larger in the US than in the Canadian carriers. From 1978 to 1990, average compensation declined by 1% per year in the US trunks compared to .6% (.2% in Can.$) in Canada.

In both countries, all major carriers reported heavy profit and market losses during the recession of the early 1980s. This resulted in major employment cuts, while unions in the US granted labour cost reductions to carriers in serious financial difficulties. However, after the turmoil in the first years of deregulation, the industry in both countries became more concentrated than before; the number of strikes declined since all affected carriers operated

through strikes, which they had never done during regulation; labour expenses, as a ratio of operating costs, decreased but the decline in cost per unit of sale and unit labour cost was greater while productivity increases were larger in the US than in Canada.

These data indicate that in the US, after the severe profit and employment losses in the early years of deregulation, the surviving trunk carriers became 'tough' bargainers making wage-raises conditional to employment-productivity adjustments. Unions -faced with employment losses, a depressed labour market and a bargaining structure which no longer permitted them to maintain a strong position at the bargaining table- shifted the focus of collective bargaining to job security. Thus, earnings, mostly those of workers with industry-specific skills, became vulnerable to the firms' economic performance and tactics aimed at reducing overall costs than to precedents in the industry.

In Canada, the rate of decline of average real costs per employee was smaller than in the US. However, the carriers became 'tough' bargainers in an effort to match their costs with those of the US airlines. In 1985, Air Canada and in 1986, PWA demanded concessions similar to those already implemented in the US to all of their unions. Although unions, with the exception of CALPA, responded to the carriers'demands with strikes, both carriers, operating with striker replacements, succeeded in having most of their

demands met (such as dual wage structure, a higher ratio of part-time employment and working rule changes). Thus, the Canadian carriers, similarly to the US ones, played 'hard bargaining' even without the fierce competition experienced in the US market and probably, without the economic need for these concessions (with employment contracting, Air Canada could hardly have benefited from the dual wage scale). However, falling barriers and disappearing boundaries, at least for the existing carriers, and price competition also created incentives in Canada to lower costs in order to acquire a competitive hedge over the competitors and thus opportunities for expansion. These new conditions and probably the impending privatization (Gillen, Oum, Thretheway 1985), also pressured Air Canada to implement new strategies in labour relations. On the other hand, unions, after the concentration of the industry, had to face the wage employment dilemma.

These data also support the role of institutional forces on labour outcomes. Aggregate earnings of employees with industry-specific skills and those lacking a high level of unionization fell sharply compared to those of mechanics. However, pilots' two-tier wage structure varied over time according to labour market conditions and pilots in Canada, probably due to a smaller labour market, were able to offset deregulatory losses.

An examination of post-1986 bargaining outcomes only partly supports the hypothesis that the concentration of the industry should have lowered pressures on labour earnings. In the US, average compensation was higher in stronger carriers than in weaker or bankrupt ones. In Canada, the intense competition that developed in the late 1980s after the creation of CAIL, and the employment redundancy created by the mergers, introduced some wage differentials in the two carriers but average compensation kept slightly below inflation.

To conclude, it can be said that the impact of the market caused carriers in both industries to reduce overall costs, including labour costs. However, the extent of this decline was influenced by the economic and legislative characteristics of each country, institutional forces and labour market conditions.

A review of collective bargainings in the four carriers has given a wider insight in the union-management exchange transactions during the deregulated period.

A comparison across carriers indicated that during 1978-1990, average real cost per employee, in US dollars, varied across carriers (it decreased by 2% per year at AA and by over 1% at CAIL, but grew by over 1% at NW and .14% - -.43% in Can.$- at AC). These differences indicate that

collective bargaining became more related to each carrier and union's response to the new competitive realities and to employment variations than to precedents in the industry.

Data on wage movements in the two US carriers, showed that during 1978-1983 real wages moved steadily upward in all occupations, far outpacing the rise in the Consumer Price Index. From 1983 to 1986, top real wage (except for pilots and agents at NW) increased by the rate of inflation but wages of new employees, under the effects of the two-tier wage structure, dropped by 10-30% (except for pilots at NW who negotiated the two-tier scale only in 1990). These small wage increases were exchanged for less restrictive work rules and, at AA, there were also changes in fringe benefits. Furthermore, AA initiated early retirement programs designed to speed the turnover of high-paid workers. From 1987 to 1990, as both US carriers replaced wage raises with lump-sum payments and productivity bonuses, top real wages of cabin crew and pilots declined by a total of 15% each, and those of mechanics and unionized agents fell by 7-8%.

Thus, modification in labour-management agreements in the two US carriers began with a slowdown in the rate of pay increases and the implementation of two-tier wage scales to 'average down' the carriers' costs. In 1986, economies were sought by replacing wage rises with lump-sum payments and productivity bonuses. These devices compensated employees

with pay rises based on the carriers' ability to pay while decreasing overall labour costs (the amount of the wages that goes into the cost of benefits or into future increases).

In Canada, during 1978 to 1990, top real wages of pilots and mechanics increased by roughly the inflation rate, but those of cabin crew and agents declined by 1% per year. Real wages of new employees, after the implementation of the two-tier wage structure, dropped by 20-25% for flight attendants and agents and by 10% for pilots, from the 1985 level. The two-tier wage scale was not applied to mechanics.

A comparison of wage levels across crafts in the four carriers indicated that in 1978, in the US, the level of top real wages of pilots was 20% and mechanics, 15% above the level found in Canada. Entry real wages of all work groups, with the exception of cabin crew, were 15% to 30% above those paid in Canada. In 1990, this gap in top wages declined to approximately 10% for pilots, remained unchanged for mechanics, but it increased for flight attendants and agents (15% above those in Canada). On the other hand, the level of entry wages of pilots decreased to the level in Canada, while those of the other labour groups decreased below the level found in the Canadian carriers (10% to 25%, with the exception of agents at NW).

Thus, in the US, it appears that most of the carriers' cost reduction was borne by new employees while top wages or

those of current workers remained almost intact.

Labour concessions also varied across carriers and unions and these were exchanged for various quid pro quos.

All unions at American Airlines, after employment losses, exchanged lower wage raises for current workers, a two-tier scale for new workers, changes in fringe benefits and work rules for employment growth and opportunitity for promotions. While these concessions helped American to substantially decrease labour costs, the expansion of this carrier after 1983 also benefited workers (through employment growth and job security and for pilots, rapid promotion to higher paid aircraft). At Northwest, with hardly any employment losses, concessions were less extensive while pilots' high wages were traded for longer hours of work. At AC, most concessions were secured after unsuccessful strikes while at Canadian these were exchanged for employment security.

In both countries, there also was a uniform pattern to reduce labour costs through changes in work rules. The most important concessions for flight crews dealt with scheduling issues since for these groups, contract restrictions on scheduling translate directly into pay through contractual guarantees concerning duty time. Pilots and attendants' maximum monthly and daily nours of work and in some carriers, minimum rest periods, became flexible in exchange for no lay-off guarantees. All carriers reduced staffing

levels and, with the exception of Air Canada, enforced stringent controls governing attendants' scheduling rules.

In ground occupations, all carriers increased the proportion of part-time agents, implemented flexible shift schedules to decrease overtime, applied stricter rules on sick leaves and work quotas to increase the level of service and overall productivity. Mechanics' concessions were greater at AA and CAIL partly due to employment concerns. In exchange for jot security for current workers, both carriers obtained extensive cross-utilization or multiple tasking, some contracting out and the use of part-time labour in lower classifications. American also introduced some innovative practices to increase productivity and decrease the cost of fringe benefits.

Thus, as these data suggest, the change in the product market did not drastically decrease wages of current workers. However, it drastically changed the nature of labour relations, as all carriers examined in this study sought ways to increase productivity and cut costs through work rule changes and dual wage structures. These changes occurred independently of the relative bargaining power of each union and were exchanged for employment security or growth opportunities. It also appears that the stability that existed during regulation no longer exists now. Thus, deregulation may still mean uncertainty and insecurity for many workers in the industry.

8.4. Theories of regulation and of the state: economic and political theories.

In the first part of this thesis I reviewed several theories of regulation and outlined some theoretical arguments made by various sociological theories as to the role of the state in the economic realm.

This study indicates that regulation in both countries, benefited a variety of groups. Labour was able to secure levels of earnings above market rates (in Canada this was partly constrained by the government intervention in the economic realm), small communities benefited from better and cheaper services, through the subsidization system, and carriers benefited from the price and route protection enforced by the regulatory body. The benefits of these groups were at the expenses of smaller carriers and of the wider public.

Thus, these findings tend to invalidate the 'public interest' and the 'capture' models that presume that regulation overwhelmingly benefits either the users or the producers of regulated services. On the other hand, Posner's interest group theory -that claim that regulation is designed in part to benefit politically organized groups, at the expenses of unorganized ones- seems the most consistent with these findings (although it is not much of a theory since it is compatible with almost any evidence and does not account for the various political factors in

determining the effects of different types of regulation).

These findings are also inconsistent with the Marxist theories of the state that claim that the state does what a capitalist elite tells it to do or that government policies always reflect the long-term needs of capital.

A historical review of the institution of regulation in the US revealed that the system of economic regulation was initiated by the Federal government and it was influenced by a configuration of politically effective interest groups, including organized labour. Historically, it was through ALPA's lobbying that Congress, legislated enforcement of Decision 83,[1] placed the industry under the RLA, obliged CAB to make route awards conditional on carriers' compliance with the provisions of the RLA, and included within the CAB statute various labour protective provisions modelled after the railway industry.

Thus, the implementation of economic regulation on the industry was the product of a coalition of various interest groups, in which organized labour played a major role. As these data show, regulation was highly beneficial to labour.

In Canada, where the state is more of a forum 'for community and collective values rather than a mere referee'

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[1]. Decision 83 decreed that pilots should be paid by a complex formula that embodied both hourly pay and mileage. Later on weight was included. Because the hourly rate increased as the speed and weight of aircraft increased, Decision 83 granted the pilots an enormous share in productivity gains due to the improve technology (Baitsell 1966:31-32; Hopkins 1971:ch.7; Khan)

(Doern 1978:4), regulation was instituted to provide a system of reliable air transportation, as well as to serve broad social and political goals. Overall it was used for the attainment of 'equity' rather than profit. Thus, regulation, up to 1977, always benefited the state carrier through a complete monopoly of central markets, in view of the subsidization process. The government never responded to private capital in ways that could damage the public corporation despite the political and economic power of the Canadian Pacific conglomerate.

Thus, while the validity of Marxists theoretical models is questioned on empirical grounds, these theories also do not explain why the industry became deregulated. How was it that the state dismantled these agencies against the opposition of regulated interests?

The passage of deregulation in both countries resulted from broad coalitions in which expert economic opinions played a dominant role and it was passed against the opposition of both organized labour, the major carriers and their organizations.

In the early 1930s, in the US, regulation was applied to offset market failures, and economists were in favour of it. In the 1970s, under a changed economic climate and with a growing industry, the concern shifted to 'regulatory failures'. However, some pre-conditions were crucial to the implementation of the reforms. A series of studies provided

by economists and academics showed that regulation raised prices and limited the variety of services, and that firms outside the CAB's regulation, the interstates carriers, charged lower fares while maintaining reasonable profits, adequate level of services and a good safety record.

These studies provided consumers and politicians with concrete information concerning the performance of carriers and the benefits consumers gained if the industry were to be deregulated. They became models that legitimatized competition as a means to fulfill the value of both efficiency and equity. They also shifted the perception of the public and the politicians from the relative benefits of regulation to those which rely on market forces and they set the pre-conditions prior to the reforms.

By the mid-1970s, Democrats, Republicans, consumer groups and major economic institutions, all endorsed deregulation either to decrease entrenched corporate power or to increase economic efficiency and to provide consumers with various cost-benefit choices.[2]

In 1978, the US government passed the Deregulation bill against the opposition of the major and regional carriers, their associations and organized labour.

Many of the same forces were also present in Canada. In Canada, the liberalization measures of the 1970s,the New Air

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[2]. See Bailey, Grahan and Capland 1982; Derthick and Quirk 1985; and Brown 1987.

Canada Act of 1977, the American Deregulation Act of 1978, the disenchantment of the West with the allocation of resources, a depressed industry and consumers' attraction to the lower fares available across the border, built up pressure for change. These events, combined with studies concerning the benefits of deregulation and public hearings throughout Canada, set in motion interest groups lobbying for similar reforms in Canada. In 1984, the conservative government, against the opposition of carriers, regional governments and organized labour, introduced the New Canadian Air Transport Policy and began to liberalize the industry.[3]

Thus, these findings are consistent with models of the state that view government policies as the result of a 'tug of war' among competing groups and in which expert opinions can play a role.

In the 1990s the political environment appears to have changed anew. Deregulation is not as popular as it was in 1980.[4] The industry is also plagued by heavy financial losses, persistent overcapacity, inter-firm rivalry, which fuels suicidal price wars, and carriers under bankruptcy protection.

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[3]. See Button 1990; Reschenthal and Roberts, eds. 1978.

[4]. A recent poll taken for Business Week in December 1988 revealed that 32% of respondents through airline deregulation was a good idea, 35% thought it did not make much difference, and 23% thought it was a bad idea.

Some practitioners, including the champion of deregulation, A.Kahn,[5] and politicians have expressed some concerns over these negative effects and the old debate concerning the merits and the weaknesses of deregulation has resurfaced.

Both the US and Canadian governments have set up special commissions and charged them with making recommendations as to what changes need to be made. Interest groups have already mobilized. Whether these concerns will generate the political and wider social support necessary to make amendements to the Act in the industry remains to be seen.

8.5. Recent trends, implication of the study and further research.

In 1993, the airline industry in both countries is still in a state of turmoil. The financial losses incurred by all major carriers, and the lower labour costs of financially vulnerable carriers have renewed pressures on labour relations.

Analysts blame the industry's problems on 'corporate structural failures' (expensive hub-spoke operations) and on the carriers' lack of pricing discipline. However, the profit losses, the extensive lay-offs after the global economic slump of the 1990s, and the lower labour costs of

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5. see A. Kahn 'Surprises of deregulation', 1988.

carriers under Chapter 11 protection (TWA and CO in the US and CAIL in Canada) have renewed pressures for labour concessions. Wage cuts, in the amount of 5%, have been demanded by the dominant carriers in the US and in Canada.[6] Some US carriers (Delta and United) have also demanded a reduction in overall fringe benefits, further changes in working conditions and that employees bear part of the costs of medical expenses.[7] In 1993, to avert bankruptcy, Northwest obtained wage cutback of up to 15% and benefit concessions from all work-groups in exchange for a 37.5% share of the company's common equity to be split among the carriers' labour groups and three board seats. It is likely

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[6]. American Airlines did not ask for wage cuts although it stressed that the airline cannot survive long term without them (International Business 1992:25-28). On the other hand, American is shrinking its labour force and seeking alliances with lower cost airlines that can fly its routes more profitably (Business Week, July 26, 1993).

[7]. Delta imposed a 5% pay cut on nonunion employees. The unionized pilots agreed to cuts for all but the most junior pilots. Delta refused to accept this compromise. Instead, it reduced its flight schedule and laid off 136 pilots and it plan to furlough 464 more pilots with the winter schedule.

At United, both the flight attendants and the machinists dismissed the carriers' appeal for concessions. ALPA agreed to consider it but only after examination of the carrier's financial books. To step up pressure United threatened to shift short-haul routes to a new nonunion company. However, it is unlikely that United would succeed in this venture since most labour contracts stipulate that any new company created and controlled by United must hire union labour. In 1992, American dropped the idea of creating such a short-haul carrier after deciding the effort would violate its similar union contracts (Business Week, July 26, 1993).

that this package will increase the pressure on the industry's 'big three'(United, Delta and American) to match Northwest's new labour cost standards. While the quid pro quos unions negotiated with Northwest may become a precedent for other unions to follow.

Thus, the economics of the industry and the low economic cycle are still exerting a downward pressure on labour outcomes.

New trends toward 'global' airlines or links between national and foreign carriers and 'open sky' policies are also emerging. The extent to which these events will affect labour costs will depend on the business cycle, their effects on employment, and the ability of the carriers to differentiate their product market (to balance capacity with demands and to avoid costly fare wars). On the other hand, unions, under the present form of 'business unionism', will only be able to offset these cost-cutting pressures if the labour market of their members improves or under favorable macro-economic conditions (lower unemployment, tight labour markets, decreased competition or under re-regulation). If these do not occur unions will not be able to deliver any goods.

Turning to the pratical implication of this study, it can be argued that any radical change in the economic environment, such as deregulation, places strains on unions.

Deregulation decreased some of the gains unions earned as a result of regulatory restrictions. However, the influence of the market was modified by the macro-economic and legislative context, labour market conditions, the extent to which unions raised wages above competitive levels and the structure of collective bargaining.

Different proposals have been made through which unions could counter the carriers' demands for concessions. Unions in the US have already formulated plans that restrict firms' strategies unbeneficial to labour (alter ego operations, changes to Chapter 11, unions' approval of take-overs). Other schemes are the development of centralized systems of bargaining to take wages out of competition (Cappelli 1988), broader bargaining units, cooperative union-management arrangements (these have usually occurred in times of crisis as a quid-pro-quo for union concessions but have broken down over time) or to coalesce into greater solidarity (such as at United and at Eastern). Although these arrangements will benefit unions and workers in the long term,[8] the different labour markets of these crafts,[9] and the rivalry among

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[8]. Cappelli (1988) claims that any attempt by unions to centralize collective bargaining will shift firms' pressures from cutting wages to innovative practices that increase productivity by capitalizing on the motivation and commitment of the employees.

[9]. The splitting of mechanics from the less skilled fleet and service personnel at American Airlines suggests that the most skilled crafts are trying to preserve their bargaining power.

unions in the industry, mostly in the US, make it unlikely that these organizations will be able to coordinate their various strategies. These weaknesses suggest the need for unions to focus some of their attention on broader political and policy issues if they want to have any success in reintroducing stability in the industry' system of labour relations.

This experience of deregulation in North America and its effects on labour could also be of some example to Europe where the first reforms have already taken place (some initiated from the EC others by individual governments). Europe appears to have opted for a gradual approach in implementing deregulation (similar to the Canadian approach). While gradualism may help smooth transitional difficulties, the US and Canadian experience may also provide policy makers with wider options in terms of deciding which groups should bear the costs of reform and provide European unions with some knowledge on how to shape their policies to better confront the problems they may have to face in a deregulated market.[10]

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10. Already four medium size European airlines are working on a grand plan that will shake up the European airline industry. KLM Royal Dutch Airlines, Swissair, Scandinavian Airlines System and Austrian Airlines are trying to achieve a merger, with a single holding company, that will create Europe's biggest carrier. While this will eliminate costly duplication of services, great cost-saving, benefits for share-holders, it will also affect employment and engender complex political and organizational problems.

BIBLIOGRAPHY

Anderson, J. and Gunderson, M., The Canadian Industrial Relations System, in Anderson,J. and Gunderson,M., ed., Union-Management Relations in Canada, Addison-Wesley Publishers, Don Mill, Ontario, 1982.

Andrew, C., and Pellettier, R., The Regulators, in Doern, G.B., ed., The Regulatory Process in Canada, MacMillan, Totonto, 1978.

Andriulaitis, R.J., Frank, D.L., Oum, T.H., and Tretheway, M.W., Deregulation and Airline Employment: Myth versus Fact. Vancouver, B.C.: University of British Columbia, Center for Transportation Studies, 1986.

Annable, Jr., J.E., The ICC, the IBT, and the Cartelization of the American Trucking Industry, Quaterly Review of Economics and Business, 1973:33.

Baitsell, J.M., Airline Industrial Relations: Pilots and Flight Engineers. Boston: Graduate School of Business Administration, Harvard University, 1966.

Bailey, E.E., and Panzar, J.C., The Contestability of Airline Markets during the Transition to Deregulation. Law and Contemporary Problems, 44 (1), 1981:125-145.

Bailey, E.E., Graham, D.R., and Kaplan, D.P., Deregulating the Airlines, Cambridge, MIT Press, 1985.

Bailey, E.E., and Williams, J.R., Sources of Economic Rent in the Deregulated Airline Industry, Journal of Law and Economics, 31, 1988:173-202.

Baldwin, J., The Regulatory Agency and the Public Corporation: The Canadian Air Transport Industry. Cambridge, Mass.: Ballinger, 1975.

Barone, S.S.,Javidan, M., Reschenthaler, G.B., and Kraft, D.J.H., Deregulation in the Canadian Airline Industry: Is There Room for a Large Regional Carrier?, Logistics and Transportation Review, 22, 1986:421-448.

Baumol, W.J., Panzar, J.C., and Willig, R.D., Contestable Markets and the Theory of Industry Structure, New York: Harcourt, Brace, Jovanovich, 1982.

Behrman, B., Civil Aeronautics Board, in Wilson, J.Q., Ed., The Politics of Regulation, New York: Basic Books, 1980:75-120.

Bernstein, M.H., Regulating Business by Independent Commission, Princeton, Princeton University Press, 1955.

Biederman, P., The U.S. Airline Industry. End of an Era. New York: Praeger Publishing, 1982.

Blatherwick, J., A History of Airlines in Canada, Toronto: The United Press, 1989.

Block, F., The Ruling Class does not rule, Socialist Revolution, 7 (3), 1977:6-28.

Block, F.E., and Kuskin, M.S., Wage Determination in the Union and Nonunion sectors, Industrial and Labor Relations Review, 31 (2), 1978:183-192.

Blumenstock, J.W., and Thomchick, E.A., Deregulation and Airline Labor Relations, Logistics and Transportation Review, 22 (4), 1986:398-404.

Breyer, S.G., Regulation and Its Reform, Cambridge, Harvard University Press, 1982.

Brenner, M.A., Leet, J.O., and Schott, E., Airline Deregulation, Westport, Conn., Eno Foundation for Transportation, 1985.

Brenner, M.A., Airline Deregulation, a Case Study in Public Policy Failure, Transportation Law Journal, 16, 1988.

Brenner, M.A., and Stein, L., Airline Deregulation: The Anatomy of Reform, in R.Poole Jr., Instead of Regulation: Alternative to Federal Regulatory Agencies. Lexington, Mass: Lexington Books, 1981:1-41.

Brown, A., The Regulatory Policy Cycle and the Airline Deregulation Movement, Social Science Quaterly, 66 (3), 1985:552-563.

--- The Politics of Airline Deregulations, The University of Tennesee Press:1987.

Brown Johnson, N., Airline Workers' Earnings and Union Expenditures under Deregulation, Industrial and Labor Relations Review, 45 (1), 1991:154-65.

Button, K., Liberalising the Canadian Scheduled Aviation Market, Fiscal Studies, 1990:19-52.

Byrnes, J.L.S., Diversification Strategies for Regulated and Deregulated Industries: Lesson from the Airlines. Lexington, Mass.: Lexington Books, 1985.

Cappelli, P., Concession Bargaining and the National Economy, Proceedings of the Thirty-Fifth Annual Meeting, (New York December 28-30, 1982) IRRA Series. Madison, Wis., Industrial Relations Research Association, 1983:362-371.

--- Competitive Pressures and Labour Relations in the Airline Industry, Industrial Relations, 24 (3) 1985a:316-38.

--- Plant Level Concession Bargaining, Industrial and Labour Relations Review, 39 (1), 1985b:90-104.

--- Airline Industrial Relations in Transition, in Proceedings of the Thirty-Seven Annual Meeting, Dec.28-30, 1984, Dallas, ed. Barbara Dennis, Madison, Wis.: Industrial Relations Reasearch Association, 1985c.

--- Airlines, in Lipsky, D.B. and Donn C.B., eds., Collective Bargaining in American Industry, Lexington, Mass., D.C. Heath, 1987:135-186.

--- An Economist's Perspective, in McKelvey, J.T., ed., Cleared for Takeoff, Ithaca, N.Y., ILR Press, 1988:49-64.

Cappelli, P., and Sherer, P.D., Satisfaction, Market Wages, and Labour Relations: An Airline Study, Industrial Relations, 27 (1), 1988b:56-73.

Card, D.L., The Impact of Deregulation on the Employment and Wages of Airline Mechanics, Industrial and Labour Relations Review, 39 (4), 1986:527-38.

--- Regulation and Labour Earnings in the Airline Industry, Working Paper 247, Industrial Relations Section, Princeton University, 1989.

Caves, R., Air Transport and its Regulators: an Industry Study, Cambridge: Harvard University Press, 1962. 1967.

Clement, W., The Canadian Corporate Elite: An Analysis of Economic Power. Toronto: McClelland and Steward, 1975.

Cohen, I., Political Climate and Two Airline Strikes: Century Air in 1932 and Continental Airlines in 1983-85. Industrial and Labor Relations Review, 43 (2), 1990:308-323.

Commons, J.R., American Shoemakers, 1648-1895: A Sketch of Industrial Evolution, Quaterly Journal of Economics, 24, 1909:39-84.

Conway, J.E., Standards Governing Permissible Self-Help, in McKelvey, J.T., ed., Cleared for Takeoff, Ithaca, N.Y., ILR Press, 1988:201-214.

Corbett, D., Politics and the Airlines, University of Toronto, Press, Toronto, 1960.

Craig, A., The System of Industrial Relations in Canada, 1983.

Craypo, C., The Economics of Collective Bargaining, Washington, D.C., Bureau of National Affairs, 1986.

Curtin, J.W., Airline Labor Relations Under Deregulation, in Proceedings of the 38th Annual Meeting, IRRA, 1986.

Dahl, R., Who Governs? Democracy and Power in an American City, New Haven: Yale University Press, 1961.

Dalton, J.E., and Ford Jr, E.J., Concentration and Labor Earnings in Manufacturing and Utilities, Industrial and Labor Relations Review, 31 (1), 1977:45-60.

Derthick, M., and Quirk, P., The Politics of Deregulation, Washington, D.C., Brookings Institution, 1985.

Doern, B.J., ed., The regulatory Process in Canada, MacMillan, Toronto, 1978.

Domhoff, G.W., The Higher Circles, New York: Random House, 1971

--- Who Rules America, Englewood Cliff, New York: Prentice Hall, 1967.

--- The Powers That Be, New York: Vintage Books, 1979.

--- Who Rules America Now, Englewood Cliff, N.J., Prentice Hall, 1983.

Douglas, G.W., and Miller,J., Economic Regulation of Domestic Air Transport: Theory and Policy, Brookings Institution, Washington, 1974.

Dunlop, J.T., Trends and Issues in Labour Relations in the Transport Sector, Transport Research News, 1985:1-8.

Eads, G.C., The Local Service Airline Experiment, Washington, D.C., Brookings, 1972.

--- Competition in the Domestic Trunk Airline Industry: Too Much or Too Little?, in A. Phillips, ed., Promoting Competition in Regulated Markets, Washington, D.C., Brookings, 1975:13- 54.

Edelman, L., The Symbolic Uses of Politics, Urbana, Ill.: University of Illinois Press, 1964.

Ehrenberg, R.G., The Regulatory Process and Labor Earnings, New York: Academic Press, 1979.

Ellison, A.P., Regulatory Reform in Transport: A Canadian Perspective, Transport Journal, 23, 1984:4-19.

--- Air Canada: The Cuckoo in Canada'Aviation Nest, McGill University Center for the Study of Regulated Industries Working Paper 1983-32, 1983

Estey, M.S., The Unions: Structure, Development, and Management. New York: Harcourt Brace Jovanovich, 1981

Freedman, A., and Fulmer, W.E., Last Rites for Pattern Bargaining, Harvard Business Review, 60 (2), 1982:30-48.

Freeman, R.B., and Medoff, J.L., The Impact of the Percentage Organized on Union and Non-union Wages, The Review of Economic and Statistics, 63 (4), 1981:561-572.

--- The Effect of Unionism on Fringe Benefits, Industrial and Labor Relations Review, 34 (4) 1981:489-509.

--- Substitution Between Production Labour and Other Inputs in Unionized and Nonunionized Manufacturing, The Review of Economics and Statistics, 64 (2), 1982:220-233.

--- What do Unions Do. New York: Basic Books, 1984.

Review Symposium What Do Unions Do?, Industrial and Labor Relations Review, 38 (2), 1985:244-263.

Freeman, R.B., In Search of Union Wage Concessions in Standard Data Sets, Industrial Relations, 25 (2), 1986:131-145.

Gillen, D.W., Oum, T.H., and Tretheway, M.W., Canadian Airline Deregulation and Privatization: Assessing Effects and Prospects, Vancouver: Centre for Transportation Studies, University of British Columbia, 1985.

--- Airline and Performance Implications for Public and Industrial Policies, Vancouver: Center for Transportation Studies, University of British Columbia, 1986.

Gillen, D.W., Oum, T.H., and Tretheway, M.W., Airline Cost and Performance: Implications for Public and Industry Policies. Centre for Transportation Studies, Vancouver: University of British Columbia, 1985.

--- Entry Barriers and Anti-competitive Behaviour in a Deregulated Airline Market: the Case of Canada, International Journal of Transport Economics, 15, 1988:29-41

Gillen, D.W., Stanbury, W.T., and Tretheway, M.W., Analysis of the Takeover of Canadian Pacific Airlines by Pacific Western Airlines, Faculty of Commerce and Business Administration, The University of British Columbia, Working Paper 1223, 1987.

--- Duopoly in Canada's Airline Industry: Consequences and Policy Issues, Canadian Public Policy, 16, 1988:16-31.

--- Privatization of Air Canada: Why It is Necessary in a Deregulated Environment, Canadian Public Policy, 15 (3), 1989:285-299.

Goetz, A.R., and Dempsey, P.S., Airline Deregulation, Ten Years After: Something Foul in The Air, Journal of Air Law and Commerce, 54, 1989:927-963.

Guandolo, The Role of Interstate Commerce Comission in 1980s, American Economic Review, 1981:116-121.

Hardaway, Transportation Deregulation (1976-1984): Turning the Tide, Transportation Law Journal, 17, 1985.

Haworth, C.T., and Rasmussen, D.W., Human Capital and Inter-Industry Wages in Manufacturing, Review of Economics and Statistics, 53 (4), 1971:376-80

Haworth, C.T., and Reuther, C.J., Industrial Concentration and Interindustry Wage Determination, Review of Economics and Statistics, 60 (1), 1978:85-95.

Hendricks, W., Labour Market Structure and Union Wage Levels, Economic Inquiry, XIII, 1975:401-416.

--- The Effect of Regulation on Collective Bargaining in Electric Utilities, Bell Journal of Economics, 1975:451-465.

--- Regulation and Labour Earnings, Bell Journal of Economics, 8 (2), 1977:483-496.

Hendricks, W., Feuille, P., and Szerszen, Regulation, Deregulation, and Collective Bargaining in the Airlines, Industrial and Labour Relations Review, 34 (1), 1980: 67-81.

Hendricks, W., Unionism, Oligopoly and Rigid Wages, Review of Economics and Statistics, 63 (2), 1981:198-205.

Hendricks, W., Kahn, L.M., The Determinants of Bargaining Structure in the U.S. Manufacturing Industries, Industrial and Labour Relations Review, 35 (2), 1982:181-195.

Hilton, G.W., Transportation Regulation and Private Carriage in Private and Unregulated Carriage, Transportation Center, Northwest University, 1963.

--- The Consistency of the Interstate Commerce Act, Journal of Law and Economics, 1966:87-.

Hirsch, B.T., and Addison, J.T., The Economic Analysis of Unions: New Approaches and Evidence. Boston: Allen and Unwin, 1986.

Hirsch, B.T., Trucking Regulation, Unionization and Labour Earnings: 1973-1985, Journal of Human Resources, 23 (3), 1988.

Hopkins, G.E., The Airline Pilots: A Study in Elite Unionization, Cambridge, Mass: Harvard University Press, 1971.

--- Flying the Line: The First Half Century of the Air Line Pilots Association, Washington, D.C., ALPA, 1982.

Huntington, S.P., The Marasmus of the ICC: The Commission, the Railroads, and the Public Interest, Yale Law Journal, 61, 1952:467-509.

Jackson,R., Regulation and Electric Utilities Rate Levels, Land Economics, 1969:392.

Jaffe, J.F., The Effective Limits of the Administrative Process: A Reevaluation, Harvard Law Review, 1954:1105-1135.

James, G.W., ed., Airline Economics, Lexington, Mass., Lexington Books, 1982.

Jansonius, J.V. and Broughtoy, K.E., Coping with Deregulation's Reduction of Labor Costs in the Airline Industry, Journal of Air Law and Commerce, 49, 1984:501-553.

Joedicke, R.E., The Goose That Laid Golden Eggs, An Airline industry Monograph, Lehman Brothers Kuhn Loeb Research, 1981.

Johnson, J.D., Trends in Pilots'Pay and Employment Opportunities, in McKelvey J.T., ed., Cleared for Takeoff, Ithaca, N.Y.: ILR Press, 1988:67-86.

Johnston, E.E., and Ritchie, B.J.R., The Administrative and Regulatory Environment of Air Carriers in Canada: Problems and Prospects. Calgary: University of Calgary, Institute for Transportation Studies, 1980.

Jordan, W.A., Airline Regulation in America: Effects and Imperfections, Baltimore: Johns Hopkins University Press 1970.

--- Producer Protection, Prior Market Structure and the Effects of Government Regulation, Journal of Law and Economics, 15, 1972:151-176.

--- Airline Performance under Regulation: Canada vs the United States, Research in Law and Economics, 1, 1979:35-79.

--- Performance of Regulated Canadian Airlines in Domestic and Transborder Operation, 1981.

--- Results of U.S. Airline Deregulation: Evidence from the Regulated Canadian Airlines, Logistics and Transportation Review, 22, 1986:297-337.

--- Comparative Analysis of Airline Performance in Canada and the United States, Report for Transport Canada Submitted to the Standing Committee on Transport, House of Common, 1987.

Joskow, P.L., and Rose, N.L., The Effects of Economic Regulation, in Schmalensee, R., and Willig, R.D., ed., Handbook of Industrial Organization, Vol. II, Elsevier Science Publishers, B.V., 1989.

Kahn, A.E., Airline Deregulation-Mix bag, But a Clear Success Neverthless, Transport Law Journal, 16, 1988a.

--- Surprises of Airline Deregulation, American Economic Review, 1988b:316-322.

Kahn, M.L., Industrial Relations in the Airlines, Harvard University, Unpublished Doctoral Dissertation, 1950.

--- Regulatory Agencies and Industrial Relations: The Airlines Case, American Economic Review, 42 (2), 1952.

--- Wage Determination for Airline Pilots, Industrial and Labor Relations Review, 6, 1953:317-336.

--- Airlines, in Somers, G.G., ed., Collective Bargaining: Contemporary American Experience, Madison, Wis., Industrial Relations Research Association, 1980:315-72.

--- Collective Bargaining on the Airline Flight Deck, in Levinson, H.M., Rehmus, C.M., Goldberg, J.P., and Kahn, M., eds., Collective Bargaining and Technological Change in American Transportation. Chicago: Transportation Center, Northwestern University, 1971:423-607.

Keeler, T.E., Airline Regulation and Market Performance, Bell Journal of Economics and Management Science, 3 (2), 1972:399-424.

Keyes, L.S., Federal Entry Control of Entry and Exit into Air Transportation, 1951.

--- The Regulation of Airline Mergers by the Department of Transportation, Journal of Air Law and Commerce, 53, 1988:737-764.

Kim, M., The Beneficiaries of Trucking Regulation, Revisited Journal of Law and Economics, 27, 1984:227-241.

Kochan, T.A., and Cappelli, P., The Transformation of the Industrial Relations and Personnel Function, in Osterman, P., Ed., Internal Labor Markets, 1983.

Kochan, T.A., McKersie, R.B., and Cappelli, P., Strategic Choice and Industrial Relations Theory, Industrial Relations, 23 (1), 1984:16-39.

Kochan, T.A., Katz, H.C., and McKersie, R.B., The Transformation of American Industrial Relations, New York, Basic Books, 1986.

Kolko, G., The Triumph of Conservatism: A Reinterpretation of American History: 1900-1916. Free Press, 1963.

--- Railroads and Regulation, 1877-1916. Princeton University Press, 1965.

Kyle and Phillips, Airline Deregulation, Did Economists Promise Too Much or Too Little?, Logistics and Transportation Review, 1985.

Levine, M.J., Is Regulation Necessary? California Air Transportation and National Regulatory Policy. Yale Law Journal, 74, 1965:1416-1447.

Levine, M.J., and Helly, L.W., The Airline Mutual Aid Pact: A Deterrent to Collective Bargaining, Labor Law Journal, 28 (1), 1977.

Lewin, D., Industrial Relations as a Strategic Variable, in Morris M. Kleiner et al. eds., Human Resources and the Performance of the Firm, Madison, Wis., Industrial Relations Research Association, 1987:1-42.

Lipset, S.M., Comment. In Review Symposium: The Transformation of American Industrial Relations, Industrial and Labor Relations Review, 41 (3), 1988:447-449.

Long, J.E., and Link, A.N., The Impact of Market Structure on Wages, Fringe Benefits and Turnover, Industrial and Labor Relations Review, 36 (2), 1983:239-250.

Lowi,T.G., The End Of Liberalism, Norton Books, 1969.

MacAvoy, P. W., The Economic Effects of Regulation: The Trunk Line Railroad Cartels and the Interstate Commerce Commission Before 1900, 1965

--- The Regulated Industries and the Economy, New York: Norton, 1979.

McCraw, K., Regulation in America: a Review Article, Business History Review, 1975:159-183.

McDonald, J.J.Jr., Airline Management Prerogative in the Deregulation Era, Journal of Air Law and Commerce, 52, 1987:869-939.

McDonald, J.J.Jr., and Asher, E., Airline Employee Slowdowns and Sickouts as Unlawful Self-Helps: A Legan and Statistical Analysis. Journal of Law and Commerce, 55, 1989:349-381.

McFarlin, D.B., and Frone, M.R., A Two-Tier Wage Structure in a Nonunion Firm, Industrial Relations, 29 (1), 1990:145-154.

MacKelvey, J.T., ed., Cleared for Takeoff: Airline Labor Relations since Deregulation, Ithaca, N.Y., ILR Press, 1988.

Mahon, R., Canada's Textile Policy: A Case Study in the Politics of Industrial Policy Formation, Doctoral Dissertation, University of Toronto, 1976.

--- Canadian Public Policy: The Unequal Structure of Representation, in Panitch, L., ed., The Canadian State, University of Toronto Press, Toronto, 1977.

Mater, D.H., and Mangum, G.L., The Integration of Seniority Lists in Transportation Mergers, Industrial and Labor Relations Review, 16 (3), 1963.

Meyer, J.R., and Oster, C.V. Jr., Airline Deregulation: The Early Experience. Boston, Mass.: Auburn House Publishing Company, 1981.

Meyer, J.R., and Oster Jr., C.V., with Strong, J.S., Gomez-Ibanez, J.A., Pickrell, D.H., Clippinger, M., Morgan, I.R., Deregulation and the Future of Intercity Passenger Travel, Cambridge, Mass.: The MIT Press, 1987.

Milibald, R., The State in Capitalist Society, London: Winfield and Nicholson, 1969.

Moore, T.G., The Effectiveness of Regulation of Electric Utility Prices, Economics Journal, 1970.

--- Freight Transportation Regulation: Surface Freight and the Interstate Commerce Commission, Washington, D.C., 1972.

--- The Beneficiaries of Trucking Regulation, The Journal of Law and Economics, 21 (2), 1978:327-44.

--- U.S. Airline Deregulation: Its Effects on Passengers, Capital, and Labor, Journal of Law and Economics, 29 (1), 1986:1-28.

Morrison, S.A. and Winston C., The Economic Effects of Airline Deregulation, Washington D.C.: Brookings Institution 1986.

Nay, L.A., The Determinants of Concession Bargaining in the Airline Industry, Industrial and Labour Relations Review 44 (2), 1991:307-323.

Newby, J.N., Sky's The Limit, The History of the Canadian Airline Flight Attendants'Association, Vancouver: Mitchell Press 1986.

Nielsen, G.P., From Skygirl to Flight Attendant: Women and the Making of a Union, Ithaka, N.Y.: ILR Press, Cornell University, 1982.

Northrup, H.R., The New Employee-Relations Climate in Airlines, Industrial and Labor Relations Review, 36 (2), 1983:167-82.

--- Airline Labor Protective Provisions: An Economic Analysis, Journal of Air Law and Commerce, 53, 1987:401-465.

Northrup, H.R., Airline Strike Insurance: A Study in Escalation, Comment. Industrial and Labor Relations Review, 30, 1977:364-372.

O'Connor, W.E., An Introduction to Airline Economics, New York: Preager Publishing, 1989.

Offe, C., Structural Problems of the Capitalist State, in K.von Beyme ed., German Political Studies, Russell Sage, London, 1974.

--- Thesis on the Theories of the State, New German Critique, 6, 1975:137-147.

--- Laws of Motion of Reformist State Policies, Mimeo, 1976.

Olson, M., The Logic of Collective Actions, New York: Schocken Books, 1968.

Organization for Economic Co-operation and Development, Deregulation and Airline Competition, Paris: OECD, 1988.

Oum, T.H., Stanbury, W.T., and Tretheway, M.W., Airline Deregulation on Canada and Its Economic Effects, Working Paper # 90, Faculty of Commerce and Business Administration, University of British Columbia, 1990.

Oum, T.H., and Trethaway, M.W., Reforming Canadian Airline Regulation, Logistics and Transportation Review, 20 (3), 1984:261-284.

Peltzman, S., Towards a More General Theory of Regulation, Journal of Law and Economics, 19, 1976:211-240.

Polsby, W., Community Power and Political Theory, 2nd edition, New Haven, Yale University Press, 1980.

Posner, R.A., Taxation by Regulation, Bell Journal of Economics and Management Science, 22, 1971.

--- Theories of Economic Regulation, Bell Journal of Economics and Management Science, 5, 1974:335-358.

--- The Social Costs of Monopoly and Regulation, Journal of Political Economy, 84 (3), 1975:807-827.

Poulantzas, N., Political Power and Social Classes, London, Verso, 1978.

Reid, F., Control of Wages: An Empirical Analysis, The American Economic Review, 71 (1), 1981:108-120.

Reschentaler, G.B., and Roberts, B., eds. Perspective on Canadian Airline Regulation, Butterworth and Co., Institute for Research on Public Policy, 1982.

Rose, L.N., The incidence of Regulatory Rents in The Motor Carriers Industry, Rand Journal of Economics, 16 (3), 1985:299-318.

--- Labour Rents Sharing and Regulation: Evidence from the Trucking Industry, Journal of Political Economy, 95 (6), 1987:1146-1178.

Rosen, S.D., Collective Bargaining: A Union Perspective, in McKelvey, J., Ed., Cleared for Takeoff, Ithaka, N.Y: ILR Press, 1988:11-35.

Rosenfield, S.B., Labor Protective Provisions in Airline Mergers, 1981.

Ross, A.M., Trade Union Wage Policy, Berkeley: University of California Press, 1948.

Scherer, F., Industrial Market Structure and Economic Performance, Chicago, 1980.

Schmalensee, R., and Willig, R. D., ed., Handbook of Industrial Organization, Vol.II, Elsevier Science Publishers, B.V., 1989.

Shepherd, W.G., Causes of Increased Competition in the U.S. Economy, 1939-1980, The Review of Economics and Statistics 64, 1982:613-626.

Schultz, R., Regulatory Agencies and the Canadian Political System, in K. Kernaghan, ed., Public Administration in Canada. Toronto, Methuen, 1977.

--- Regulatory Agencies, in M.S. Whittington and G. Williams, Canadian Politics in the 1980's, Toronto, Methuen, 1981:313- 324.

--- The Development of Regulation in Canada, Center for the Study of Regulated Industries, McGill University, Montreal, 1980.

Schultz, R., and Alexandroff, A., Economic Regulation and the Federal System, Toronto: University of Toronto Press, 1985.

Segal, M., The Relation between Union Wage Impact and Marlet Structure, Quaterly Journal of Economics, 78 (1), 1964:96-114.

Sloss, J., Regulation of Motor Freight Transportation: A Quantitative Evaluation of Policy, Bell Journal of Economics and Management Science, 1970.

Spencer, F.A., and Cassell, F.H., Airline Labor Relations Under Deregulation: From Oligopoly to Competition and Return?, Northwest University Transportation Center, 1986.

--- Eight Years of US Deregulation: Management and Labor Adaptation; Re-Emergence of Oligopoly, Northwest University Transportation Center, Evanston Ill., 1987.

Stevenson, G., The Politics of Canada's Airlines: From Diefenbaker to Mulroney, Toronto, University of Toronto Press, 1987.

Stigler, G., The Theory of Economic Regulation, Bell Journal of Economics and Management Science, 1971:1-21.

Stigler, G., and Friedland, C., What Can Regulators Regulate? The Case of Electricity. Journal of Law and Economics,1, 1962.

Swann, D., The Retreat of the State-Deregulation and Privatization in the U.K. and U.S.A., Hassocks: Harvester-Wheatsheaf, 1988.

Taneja, N.K., The Commercial Airline Industry, Management Practices and Regulatory Policies, Lexington, Mass.: Lexington Books, 1976.

--- Airlines in Transition, Lexington, Mass., 1981.

Thomson S., and Jones, L.R., Regulatory Policy and Practices, New York: Praeger, 1982.

Tretheway, M.W., The Characteristics of Modern Post-Deregulation Air Transport, Working Paper #91, Faculty of Commerce and Business Administration, University of British Columbia, 1991.

--- The Cost Competitiveness of Canadian Carriers, Working Paper # 91, Faculty of Business Administration, University of British Columbia, 1991.

Tupper, A., Pacific Western Airlines, in Tupper A., and Doern, B.G., Public XCorporations and Public Policy in Canada, Montreal: The Institute for Research in Public Policy, 1981:285-317.

Unterberg, S.H., and Koziara, E.C., Airline Strike Insurance: A Study in Escalation, Industrial and Labour Relations Review, 29, 1975:26-45.

--- A Reply. Industrial Labor Relations Review, 30 (3), 1977:373-379.

--- The Demise of Airline Strike Insurance, Industrial and Labor Relations Review, 34, 1980:82-90.

Van Den Berg, A. The Immanent Utopia, From Marxism on the State to the State of Marxism, Princeton University Press, 1988.

Walsh, D.J., Accounting for the Proliferation of Two-Tier Wage Settlements in the U.S. Airline Industry, 1983-1986, Industrial and Labor Relations Review, 42 (1), 1988:50-61.

Weiss, L., Concentration and Labour Earnings, American Economic Review, 1966.

Wells, A.T., Air Transportation, A Management Perspective Wadsworth Publishing Company, Belmont, California, 1984.

Wever, K.R., Changing Union Structure and the Changing Structure of Unionization in the Post-Deregulation Airline Industry, Proceedings of the Thirty-Ninth Annual Meeting, (New Orleans, Dec. 28-30). Madison, Wis., Industrial Relations Research Association, 1986:129-137.

White, J.L., Reforming Regulation: Processes and Problems, Englewood Cliffs, N.J.: Prentice Hall Inc., 1981.

Wilcox and Sheperd, Public Policies Toward Business, 1985.

Wilson, J.Q., The Politics of Regulation, Basic Book, N.Y.1980

--- Policy Intellectual and Public Policy, The Public Interest, Summer, 1981:41.

--- The Dead Hand of Regulation, The Public Interest, Fall, 1971.

Wouter, J., The Impact of Changing Regulatory Environment on Labour Relations between Pilots and Airlines, Master Thesis, Department of Law, McGill University, 1986.

Wyckoff, D.D., and Maister, D.H., The Domestic Airline Industry, Lexington, Mass.: Lexington Books, 1977.

Government Publications:

Canadian Transport Commission, Interim Report of the Air Transport Committee of the Canadian Transport Commission on Domestic Charters and Airfare Issues, Ottawa: Canadian Transport Commission, Air Transport Commission, 1984.

--- Policies and Practices in the Regulation of Airfares, Air Transport Committee, 1984.

--- A Productivity Study of Canadian Air Carriers, Ottawa, 1984.

Department of Transport, Economic Regulation and Competition in the Domestic Air Carrier Industry. Ottawa: DOT, 1981.

--- Proposed Domestic Air Carrier Policy (Unit Toll Services), DOT, 1981b.

--- New Canadian Air Policy, May 10, 1984.

--- Deregulation in the Canadian Airline Industry, Minister of Supply and Services, Research Branch, Ottawa, 1984.

Library of Parliament, Airline Deregulation in Canada, Minister of Supply and Services, Research Branch, Ottawa, 1989.

--- Airline Reregulation: The Discussion in the United States, Minister of Supply and Services, Research Branch, Ottawa, 1990.

Statistics Canada, Air Carriers Operations in Canada.

--- Civil Aviation

--- 1986:30-31 (geneology of Canadian Carriers).

--- Aviation in Canada, Ottawa: Minister of Supply and Services, 1986.

Air Transport Association of America (ATA), Air Transport, Facts and Figures. Annual Reports, 1960-1990.

U.S. Civil Aeronautics Board, Handbook of Airline Statistics, 1960-1978.

U.S. Department of Labor, Employment Requirements and Changing Occupational Structure in Civil Aviation, Bureau of Labor Statistics, 1960.

--- Industry Wage Survey, U.S. Bureau of Labor Statistics, Bulletin 1734, Aug. 1970.

--- Airline Experience under the Railway Labor Act, Bureau of Labor Statistics, Bulletin 1683, 1971.

--- Industry Wage Survey, Bureau of Labor Statistics, Bulletin 1951, 1977.

--- Collective Bargaining in the Airline Industry, Bureau of Labor Statistics, Report 546, 1979.

--- Industry Wage Survey: Certified Carriers, June 1984, Bureau of Labor Statistics, Bulletin 2241, 1985.

International Civil Aviation Organization, Fleet Personnel, Digest of Statistics, 1960-1990.

Moody, Transportation Manual, various years.

Various Articles:

Business Week, The New Industrial Relations, May 11th, 1981.

--- Concession Bargaining, will the new Cooperation Last?, June 14th, 1982.

--- Airline Pilots may finally start Flying in Formation, December 31, 1984.

--- The pilots at American are up-in arms, July 2, 1990:33.

--- Air Raid. British Air's bold global push, August 24, 1992.

--- As Airline Mergers Soar...United Clips its own Wings, January 18, 1993.

--- U.S. to World: Airlines Deals Hinge on Open Sky, January 11, 1993.

--- Airlines: Still no Wind at Their Backs, January 11, 1993.

--- United's Unions aren't United, February 1, 1993.

--- Northwest is Flying on a Threat and a Prayer, March 8, 1993.

--- Sooner or Later, Airlines Must Learn to Fly Solo, April 5, 1993.

--- Blaming the Unions for What Ails the Airlines, April 12, 1993.

--- Flying in the Face of Reason: Why the Skies need Reregulating, May 3, 1993.

--- This Time, Continental May Actually Fly, May 10, 1993.

--- Ready for Transeurope Air?, May 10, 1993.

--- Northwest Air Sees Clearer Skies, May 17, 1993.

--- Northwest's sight of relief has rivals groaning, July 26, 1993.

Financial Post, Air Canada union okays some wage concession, June 15, 1993:3.

Fortune, What will Save the U.S. Airlines, June 14, 1993.

International Business, Crandall at the Crossroads, 1992.

The Gazette, Air merger called imminent with 1300 layoffs at PWA, December 16, 1992.

Transport Review, 1980, 1982, 1985.

Wall Street Journal, Delta Air makes painful cuts in effort to steam red ink, institutional culture gets rude jolt as the carrier rides out troubled times, September 10, 1992.

APPENDIX I: LIST OF TABLES

TABLE I.1.
US TRUNKLINES AND SCHEDULED INDUSTRY
CAPACITY, TRAFFIC, LOAD FACTORS
(000,000' omitted)

	TRUNKLINES									SCHEDULED INDUSTRY								
	DOMESTIC NETWORK			SYSTEMWIDE NETWORK														
YEAR	ASM	RPM	LOAD	ASM	RPM	LOAD	ATM	RTM	EMPLOYM.	ASM	RPM	LOAD	ATM	RTM	EMPL.	TRUNK ATM/S	TRUNK EMPL.	TRUNK RPM/S	TRUNK ASM/S
1960	49153	29233	59%	57520	35168	61%	7988	4130	136500	65567	38683	59%	9384	5024	166235	0.85	0.82	0.91	0.88
1961	52525	29535	56%	64604	36795	57%	9176	4517	139649	71857	39831	55%	10580	5394	169941	0.87	0.82	0.92	0.90
1962	59737	31828	53%	75769	40970	54%	10666	5083	144088	82612	43760	53%	12326	6238	172827	0.87	0.83	0.94	0.92
1963	67601	36384	54%	87260	47516	54%	12305	5768	148557	94845	50362	53%	13931	6860	176223	0.88	0.84	0.94	0.92
1964	75242	41658	55%	98013	54976	56%	13465	6711	157947	106316	58494	55%	16303	8016	191818	0.89	0.82	0.94	0.92
1965	88731	48987	55%	115092	65182	57%	17517	8243	171468	124320	68677	55%	19661	9895	210795	0.89	0.81	0.95	0.93
1966	97175	56803	58%	126612	75418	60%	20484	10310	192614	137845	79889	58%	23503	12441	244028	0.87	0.79	0.94	0.92
1967	124142	70990	57%	161373	94612	59%	27218	13515	225393	174819	98747	56%	30785	15694	276023	0.88	0.82	0.96	0.92
1968	153865	81612	53%	197869	107467	54%	32915	15569	249626	216446	113958	53%	37223	18114	300451	0.88	0.83	0.94	0.91
1969	190064	95658	50%	235145	120782	51%	37448	16877	265277	250846	125420	50%	42779	19989	311922	0.88	0.85	0.96	0.94
1970	194462	95900	49%	240295	121906	51%	38914	17342	263417	265120	131710	50%	44298	20186	297374	0.88	0.89	0.93	0.91
1971	202509	97756	48%	255959	125645	49%	41849	17684	254749	279823	135658	48%	47256	20906	292185	0.89	0.87	0.93	0.91
1972	206618	108190	52%	263507	141873	54%	43114	19643	255168	287411	152406	53%	48680	22805	301127	0.89	0.85	0.93	0.92
1973	222447	115352	52%	288232	151503	53%	46113	20978	271220	310597	161957	52%	51444	23928	311499	0.90	0.87	0.94	0.93
1974	210997	117616	56%	274123	152351	56%	43578	20866	263369	297006	162919	55%	48942	23900	307318	0.89	0.86	0.94	0.92
1975	217855	119446	55%	279590	152796	55%	43798	20511	257198	303006	162810	54%	49289	23534	289926	0.89	0.89	0.94	0.92
1976	235539	131425	56%	297111	168520	57%	45823	22457	259451	322821	178988	55%	51709	25709	303006	0.89	0.86	0.94	0.92
1977	252568	141276	56%	317515	178799	56%	48431	23989	265778	345566	193219	56%	54789	27583	308068	0.88	0.86	0.93	0.92
1978	268191	164150	61%	337390	207542	62%	49560	26767	273837	368751	226781	61%	56870	31095	329303	0.87	0.83	0.92	0.91
1979	285963	180718	63%	369192	234314	63%	51414	28060	292859	416126	262023	63%	62545	34551	340696	0.82	0.86	0.89	0.85
1980	288316	168224	58%	374092	224301	60%	53050	27455	280900	432535	255192	59%	64390	33566	360517	0.82	0.78	0.88	0.84
1981	277841	159188	57%	338557	202812	60%	47838	25031	268234	424897	248888	59%	64150	33875	349864	0.75	0.77	0.81	0.80
1982	285286	167776	59%	347097	214137	62%	48403	25698	248888	440119	259644	59%	65470	34915	330495	0.74	0.75	0.82	0.79
1983	289201	173797	60%	367381	236492	64%	50274	27607	246022	464538	281829	61%	68778	38011	328648	0.73	0.75	0.84	0.79
1984	307792	179376	58%	394048	264087	67%	53905	28912	248326	515323	305116	59%	75940	41105	345079	0.71	0.72	0.87	0.78
1985	317687	194940	61%	413302	280452	68%	56237	30409	259885	547788	336403	61%	80204	43974	355113	0.70	0.73	0.83	0.79
1986	342247	210914	62%	465101	300162	65%	62788	33555	293261	606848	366283	60%	90244	48884	421686	0.70	0.70	0.82	0.77
1987	423538	262875	62%	533425	296504	56%	72413	39571	322496	648721	404471	62%	99153	54918	457349	0.73	0.71	0.73	0.82
1988	431752	267461	62%	565532	315465	56%	77481	42358	334113	676802	423302	63%	105271	58339	480553	0.74	0.70	0.75	0.84
1989	417720	262461	63%	566172	359479	63%				684376	432714	63%	109397	61095				0.83	0.82
1990					384425					733354	457915	62%	117012	63710				0.84	

Source: Domestic and system data for the trunk carriers:
1960-1977 from CAB Form 41; 1978-1989 from carriers' Annual Reports.
Trunk carriers include: American, Continental, Delta, Eastern, Northwest,
PanAm, TWA, United, Western 1960-1986, Braniff 1960-1980, National 1960-1979.
Data for the Scheduled Industry: ATA various years.

TABLE I.2.
US TRUNKLINES & SCHEDULED INDUSTRY
REVENUE, EXPENSES, PROFIT/LOSS

	SCHEDULED INDUSTRY							TRUNK CARRIERS					
YEARS	OP. REVENUE	OP EXPENSES	OP. INC.	OP. PROF/AS %OF REVENUE	NET PROFIT	ROI %	NET PROF/AS %OF REVENUE	OP REV.	OP EXPENSE	OP INC.	OP. PROF/AS %OF REVENUE	NET PROF.	NET PROF/AS %OF REVENUE
1960	2884	2807	78	2.7	9	3.2	0.3	2427	2331	96	4.0	37	1.5
1961	3064	3035	28	0.9	-38	2.1	-1.0	2599	2577	22	0.8	-20	0
1962	3438	3249	189	5.5	53	5.7	1.5	2944	2778	166	5.6	49	1.6
1963	3755	3460	295	7.9	84	6.6	2.2	3247	2999	248	7.6	89	2.7
1964	4252	3781	470	11.1	223	9.8	5.2	3705	3269	436	11.8	212	5.7
1965	4958	4286	672	13.6	267	12	5.3	4331	3716	615	14.2	342	7.8
1966	5745	4970	775	13.5	428	10.9	7.4	4968	4266	702	14.1	366	7.3
1967	6865	6157	708	10.3	415	7.6	6.0	6038	5347	691	11.4	418	6.9
1968	7763	7238	505	6.5	210	4.9	2.7	6790	6263	527	7.8	263	3.8
1969	8791	8403	387	4.4	53	3.3	0.6	7640	7189	451	5.9	188	2.5
1970	9290	9247	43	0.5	-201	1.2	-2.0	7999	7954	45	0.6	-78	-1.0
1971	10046	9717	328	3.3	28	3.5	0.2	8681	8409	272	3.1	54	0.6
1972	11163	10579	584	5.2	215	4.9	1.9	9696	9208	488	5.0	184	1.9
1973	12419	11834	585	4.7	227	5.1	1.8	10905	10421	484	4.4	169	1.6
1974	14699	13973	726	4.9	322	6.4	2.1	12865	12259	606	4.7	248	1.9
1975	15356	15228	128	0.8	-84	2.5	0.0	13293	13286	7	0.1	-102	-0.8
1976	17501	16779	722	4.1	563	8	3.2	15102	14585	517	3.4	340	2.3
1977	19925	19017	908	4.6	753	10.2	3.7	17252	16593	659	3.8	527	3.0
1978	22884	21519	1365	6.0	1196	13.3	5.2	19641	18371	1270	6.5	989	5.0
1979	27227	27028	199	0.7	347	6.5	1.2	22668	22902	-234	-1.0	274	1.2
1980	33728	33949	-222	-0.7	17	5.3	0.0	26774	27713	-939	-3.5	-374	-1.4
1981	36663	37117	-455	-1.2	301	4.7	0.8	28222	29286	-1064	-3.8	-181	-0.6
1982	36408	37141	-733	-2.0	-916	2.1	-2.0	27133	27735	-602	-2.2	-737	-2.7
1983	38954	38643	310	0.8	-188	6	0.0	28900	28934	-34	-0.1	-92	-0.3
1984	43825	41674	2152	4.9	825	9.9	1.8	31587	30100	1487	4.7	586	1.9
1985	46664	45238	1426	3.1	863	9.6	1.8	33053	32138	915	2.8	449	1.4
1986	50525	49202	1323	2.6	235	4.9	0.4	34860	34381	479	1.4	-202	-0.6
1987	56986	54517	2469	4.3	593	7.2	1.0	41646	40153	1493	3.6	12	0.0
1988	63749	60312	3437	5.4	1986	10.8	2.6	46614	44529	2085	4.5	1027	2.2
1989	69316	67505	1811	2.6	128	6.3	0.3	49420	48269	1151	2.3	26	0
1990	76105	78019	-1914	-2.5	-3923	-6	-5.2	58888	60678	-1790	-3.0	-3383	-5.7

Sources: ATA-Facts and Figures, various years.
Net Profit is after 'special items' which are not included in the detail.
ROI: net income before interest and after taxes as per cent of the net worth and long term debt.

TABLE I.3
EMPLOYMENT, LABOUR COST & OUTPUT
US TRUNK CARRIERS (ALL SERVICES)

YEAR	ASM (000)	EMPLOYMENT	EMPL. COST (1986$) (000)	ASM PER EMPLOYEE	ASM/EMP INDEX	PREDICT TREND	LABOUR COST PER ASM (1986$)	LABOUR COST PER ASM INDEX	PREDICT TREND	LAB.COST % OP.EXP.
1960	57520	136500	3748	421392	0.347	0.356	65.16	1.660	1.493	42%
1961	64604	139649	4040	462617	0.381	0.394	62.54	1.593	1.458	41%
1962	75769	144088	4293	525852	0.433	0.432	56.67	1.444	1.423	41%
1963	87260	148557	4588	587384	0.484	0.470	52.58	1.340	1.388	41%
1964	98013	157947	5021	620544	0.511	0.508	51.23	1.305	1.353	42%
1965	115092	171468	5592	671216	0.553	0.546	48.59	1.238	1.318	41%
1966	126612	192614	5959	657335	0.541	0.584	47.07	1.199	1.283	40%
1967	161373	225393	7738	715963	0.590	0.622	47.95	1.222	1.248	42%
1968	197869	249626	9050	792662	0.653	0.660	45.74	1.165	1.213	43%
1969	235145	265277	9645	886413	0.730	0.698	41.02	1.045	1.178	43%
1970	240295	265926	10353	903616	0.744	0.736	43.08	1.098	1.143	41%
1971	255959	254749	10078	1004750	0.828	0.774	39.37	1.003	1.108	42%
1972	263507	257271	11186	1024239	0.844	0.812	42.45	1.082	1.073	44%
1973	288232	271220	11756	1062724	0.875	0.850	40.79	1.039	1.038	44%
1974	274123	263369	11318	1040832	0.857	0.888	41.29	1.052	1.003	40%
1975	279580	257198	10986	1087022	0.895	0.926	39.29	1.001	0.968	39%
1976	297111	259451	11538	1145153	0.943	0.964	38.83	0.989	0.933	40%
1977	317515	265778	12389	1194662	0.984	1.002	39.02	0.994	0.898	40%
1978	337390	277874	13244	1214183	1.000	1.007	39.25	1.000	0.963	41%
1979	369192	292859	13437	1260648	1.038	1.045	36.39	0.927	0.929	38%
1980	374092	280900	12757	1331762	1.097	1.083	34.10	0.869	0.896	34%
1981	338557	268234	11651	1262170	1.040	1.121	34.41	0.877	0.862	34%
1982	347097	248898	11163	1394591	1.149	1.159	32.16	0.819	0.828	35%
1983	367381	246022	11647	1493285	1.230	1.197	31.70	0.808	0.795	36%
1984	394048	248326	11333	1586817	1.307	1.235	28.76	0.733	0.761	34%
1985	413302	259885	11718	1590326	1.310	1.273	28.35	0.722	0.727	34%
1986	465101	293261	12272	1585963	1.306	1.311	26.39	0.672	0.693	34%
1987	533425	322496	13283	1654052	1.362	1.349	24.90	0.634	0.660	34%
1988	565532	330773	13968	1709728	1.408	1.387	24.70	0.629	0.626	33%
1989	566172	346275	14284	1635036	1.347	1.425	25.23	0.643	0.592	33%
1990		372240	14960							32%

Source: 1960-1977 CAB Form 41; 1978-1990 ATA, ICAO and carriers Annual Report

TABLE I.4
US TRUNK CARRIERS
EMPLOYMENT, EARNINGS AND OUTPUT
VARIOUS LABOUR CATEGORIES

YEAR	PILOTS EMPLOYEE	PILOTS WAGES (1986$)	PILOTS PREDICTIVE EMPL.	PILOTS TREND WAGES	FLT.ATTENDANTS EMPL.	FLT.ATTENDANTS WAGES (1986$)	FLT.ATTENDANTS PREDICTIVE EMPL.	FLT.ATTENDANTS TREND WAGES	MAINTENANCE/OVERHAUL EMPL.	MAINTENANCE/OVERHAUL WAGES (1986$)	MAINTENANCE/OVERHAUL PREDICTIVE EMPL.	MAINTENANCE/OVERHAUL TREND WAGES
1960	9439	63463										
1961	10195	67590										
1962	9934	71185										
1963	10466	71409										
1964	11182	72788										
1965	12142	74955	15435	75277					33844	28167	38832	28524
1966	14745	72605	16133	76836					36572	28318	39030	29397
1967	17285	74397	16911	78395					40938	29030	39228	30270
1968	18355	80802	17489	79954					42818	28991	39426	31143
1969	19637	82660	18167	81513					44196	31633	39624	32016
1970	20540	88345	18845	83072					40612	34805	39822	32889
1971	20529	88705	19523	84631	29259	23349	33058	23594	38812	34676	40020	33762
1972	22269	91916	20201	86190	36054	24756	34320	23605	40345	37425	40218	34635
1973	22622	88227	20879	87749	39373	23281	35582	23616	41521	37511	40416	35508
1974	21357	86655	21557	89308	37604	23613	36844	23627	41054	38016	40614	36381
1975	21137	85796	22235	90867	36946	22063	38106	23638	40270	34974	40812	37254
1976	21321	92328	22913	92426	38363	23900	39368	23649	39977	38399	41010	38127
1977	21890	92823	23591	93985	40308	24429	40630	23660	39264	34461	41208	39000
1978	22641	92232	20161	94916	43242	25855	39290	26615	37467	32393	50650	32979
1979	24396	90597	20944	93499	46652	25500	41334	26365	59661	31242	50549	32826
1980	23615	93497	21727	92082	47235	25629	43378	26115	54257	34101	50448	32673
1981	22855	92352	22510	90665	44539	24107	45422	25865	52551	31657	50347	32520
1982	20523	90402	23293	89248	42961	24503	47466	25615	45451	35103	50246	32367
1983	19905	95941	24076	87831	43397	29682	49510	25365	47478	32805	50145	32214
1984	20496	87470	24859	86414	44791	26925	51554	25115	51700	31179	50044	32061
1985	21116	89193	25642	84997	47535	25393	53598	24865	52859	32262	49943	31908
1986	26141	67786	26425	83580	56792	24076	55642	24615	58276	31012	49842	31755
1987	29657	81213	27208	82163	58434	27210	57686	24365	54940	32213	49741	31602
1988	29719	82426	27991	80746	62038	24019	59730	24115	43698	29948	49640	31449
1989	30259	81404	28774	79329	63657	22297	61774	23865	44609	30874	49539	31296
1990	31940	78653	29557	77912	68966	21331	63818	23615	47618	32000	49438	31143

YEAR	TICKET-SALE-PROMOTIONAL EMPL.	TICKET-SALE-PROMOTIONAL WAGES (1986$	TICKET-SALE-PROMOTIONAL PREDICTIVE EMPL.	TICKET-SALE-PROMOTIONAL TREND WAGES	OTHERS EMPL.	OTHERS WAGES real	TOTAL EMPL.	OUTPUT FLIGHT ATTENDANTS PER ASM	OUTPUT FLIGHT ATTENDANTS INDEX	OUTPUT PILOTS PER ASM	OUTPUT PILOTS INDEX	OUTPUT MECHANICS PER ASM	OUTPUT MECHANICS INDEX
1960					120720	18752	133684			0.164	2.449		
1961					127371	22018	135620			0.158	2.355		
1962					128995	20203	142576			0.131	1.957		
1963					134492	20530	148612			0.120	1.794		
1964					143812	21283	159044			0.114	1.703		
1965	21674	21226	26399	21283	97814	21481	169773			0.105	1.575	0.294	2.649
1966	23093	22598	26596	21904	70935	21713	195953			0.116	1.738	0.289	2.602
1967	29734	21200	26803	22525	129674	21810	224064			0.107	1.599	0.254	2.285
1968	31893	21494	27010	23146	146826	23553	246719			0.093	1.395	0.216	1.950
1969	31171	23096	27217	23767	130621	23116	253089			0.084	1.246	0.188	1.693
1970	28555	24291	27424	24388	148593	24706	243249			0.085	1.276	0.169	1.523
1971	24703	25889	27631	25009	123568	24519	253139			0.080	1.197	0.152	1.366
1972	24891	28239	27838	25630	127127	32415	262729	0.137	1.069	0.095	1.261	0.153	1.379
1973	30271	28689	28045	26251	131194	32116	272076	0.137	1.067	0.078	1.171	0.144	1.298
1974	30371	26136	28252	26872	129933	31389	267295	0.137	1.072	0.078	1.163	0.150	1.349
1975	29102	28326	28459	27493	124737	30925	258918	0.132	1.032	0.076	1.128	0.144	1.298
1976	26716	27921	28666	28114	87759	34155	260785	0.129	1.009	0.072	1.071	0.135	1.212
1977	27018	26049	28873	28735	130070	48665	265198	0.127	0.992	0.069	1.029	0.124	1.114
1978	30545	27336	70084	28508	133811	32050	272970	0.128	1.001	0.067	1.002	0.111	1.000
1979	79869	29319	65727	28267	71098	36015	290533	0.126	0.987	0.066	0.986	0.162	1.456
1980	91396	27672	67370	28026	61617	27992	284342	0.126	0.986	0.063	0.942	0.145	1.307
1981	88494	27211	66013	27785	57507	30638	289627	0.132	1.028	0.068	1.008	0.155	1.398
1982	80788	29670	64656	27544	53787	25234	249306	0.124	0.967	0.059	0.883	0.131	1.180
1983	49702	27839	63299	27303	71170	24662	235782	0.118	0.923	0.054	0.805	0.129	1.164
1984	50913	26533	61942	27062	76681	23360	249826	0.114	0.888	0.052	0.776	0.131	1.182
1985	53690	23757	60585	26821	75224	27578	256034	0.115	0.899	0.051	0.763	0.128	1.152
1986	59516	24970	59228	26580	86014	21996	300259	0.122	0.954	0.056	0.839	0.125	1.129
1987	33169	25686		26339	128945	28912	327666	0.110	0.856	0.056	0.830	0.103	0.928
1988	1243	24505		26098	190843	29127	333456	0.110	0.857	0.053	0.784	0.077	0.696
1989	3046	25340		25857	198983	27329	346231	0.112	0.878	0.053	0.798	0.079	0.710
1990	3612	26957		25616	213281	26044	372259						

Source: ICAO Fleet and Personnel, Various years.

TABLE 1.5
TRENDS IN EMPLOYMENT AND REAL EARNINGS
VARIOUS INDUSTRIES (In Thousands)

	EMPLOYMENT									
YEAR	AIR TRUNK	PREDICTIVE TREND	AIR INDUSTRY	PREDICTIVE TREND	MANUFACTURING	PREDICTIVE TREND	LAND TRANSPORT	PREDICTIVE TREND	UTILITIES	PREDICTIVE TREND
1960	137	0.515	183	0.461	16189	0.827	2324	0.940	600	0.761
1961	140	0.548	186	0.493	15772	0.836	2226	0.940	600	0.773
1962	144	0.581	188	0.525	16360	0.845	2230	0.941	597	0.785
1963	149	0.614	193	0.557	16484	0.854	2214	0.941	597	0.797
1964	158	0.647	202	0.589	16722	0.863	2219	0.941	598	0.809
1965	171	0.680	218	0.621	17624	0.872	2254	0.942	610	0.821
1966	193	0.713	244	0.653	18852	0.881	2312	0.942	617	0.833
1967	225	0.746	285	0.685	19068	0.890	2308	0.942	628	0.845
1968	250	0.779	316	0.717	19386	0.899	2317	0.942	640	0.857
1969	265	0.812	337	0.749	19789	0.908	2313	0.943	651	0.869
1970	263	0.845	335	0.781	18906	0.917	2273	0.943	667	0.881
1971	255	0.878	324	0.813	18087	0.926	2229	0.943	678	0.893
1972	255	0.911	328	0.845	18571	0.935	2238	0.944	693	0.905
1973	271	0.944	348	0.877	19605	0.944	2311	0.944	711	0.917
1974	263	0.977	349	0.909	19538	0.953	2335	0.944	721	0.929
1975	257	1.010	346	0.941	17783	0.962	2201	0.945	711	0.941
1976	259	1.043	351	0.973	18546	0.971	2222	0.945	714	0.953
1977	266	1.076	365	1.005	19245	0.980	2298	0.945	729	0.965
1978	274	0.904	386	0.942	20087	0.988	2407	0.966	757	1.030
1979	293	0.930	419	0.999	20603	0.981	2477	0.973	785	1.048
1980	281	0.956	431	1.056	19804	0.974	2403	0.980	804	1.066
1981	268	0.982	431	1.113	19730	0.967	2377	0.987	832	1.084
1982	249	1.008	420	1.170	18249	0.960	2246	0.994	853	1.102
1983	246	1.034	430	1.227	17941	0.953	2209	1.001	860	1.120
1984	248	1.060	460	1.284	18891	0.946	2350	1.008	873	1.138
1985	260	1.086	490	1.341	18773	0.939	2391	1.015	889	1.156
1986	293	1.112	527	1.398	18492	0.932	2406	1.022	895	1.174
1987	322	1.138	570	1.455	18603	0.925	2480	1.029	900	1.192
1988	331	1.164	608	1.512	18963	0.918	2572	1.036	910	1.210
1989	346	1.190	653	1.569	19009	0.911	2634	1.043	915	1.228
1990	372	1.216								

TABLE I.5 (Cont.)

YEAR	TRUNKLINES		AIR INDUSTRY		MANUFACTURING		UTILITIES		LAND TRANSPORT	
	1986$	PRED. TREND	1986$	PRED. TREND	1986$	PRED. TREND	1986$	PRED. TREND	1986$	PRED. TREND
1960	27067	26634	27485	27321	22733	23138	25630	26098	23307	23162
1961	28575	27784	28143	28374	23125	23556	26527	26788	23703	23752
1962	29370	28934	29659	29427	23873	23974	27315	27478	24315	24342
1963	30427	30084	30530	30480	24430	24392	28229	28168	24853	24932
1964	31286	31234	32011	31533	25311	24810	29431	28858	25640	25522
1965	32049	32384	32575	32586	25564	25228	29794	29548	26240	26112
1966	32351	33534	33007	33639	25861	25646	30345	30238	26595	26702
1967	33662	34684	33708	34692	26003	26064	30846	30928	26872	27292
1968	34352	35834	34522	35745	26799	26482	31516	31618	27635	27882
1969	35630	36984	35961	36798	26931	26900	32012	32308	27973	28472
1970	38059	38134	38427	37851	27031	27318	33076	32998	28497	29062
1971	39981	39284	40165	38904	27649	27736	33992	33688	29992	29652
1972	42974	40434	42682	39957	28780	28154	35551	34378	31423	30242
1973	43185	41584	42400	41010	29015	28572	35704	35068	32395	30832
1974	42484	42734	41242	42063	28447	28990	34804	35758	31489	31422
1975	43096	43884	41982	43116	28902	29408	35489	36448	30925	32012
1976	44399	45034	43482	44169	29719	29826	37187	37138	32428	32602
1977	46490	46184	44946	45222	30320	30244	37854	37828	32861	33192
1978	47427	47234	45269	44225	30501	29427	38166	36218	33134	32361
1979	45908	46636	43929	43650	29941	29583	37177	36751	32358	32012
1980	45770	46038	42020	43075	29229	29739	35742	37284	31160	31663
1981	45362	45440	41176	42500	28938	29895	35900	37817	30533	31314
1982	45192	44842	41420	41925	29356	30051	37516	38350	30734	30965
1983	46664	44244	42651	41350	30147	30207	39410	38883	30644	30616
1984	43557	43646	40635	40775	30223	30363	39657	39416	30331	30267
1985	43092	43048	40266	40200	30549	30519	40152	39949	29670	29918
1986	40065	42450	40102	39625	31321	30675	41422	40482	29671	29569
1987	40972	41852	39306	39050	31083	30831	41681	41015	29329	29220
1988	41687	41254	38448	38475	31282	30987	41457	41548	29248	28871
1989	41454	40656	37512	37900	30874	31143	41480	42081	28478	28522
1990	40207	40058								

TABLE I.6
TRUNK CARRIERS
AVERAGE NOMINAL COMPENSATION

YEAR	AA	BR	CO	DL	EA	NA	NW	PA	TWA	UAL	WS	AVG	COEFFICENTS OF VARIATION
1960	7709	6716	7244	6878	7503	7085	7372	7225	7461	7618	7575	7308	4.10
1961	8122	7202	7718	7509	8086	7269	7799	7681	7877	8092	8459	7801	4.66
1962	8518	7516	7794	7983	8436	8094	8024	7910	8134	8473	8289	8106	3.63
1963	8914	7838	8297	8318	8929	8492	8265	8130	8862	8776	8560	8489	4.00
1964	9550	8063	8758	8723	9091	8976	8812	8672	9057	9111	8583	8854	4.06
1965	9967	8616	9094	8976	9311	9300	9026	8950	9516	9565	8861	9198	3.95
1966	10587	9175	9664	10103	9152	8620	9743	9618	9481	9658	9531	9576	5.09
1967	11101	9566	10307	10396	10161	10145	9858	10180	10700	10820	9701	10267	4.38
1968	12002	9759	11132	11058	10834	10638	10725	10975	11136	11693	10211	10924	5.42
1969	12558	11078	12350	11938	11953	11659	11769	12000	12410	12753	10823	11936	4.75
1970	14780	12750	13762	13189	13525	12068	13272	13259	14129	14190	13277	13473	5.22
1971	15968	13385	14488	14427	15394	14444	15201	14218	15091	15221	14889	14793	4.49
1972	17640	15018	16014	16246	17045	16202	16547	15862	16492	16699	16338	16373	3.90
1973	18937	16632	17264	17556	17820	17343	17786	18047	16180	17271	17556	17490	3.92
1974	20218	17682	17818	19363	18972	18805	19418	19996	19552	19101	19371	19118	3.94
1975	21128	19344	21150	21150	20795	21963	21709	22153	21102	20237	22030	21160	3.76
1976	23557	21863	21526	23366	22218	23406	23829	24033	22682	23104	23892	23043	3.54
1977	25943	24253	24732	25609	25386	25973	26138	26920	25914	25646	26281	25709	2.71
1978	28644	26434	27001	27980	28030	28402	26820	30500	28578	29128	29887	28219	4.15
1979	30442	26965	31395	27750	29268	29408	27423	40101	31581	28290	31681	30391	11.42
1980	33765	37013	34948	31491	31460		31648	37367	35355	35087	36051	34419	6.17
1981	38866		38709	34528	33485		33908	41492	38094	39500	39862	37605	7.25
1982	43201		40211	39687	34647		34823	41035	41757	44804	37756	39769	8.28
1983	43365		41713	42380	41253		40145	38358	45390	48334	40825	42418	6.61
1984	45619		22973	45144	38967		42121	42997	47305	46349	40151	41292	16.96
1985	46295		26227	47539	44435		42408	42335	49977	43747	37882	42316	15.49
1986	42869		27926	50476	40642		30768	46183	41563	46652	33507	40065	18.16
1987	41900		27676	43656	42501		45159	49804	42333	46550		42447	14.39
1988	45497		33445	49225	45446		47123	46282	45634	47184		44980	10.04
1989	45416		34417	53114	47130		53681	44845	47950	48517		46884	11.94
1990	43689		35579	55547	38612		64369	47219	48136	50587		47967	17.95

Source: From 1960 to 1977: CAB data
After 1977 from carriers' Annual Reports.

TABLE 1.7
US TRUNK CARRIERS
PILOTS AND CO-PILOTS
EMPLOYMENT AND NOMINAL COMPENSATION

	EMPLOYMENT													AVERAGE COMPENSATION											
YEAR	AA	BR	CO	DL	EA	NA	NW	PA	TWA	UAL	WS	TOTAL EMPLOYMENT		TRUNKS SHARE	AA	BR	CO	DL	EA	NA	NW	PA	TWA	UAL	WS	AVERAGE EARNING	%	VARIATION COEFF.
1960	1550	423		741	1526	287	434	1356	1401	1463	258	9439		0.54	17666	17826		15115	15223	17274	18013	18914	17234	18053	16027	17135		7
1961	1446	389		826	1706	275	450	1329	1330	2244	199	10195	8%	0.56	18383	17504		16314	18056	19012	18880	19740	18336	17891	20408	18452	8%	6
1962	1504	375		879	1256	250	487	1334	1394	2155	300	9934	-3%	0.55	18828	21072		17180	19471	20844	19751	21302	20540	18744	18740	19647	6%	6
1963	1493	363		955	1543	273	522	1358	1390	2186	403	10486	6%	0.53	18856	21037		16780	18128	22390	19854	21654	22112	21356	17067	19923	1%	10
1964	1489	384		1077	1553	287	610	1482	1575	2284	440	11182	7%	0.57	21141	23596		16964	19782	22540	20853	21637	20914	21399	17158	20599	3%	10
1965	1572	457		1247	1665		754	1635	1754	2635	422	12142	9%	0.55	25545	23411		17394	21728		20313	22044	20708	22811	19658	21512	4%	10
1966	2110	560		1480	1671		1015	2192	2122	3006	568	14746	21%	0.53	22515	25886		18834	22834		19781	20358	22174	22986	18053	21491	0%	11
1967	2979	778		1589	1718		1216	2433	2485	3356	730	17285	17%	0.56	20459	25830		20049	25622		20074	25148	25868	23071	18071	22688	6%	13
1968	3181	801		1531	1739		1454	2516	2537	3691	903	18355	6%	0.56	24501	26207		24244	30836		20123	26444	27700	28191	22907	25695	13%	12
1969	3279	870		1806	1867		1777	2330	2772	3900	1035	19637	7%	0.57	25938	31001		23483	31819		23187	31389	29786	28830	23786	27691	8%	12
1970	3299	778		2149	2842		1603	2212	2649	4034	974	20540	5%	0.63	30313	31110		26117	26218		31724	34653	33929	39369	26037	31274	13%	13
1971	3364	778		2135	2945	580	1429	2108	2423	3663	1104	20529	0%	0.62	31076	33385		27790	34824	40768	31019	35129	33325	32307	28588	32821	5%	11
1972	3373	789	1016	2612	2970	571	1413	2035	2556	3754	1179	22268	8%	0.66	31839	35525	32142	41992	36600	36194	28457	37588	37544	34078	30704	35020	7%	10
1973	2741	675	993	3070	3143	571	1567	2008	2540	3718	1396	22622	2%	0.65	35553	37863	32159	31260	37345	37382	34938	41184	35672	37714	32045	35732	2%	8
1974	2603	857	984	2927	2815	566	1530	1903	2339	3549	1244	21357	-6%	0.64	36260	40246	36972	38436	39759	37351	35151	43602	42903	39669	34698	38998	9%	7
1975	2574	884	1011	2930	2848	557	1456	1800	2316	3500	1259	21137	-1%	0.66	47051	44563	38446	41938	42935	28745	41937	43529	44765	45909	40878	42126	8%	11
1976	2707	906	1018	3015	2845	538	1455	1604	2390	3466	1375	21321	1%	0.64	46772	47755	47595	43508	42961	53195	47655	54243	47904	50006	45506	47915	14%	7
1977	2793	946	1297	3086	2832	557	1478	1422	2493	3523	1483	21890	3%	0.64	51361	50808	39386	47994	49677	52598	51558	66408	52203	53875	47900	51331	7%	12
1978	2736	1090	1563	3260	2873	565	1502	1387	2477	3714	1454	22641	3%	0.63	57536	53950	38720	51644	56466	55340	58229	67250	55778	57533	50310	54876	7%	12
1979	3663	1413	1525	3547	2943	619	1526	1320	2449	3785	1695	24396	8%	0.66			52710	56390	61406	58081	57985	77668	64598	58746	52193	59975	9%	12
1980	4037	853	1555	3656	2942		1517	1891	2254	3318	1560	23615	-3%	0.60			59037	63537	75298		67143	84199	71477	84242	59746	70469	17%	14
1981	3630	884	1431	3940	2922		1534	1795	2050	3447	1522	22855	-3%	0.62			67492	69432	81119		74444	90958	79220	81954	67258	76560	9%	10
1982	2590		1641	3820	2839		1522	1735	1865	3254	1257	20523	-10%	0.59	83520		69233	79055	83539		82602	88297	79799	87248	60701	79554	4%	11
1983	2574		1383	3692	2762		1621	1577	1812	3147	1247	19805	-3%	0.57	90794			88769	89385		91572	82729	87567	106660	66205	87210	10%	11
1984	2815		1125	3757	2634		1716	1941	1758	3539	1211	20496	3%	0.55	94440		29695	93516	91190		94427	91685	87555	96026	67702	82922	-5%	25
1985	3273		1487	3723	2682		2032	1299	1768	3629	1223	21116	3%	0.53	95557		41888	104225	109472		87356	100642	106577	90317	52225	87588	6%	26
1986	4106		1910	3852	2995		4362	1703	2215	3629	1367	25141	24%	0.57	88840		43114	99377			53511	74569			49307	67788	-23%	39
1987	4695		3946	5264	3311		4557	1459	2243	4192		29667	13%	0.59	84693		48284	92947	72952			93548	74329	117204		84177	24%	24
1988	5801		3393	6106	2456		4484	1421	2058	4198		29719	0%	0.58	83487		49948	93572	92612			85164	85623	92985	116131		88936	6%	16
1989	6089		3854	6691	849		4761	1570	2091	4252		30259	2%	0.59	85870		57781	91788	106483			94824	88431	95267	114101		92068	4%	17
1990	6605		4006	6974	1133		4497	1653	2212	4858		31940	6%	0.57	98601		64747	99462	77987		115471	85921	89605	118890		93833	2%	18

SOURCE: ICAO Fleet and Personnel, Various Years.
*1987-1990 Continental data combine pilots and other flight personnel.

TABLE 1.8
US TRUNK CARRIERS
FLIGHT ATTENDANTS
EMPLOYMENT AND AVERAGE NOMINAL COMPENSATION

EMPLOYMENT

YEAR	AA	BR	CO	DL	EA	NA	NW	PA	TWA	UAL	WS	TOTAL TRUNKS EMPLOYM	SHARE
1971	4545	1143		2687	3449	1001	1750	4472	3558	5512	1142	29259	0.82
1972	4759	1287	1523	3555	4144	1231	1693	4658	5275	6576	1353	36056	0.91
1973	5053	1504	1463	4116	4409	1370	2171	5114	5010	7801	1361	39373	0.92
1974	4787	1702	1526	4245	4207	1285	2171	4129	5043	7139	1370	37604	0.91
1975	4808	1727	1651	4039	4519	1205	2091	3761	4762	6924	1459	36946	0.94
1976	5123	1941	1637	4430	4625	1220	2159	3434	4977	7246	1671	38363	0.90
1977	5438	1969	1952	4536	4704	1310	2207	3890	5253	7324	1724	40308	0.90
1978	5616	2364	2145	5063	5176	1321	2241	3902	5616	7755	2042	43242	0.89
1979	6277	2317	2136	5687	5632	1328	2275	4326	5995	8497	2191	46652	0.89
1980	6263	2330	2175	6068	5893		2481	6078	5534	8329	2083	47235	0.83
1981	5640	1219	2122	6262	5864		2526	5691	5294	7827	2095	44539	0.81
1982	6051		2603	5836	5987		2522	5550	5059	7277	2076	42961	0.84
1983	6244		2075	5886	5907		2684	5486	5135	7860	2111	43387	0.78
1984	6811		1546	6055	6508		2955	4980	5054	8804	2078	44791	0.74
1985	7637		2292	6338	6776		3355	4677	5622	8724	2113	47535	0.75
1986	8434		3021	6443	6739		6260	5899	6406	11382	2206	56792	0.84
1987	10292		4546	9225	8112		6347	3640	4517	11755		58434	0.80
1988	11724		6070	10777	5771		6500	4198	5083	11914		62038	0.81
1989	13610		5770	11587	2734		6949	5017	5601	12388		63656	0.82
1990	15482		6017	12608	3750		6761	5147	6040	13160		68966	0.83

AVERAGE COMPENSATION

YEAR	AA	BR	CO	DL	EA	NA	NW	PA	TWA	UAL	WS	AVG COMPEN.	%	VARIATION COEFF.
1971		5570		9046	9366	9470	8354	10671	8390	7374	9508	8639		16
1972	4859	8012	11780	12167	9644	9212	6945	11389	9763	9063	10916	9432	9%	22
1973	8785	8434	7885	11046	9831	9064	8973	11116	9203	9401	9984	9429	0%	9
1974	11129	8534	12173	12872	12152	8363		11331	10444	9903	9359	10626	13%	14
1975	12070	7961	12253	13315	9511	7013	8936	13838	11287	10114	12870	10833	2%	21
1976	11848	10028	10975	14447	12095	12381	11667	13341	13088	12229	14349	12404	15%	10
1977	13413	9874	14194	14641	14043	11874	12261	15943	14318	14526		13509	9%	12
1978	15338	11212	15495	16173	16314	14556	15442	18467	15779	16502	13944	15384	14%	12
1979	15806	12248	19247	17712	17502	17608	16577	19973	18412	15490	15115	16881	10%	12
1980	18236		18372	18934	18993		18881	21302	21251	18212		19273	14%	6
1981	22955		22041	20825	21000		21118	25271	23963	24135	20599	19985	4%	8
1982	24141		24213	24075	22661		23820	23013	28884	28421	19052	21563	8%	13
1983	26961			26218	27405		26911	25673	31597	29167	21915	26981	25%	10
1984	26341		16023	27097	24191		27086		34722	28092	20649	25525	-5%	20
1985	26765		16194	28703	24360		27541	31189	34316	27293	17442	24936	-2%	22
1986	25884		16544	30183	22237		17710	34617		28279	17150	24076	-3%	26
1987	29961		12570	31146	22687			38054	24774	38141		28190	17%	30
1988	24703		18466	27557	21893		26283	32333	26456	29644		25917	-8%	16
1989	23711		20545	28759	20263		27154	23800	27586	29926		25218	-3%	14
1990	24105		20829	29549	21439		30585	22915	24346	29815		25448	1%	15

PanAm 1986 data have been revised due to the effect of strike.
SOURCE: ICAO Fleet and Personnel, Various Years.

TABLE I.5
US TRUNK CARRIERS
MAINTENANCE AND OVERHAUL PERSONNEL
EMPLOYMENT AND AVERAGE NOMINAL COMPENSATION

	EMPLOYMENT													AVERAGE COMPENSATION											
YEAR	AA	BR	CO	DL	EA	NA	NW	PA	TWA	UAL	WS	TOTAL EMPLOYM	%	TRUNK EMP SHARE	AA	BR	CO	DL	EA	NA	NW	PA	TWA	UAL	WS	AVG	%	VARIATION COEFF.
1965	5675	849		2042	4408		1107	4925	4904	9169	765	33844		81%	7999	9495		7741	8231		8372	7916	8356	7457	7193	8084		8
1966	5432	1097		2179	4579		1321	5612	5425	10028	899	36572	8%	81%	8554	9061		8175	9166		8620	8030	8477	8446	8246	8530	6%	4
1967	6218	1354		2441	5340		1426	6082	6186	10796	1095	40938	12%	82%	8778	10140		8211	8761		9099	8910	8370	8768	8652	8954	4%	6
1968	6597	1002		2565	6274		1499	6378	6431	10658	1414	42818	5%	82%	9008	9931		8716	9247		9631	8743	9224	9502	8969	9219	4%	4
1969	6876	1185		2648	6404		1602	6723	6437	10973	1348	44196	3%	84%	10447	11414		10507	10502		11332	10193	9563	10310	11104	10597	15%	5
1970	6666	1013		2767	6237		1420	5530	6570	10447	1320	40612	-8%	84%	11789	12848		11460	11715		14201	11015	12810	12790	12257	12321	16%	7
1971	6400	1013		2722	6247	923	1239	4487	6016	8442	1323	38812	-4%	85%	13740	11652		11847	12303	13787	15590	11896	13099	11439	12961	12831	4%	10
1972	5760	1087	1127	2890	6107	912	1278	4574	6204	8833	1373	40345	4%	89%	15693	14558	14423	15987	13491	14714	12499	13412	14008	13071	14990	14259	11%	7
1973	6765	1053	1006	3031	6971	919	1265	4580	6378	8361	1392	41521	3%	88%	16805	15476	14254	15526	15495	15077	15439	14893	15048	14550	14551	15192	7%	4
1974	5996	1050	1035	3458	6497	863	1244	4457	6629	8476	1347	41054	-1%	89%	17520	16829	17090	17667	16686	18784	17145	16900	15778	17490	16292	17107	13%	4
1975	5739	1022	1051	3735	6020	844	1215	4170	6309	8936	1330	40270	-2%	89%	19729	18331	18102	18102	16399	18600	17357	18951	18107	17881	18234	18154	6%	4
1976	5919	1003	1026	3621	6103	760	1197	3772	6234	9013	1339	39977	-1%	87%	21242	21186	18628	18942	18135	21040	21372	19503	20886	18834	19547	19929	10%	6
1977	6071	994	985	3577	6580	788	1242	3575	6286	7792	1374	39264	-2%	87%	28156	17637	20168	15865	17068	18867	19229	15715	17444	20423		19057	-4%	18
1978	6211	1006	1079	3564	6516	757	2164	3500	5752	6811	1374	38753	-1%	87%	17451	19818	20568	18428	18122	21133	21431	18012	21211	23511	12328	19274	1%	15
1979	9371	2125	1644	8140	8315	1375	3086	5749	7266	10945	1745	59661	54%	133%	18875	21932	23060	19699	16329	20044	23748	18520	20506	17778	26908	20682	7%	14
1980	8073	1915	1555	8035	8711		3083	6337	6611	9330	1607	54257	-9%	121%	25707		27979	23594	22230		26065	26159	24363	28184	26515	25644	24%	7
1981	6842	1682	2072	7971	9009		3156	6047	6104	9127	1541	52551	-3%	116%	25891		21269	26249	23255		27589	27176	26495	29970	29126	26244	2%	9
1982	6096		1522	8114	8628		2829	5702	4487	6634	1437	45451	-14%	105%	32317		33403	25839	23819		30907	27720	38469	35388	30153	30891	18%	14
1983	7497		1540	8377	8229		2186	5247	6169	7644	2095	48984	8%	121%	29889			26565	28806		30029	24996	32503	35624	30149	29820	-3%	10
1984	7425		1592	7968	7955		5160	4930	6152	8599	1916	51700	6%	121%	33509		11731	29095	27337		33522		30850	39491	30930	29558	-1%	26
1985	8625		1688	7782	6891		5668	3692	7525	9152	1638	52859	2%	124%	33036		24022	32078	35692		33635	34138	27594	36020	28259	31681	7%	12
1986	9317		2090	7180	8154		5418	4580	8881	10699	1557	58276	10%	122%	33245		26225	36065	33699		23015	29557		37124	29165	31012	-2%	15
1987	11211		3617	9920	6518		3904	2976	5010	11784		54940	-6%	107%	24626			22879	35292			42088	42399	33043		33573	8%	23
1988	8396		4936	4863	5541		3343	3376	5053	8187		43695	-20%	79%	29756		15917	34276	30569		47917	28520	31042	40518		32314	-3%	27
1989	9361		5932	5540	2337		3788	3833	5478	8420		44609	2%	78%	32036		37383	33551	20367		41412	29881	32018	56716		34918	8%	24
1990	10540		6979	6156	3371		3264	3982	5642	7664		47618	7%	78%	32214		38471	33810	19245		55664	29978	31420	64629		38179	9%	36

Data for NW, 1970 and 1978, and CO, 1983, have been corrected due to strike effects.
SOURCE: ICAO Fleet and Personnel, Various Years.

TABLE I.10
US TRUNK CARRIERS
TICKETING, SALES AND PROMOTIONAL PERSONNEL
EMPLOYMENT AND AVERAGE NOMINAL COMPENSATION

	EMPLOYMENT													AVERAGE COMPENSATION											
YEAR	AA	BR	CO	DL	EA	NA	NW	PA	TWA	UAL	WS	TOT EMP	%	AA	BR	CO	DL	EA	NA	NW	PA	TWA	UAL	WS	AVS	%	VARIATION COEF.
1965	2858	1099		1573	3000		1203	3623	4184	3401	733	21674		7010	5705		6492	5703		5452	5461	5916	7036	6054	6092		10
1966	3323	3934		2930	4126		1507	4597	5366	4725	1585	32096	48%	7656	6109		6978	6452		6378	6073	7088	7170	6297	6689	10%	8
1967	3848	1640		2534	4354		1560	4519	5353	4735	1191	29734	-7%	7713	6110		6869	6169		5985	6054	6438	6246	6510	6466	-3%	8
1968	4040	1627		2726	4417		1748	4934	5693	5265	1443	31894	7%	7822	6257		7431	7174		6570	6648	7066	6435	6111	6835	6%	8
1969	3992	1325		2664	4205		1876	4731	5346	5823	1209	31171	-2%	3797	8773		8933	7359		6590	6785	7835	7038	7524	7737	13%	11
1970	3952	1164		2613	3817		633	5315	4677	5244	1140	28554	-8%	9113	8006		9801	8901		7096	7599	8537	9647	8690	8599	11%	10
1971	3700	927		2539	3769	1415	1185	4700	4426	4628	1114	28403	-1%	9500	9841		11056	10288	11380	8850	7980	8682	8439	9695	9571	11%	11
1972	3592	1143	764	3619	4642	1208	1164	4579	4180	4500	1150	30542	8%	10720	11884	10339	16141	11362	12049	9137	8721	9000	9000	10000	10759	12%	19
1973	3619	1228	845	3796	4614	1202	1290	4101	4270	4057	1209	30271	-1%	12728	11657	11014	13922	11117	12718	11455	9775	9580	10508	13336	11619	8%	12
1974	3815	1219	958	4116	4277	1249	1459	3760	4217	4067	1234	30371	0%	12007	11103	11592	13623	11623	12332	12165	10588	10483	10795	13068	11761	1%	8
1975	3527	1315	966	4248	4160	1187	1397	3169	4048	3857	1228	29102	-4%	13724	12337	13618	15776	14890	14990	12259	11245	12663	14804	16691	13908	18%	12
1976	3591	873	953	10366	13033	2520	2897	7300	10049	11568	3568	66727	129%	14429	14058	13279	17656	14155	17649	13544	12897	14910	14266	12560	14491	4%	11
1977	4312	979	1097	4179	3552	1086	1281	2427	3783	3385	937	27014	-60%	12869	13819	13148	16169	14847	15952	14400	14201	13147	15493		14405	-1%	8
1978	5015	1219	1217	5373	4457	1204	1126	2481	3511	3848	1094	30546	13%	13401	15325	15698	17683	15319	17130	14711	16972	16251	17096	19328	16265	13%	10
1979	12771	4994	2527	14114	5432	3224	3122	7021	10502	12414	3748	79881	162%	19702	19152	20865	21010		18897	16549	21905	18217	18929	18976	19409	19%	6
1980	12809	4287	3754	15082	15802		3637	10711	9815	11784	3715	91399	14%	20731		21237	21288	20342		18387	23066	16870	22287	23076	20809	7%	9
1981	11710	3968	3554	14443	15279		3660	10010	9176	11160	3634	86494	-5%	23955		24564	24212	22215		20674	27444	24194	25185	25505	24216	16%	6
1982	10353		4860	14164	15360		3805	9352	8759	10129	4004	80786	-7%	29023		25278	26515	22313		20885	24554	31846	28886	25688	26110	8%	12
1983	6860		180	10156	9576		2186	5722	5099	6495	2428	48698	-40%	24876			26008	25249		21591	23859	24486	29744	27699	25439	-3%	9
1984	7001		2171	10348	9708		2199	5770	4970	6369	2377	50913	5%	26430		18042	28057	22740		23288		23049	34041	26801	25306	-1%	17
1985	8240		3264	10857	9919		2262	4450	5407	6775	2516	53691	5%	24663		16855	30058	26735		25493	26874	24427	29008	22267	25153	-1%	15
1986	8658		3681	11029	10384		5418	4199	5108	9297	2743	59518	11%	23756		20935	29921	21831		14020	26593		28666	20910	23329	-7%	21
1987	10187		191	13207						9584		33169				18205											
1988																						26396	26827		26611		1
1989														34443		33667	36574			34011		26329	27293		26441		16
1990														35820			32920			34310	32377	28475	29057		32159		8

SOURCE: ICAO Fleet and Personnel, Various Years.
From 1988 to 1990 data for this labour category have been combined with the 'other' personnel category.

TABLE I.11
US TRUNKLINES - STRIKE ACTIVITY

YEAR	PILOTS	MECHANICS	FLIGHT ATT.	GROUND PERS.
1960			AS&SA TWA:3 days	BRAC BR: 10days
1961		IAM NW: 136days NA: 7days		
1964				ALEA NA: 2days
1965	ALPA PA: 10days			
1966		IAM EA, NA, NW, TWA, UAL 43days		
1969		IAM NA: 7days TWU AA: 20days IBT WS: 16days		IBT PA: 4days
1970			TWU TWA: 2days	ALEA NA: 126days BRAC NW: 163days
1972	ALPA NW: 95days			
1973			TWU TWA: 45days	
1974	ALPA BR: 1day	AMFA NA: 115days		
1975	ALPA NW: 3days CO: 25days	IAM UAL: 16days TWA: 1day	AFA NA: 127days	
1978	ALPA NW: 107days			
1979		IAM UAL: 58days		
1980			UFA	
1982		IAM NW: 26days		
1983	ALPA:CO	IAM:CO	UFA:CO	
1985	ALPA:UAL			TWU::PA,26day
1986			IFFA:twa,72days	
1989	ALPA:EA	IAM:EA	TWU:EA	

APPENDIX II: LIST OF TABLES

TABLE II.1
CANADIAN AIRLINE INDUSTRY
CAPACITY & TRAFFIC
(000.000'S omitted)

	MAJOR CARRIERS			AC		CP/CAIL		REGIONAL SECTOR				INDUSTRY I-III	
YEAR	ASM SYSTEM	RPM SYSTEM	LOAD	ASM TOLL	RPM TOLL	ASM SYSTEM	RPM SYSTEM	ASM SYSTEM	RPM SYSTEM	ASM TOLL	RPM TOLL	LOAD	RPM SYSTEM	RPM TOLL
1960	4009	2579	64%	3987	2547	3117	2050	892	529	125	65	52%	2680	2612
1961	4967	3069	62%	4967	3021	3849	2481	1118	588	122	62	51%	3178	3084
1962	5765	3403	59%	5765	3312	4379	2660	1386	743	129	61	47%	3526	3373
1963	6258	3744	60%	6257	3479	4587	2892	1671	852	170	80	47%	3862	3553
1964	6280	4128	66%	6280	3778	4643	3143	1637	985	209	91	44%	4409	3870
1965	7296	4858	67%	7295	4567	5459	3713	1837	1145	245	105	43%	5196	4673
1966	8548	5609	66%	8549	5404	6388	4329	2160	1280	341	151	44%	5983	5556
1967	10676	6832	64%	10675	6698	8055	5340	2621	1492	369	175	47%	7327	6873
1968	12987	7375	57%	12988	7260	9716	5723	3271	1652	409	195	48%	8170	7454
1969	14009	8230	59%	14009	7721	10057	6019	3952	2211	679	311	46%	9477	8033
1970	16173	9761	60%	16173	9050	11652	7160	4521	2601	656	340	52%	11554	9638
1971	16399	9798	60%	16120	8837	11942	7153	4457	2645	1050	491	47%	11505	9564
1972	16794	11618	69%	16511	10653	12415	8701	4379	2917	1124	550	49%	13500	11489
1973	19366	13639	70%	19011	12492	14703	10548	4663	3091	1365	708	52%	16082	13599
1974	22916	14992	65%	22496	14181	16477	10992	6439	4000	1570	798	51%	18112	15395
1975	25036	15764	63%	24588	14361	17792	11297	7244	4467	1765	869	49%	19586	15657
1976	25029	16107	64%	24596	14913	18049	11478	6980	4629	1838	918	50%	20367	15831
1977	25070	16450	66%	24652	15650	18221	11509	6849	4941	1930	1177	61%	22079	16623
1978	26865	17642	66%	26123	16758	19904	12239	6961	5403	2379	1318	55%	23753	18077
1979	29484	20464	69%	29262	19608	22034	14477	7450	5987	2862	1694	59%	27898	21181
1980	30554	22027	72%	28610	20547	22185	15329	8369	6698	3205	1906	59%	29203	22655
1981	31557	21252	67%	30055	19955	22717	14351	8840	6901	3507	2000	57%	29687	22195
1982	29971	19121	64%	28788	18283	21524	13590	8447	5531	2872	1570	55%	24338	20200
1983	27784	18463	66%	26839	17831	19588	12728	8196	5735	2440	1600	66%	26321	19692
1984	29709	20394	69%	28380	19394	20396	13905	9313	6489	2699	1789	66%	29240	21513
1985	31860	21140	66%	30123	20091	21684	14130	10176	7010	3772	2114	56%	31035	22732
1986	31990	21725	68%	30073	20445	21320	14425	10670	7300	4033	2286	57%	32970	24862
1987	35269	24841	70%	32589	22636	20205	14358	15064	10483				34392	25861
1988	39488	27732	70%	36164	25297	21778	15553	17710	12179				39657	30266
1989	45253	31010	69%	37330	25733	23348	16278	21905	14732				42304	31274
1990	44617	30428	68%	41615	28645	23233	16577	21384	13851				43142	31118

Source: Statistics Canada

TABLE II.2
CANADIAN AIR CARRIERS
TRENDS IN PROFITABILITY

	AIR CANADA								CANADIAN PACIFIC/CAI							
YEAR	OPERATING REVENUE	OPERATING EXPENSES	INCOME	OPERATING INCOME before taxes	after taxes	Percent of operating revenue before	after		OPERATING REVENUE	OPERATING EXPENSES	INCOME	OPERATING INCOME before taxes	after taxes	Percent of operating revenue before	after	
1960	148987	147934	1053	-2600	-2607	0.7%	-1.7%	-1.7%	36152	41316	-5165	-4824	-4824	-14.3%	-13.3%	-13.3%
1961	165436	163292	2144	-6455	-6450	1.3%	-3.9%	-3.9%	38301	44795	-6494	-7612	-7612	-17.0%	-19.9%	-19.9%
1962	183473	176078	7395	-3546	-3541	4.0%	-1.9%	-1.9%	48642	49848	-1206	-1198	-1198	-2.5%	-2.5%	-2.5%
1963	199390	188122	11269	528	528	5.7%	0.3%	0.3%	56141	55497	643	347	347	1.1%	0.6%	0.6%
1964	213910	203527	10383	1406	1406	4.9%	0.7%	0.7%	61493	55642	5851	4819	4819	9.5%	7.8%	7.8%
1965	250126	237401	12725	3990	3990	5.1%	1.6%	1.6%	72177	63569	8608	7184	7184	11.9%	10.0%	10.0%
1966	289943	275990	13953	5820	2910	4.8%	2.0%	1.0%	83160	72103	11056	10355	8525	13.3%	12.5%	10.3%
1967	345611	329731	15880	7097	3547	4.6%	2.1%	1.0%	95770	89350	6420	5725	3395	6.7%	6.0%	3.5%
1968	387628	359610	28018	16364	8184	7.2%	4.2%	2.1%	106698	98771	7927	4904	2375	7.4%	4.6%	2.2%
1969	404652	386188	18464	3093	1548	4.6%	0.8%	0.4%	133717	122040	11677	7185	3495	8.7%	5.4%	2.6%
1970	478259	457396	20863	-2144	-1072	4.4%	-0.4%	-0.2%	149583	143032	6551	2064	1003	4.4%	1.4%	0.7%
1971	508341	480085	28256	2862	1662	5.6%	0.6%	0.3%	157945	148597	9348	4240	2140	5.9%	2.7%	1.4%
1972	583262	537770	45492	17216	8648	7.8%	3.0%	1.5%	172148	159423	12724	9671	5161	7.4%	5.6%	3.0%
1973	698050	651657	46393	12018	6123	6.6%	1.7%	0.9%	185781	174905	10877	8199	4199	5.9%	4.4%	2.3%
1974	848582	814726	33856	-18669	-9225	4.0%	-2.2%	-1.1%	276787	262881	13905	4803	2441	5.0%	1.7%	0.9%
1975	957180	917876	39304	-23860	-12473	4.1%	-2.5%	-1.3%	331806	329018	2788	-12535	-6399	0.8%	-3.8%	-1.9%
1976	1057484	1017719	39765	-22240	-10455	3.8%	-2.1%	-1.0%	350048	353394	-3346	-19435	-9802	-1.0%	-5.6%	-2.8%
1977	1187655	1098528	89127	41866	20006	7.5%	3.5%	1.7%	393585	372673	20913	7378	3340	5.3%	1.9%	0.8%
1978	1322587	1238098	84489	84104	47485	6.4%	6.4%	3.6%	465829	421985	43844	39131	20872	9.4%	8.4%	4.5%
1979	1595172	1494349	100822	102278	55368	6.3%	6.4%	3.5%	536921	507305	29616	27684	16334	5.5%	5.2%	3.0%
1980	1905862	1815945	89917	105323	57042	4.7%	5.5%	3.0%	680441	660323	20118	11133	6839	3.0%	1.6%	1.0%
1981	2161465	2088008	73458	75308	40128	3.4%	3.5%	1.9%	818700	821520	-2820	-29250	-17495	-0.3%	-3.6%	-2.1%
1982	2170969	2196630	-25662	-52101	-32645	-1.2%	-2.4%	-1.5%	849239	875847	-26609	-64621	-34692	-3.1%	-7.6%	-4.1%
1983	2144968	2116452	28516	-1544	3794	1.3%	-0.1%	0.2%	863850	865436	-1585	-23707	-13127	-0.2%	-2.7%	-1.5%
1984	2334737	2291467	43270	11395	26959	1.9%	0.5%	1.2%	932902	879880	53022	15139	9068	5.7%	1.6%	1.0%
1985	2520266	2518189	2077	-48686	-14821	0.1%	-1.9%	-0.6%	1006977	972302	34674	-25679	-15178	3.4%	-2.6%	-1.5%
1986	2636451	2507375	129076	60827	40398	4.9%	2.3%	1.5%	1100252	1042615	57637	-3847	6408	5.2%	-0.3%	0.6%
1987	2684388	2576193	108195	59493	45729	4.0%	2.2%	1.7%	1922975	1783524	139451	72941	33174	7.3%	3.8%	1.7%
1988	2849125	2705990	143135	142807	95521	5.0%	5.0%	3.4%	2136115	2097753	38362	15279	1120	1.8%	0.7%	0.1%
1989	3079633	2972146	107488	238221	148675	3.5%	7.7%	4.8%	2117958	2179940	-61982	-123715	-72249	-2.9%	-5.8%	-3.4%
1990	3238189	3279469	-41278	-97755	-73596	-1.3%	-3.0%	-2.3%	2543866	2608193	-64326	-72249	-55601	-2.5%	-2.8%	-2.2%

Source: Statistics Canada

(TABLE II.2 Continued)

	MAJOR CARRIERS								SCHED.INDUSTRY								CARRIERS LEVEL I-IV					
YEAR	OPERATING REVENUE	OPERATING EXPENSES	OPERAT. INCOME	OPER.INCOME BEFORE TAXES	AFTER	OPERAT. INC. %	NET INCOME BEFORE TAXES	AFTER	OPERATING REVENUE	OPERATING EXPENSE	OPERAT. INCOME	OP.INCOME BEFORE TAXES	AFTER	OPERAT. INC. %	NET INCOME BEFORE TAXES	AFTER	OPERATING REV.	OPERATING EXPENS	OPERAT. INC	OPERAT. INC. %	NET INCOME AFTER TAXE	NET INCOME TAXE %
1960	185139	189250	-4112	-7424	-7431	-2.2%	-4.0%	-4.0%	203476	207360	-3884	-7219	-7478	-1.9%	-3.5%	-3.7%	243	245	-2	-0.8%	-7	-2.9%
1961	203737	208087	-4350	-14067	-14062	-2.1%	-6.9%	-6.9%	220961	225557	-4597	-14563	-14617	-2.1%	-6.6%	-6.6%	264	266	-2	-0.8%	-14	-5.3%
1962	232115	225926	6189	-4744	-4739	2.7%	-2.0%	-2.0%	249652	243338	6313	-4995	-4926	2.5%	-2.0%	-2.0%	293	286	7	2.4%	-5	-1.7%
1963	255531	243619	11912	875	875	4.7%	0.3%	0.3%	276768	263882	12886	162	47	4.7%	0.1%	0.0%	319	304	15	4.7%	1	0.3%
1964	275403	259169	16234	6225	6225	5.9%	2.3%	2.3%	298746	282061	16684	6577	6578	5.6%	2.2%	2.2%	247	328	-81	-32.8%	8	3.2%
1965	322303	300970	21333	11174	11174	6.6%	3.5%	3.5%	348320	326900	21420	11534	11165	6.1%	3.3%	3.2%	408	383	25	6.1%	13	3.2%
1966	373103	348093	25009	16175	11435	6.7%	4.3%	3.1%	403080	377579	25014	16126	11451	6.2%	4.0%	2.8%	479	447	32	6.7%	16	3.3%
1967	441381	419081	22300	12822	6942	5.1%	2.9%	1.6%	475062	451953	22602	12083	6203	4.8%	2.5%	1.3%	561	533	28	5.0%	11	2.0%
1968	494326	458381	35945	21268	10559	7.3%	4.3%	2.1%	533622	496538	35817	20561	9638	6.7%	3.9%	1.8%	635	595	40	6.3%	12	1.9%
1969	539369	508228	30141	10276	5043	5.6%	1.9%	0.9%	598383	565747	29075	7631	3005	4.9%	1.3%	0.5%	721	688	33	4.6%	3	0.4%
1970	627842	600428	27414	-80	-69	4.4%	0.0%	0.0%	714249	684768	29481	-808	-1077	4.1%	-0.1%	-0.2%	823	787	36	4.4%	1	0.1%
1971	666286	628682	37604	7102	3802	5.6%	1.1%	0.6%	769269	722512	46757	13118	7288	6.1%	1.7%	0.9%	918	861	57	6.2%	12	1.3%
1972	755410	697193	58216	26887	13809	7.7%	3.6%	1.8%	875662	806593	69069	37329	20296	7.9%	4.3%	2.3%	1019	941	78	7.7%	23	2.3%
1973	883831	826562	57270	20217	10322	6.5%	2.3%	1.2%	1039765	969122	70645	35818	18966	6.8%	3.4%	1.8%	1221	1157	64	5.2%	27	2.2%
1974	1125369	1077607	47761	-13866	-6784	4.2%	-1.2%	-0.6%	1328519	1269564	58955	-3644	-1926	4.4%	-0.3%	-0.1%	1556	1483	73	4.7%	6	0.4%
1975	1288986	1246894	42092	-36395	-18872	3.3%	-2.8%	-1.5%	1539291	1493186	46102	-37064	-20242	3.0%	-2.4%	-1.3%	1891	1823	68	3.6%	-7	-0.4%
1976	1407532	1371113	36419	-41675	-20257	2.6%	-3.0%	-1.4%	1680165	1642721	37443	-43489	-21976	2.2%	-2.6%	-1.3%	1994	1937	57	2.9%	-12	-0.6%
1977	1581240	1471201	110040	49244	23346	7.0%	3.1%	1.5%	1927335	1802484	124854	58259	30356	6.5%	3.0%	1.6%	2359	2215	143	6.1%	39	1.7%
1978	1788416	1660083	128333	123235	68357	7.2%	6.9%	3.8%	2167362	2018153	149178	146289	84343	6.9%	6.7%	3.9%	2680	2514	166	6.2%	98	3.7%
1979	2132093	2001654	130439	129962	71702	6.1%	6.1%	3.4%	2567955	2419077	150887	154827	97433	5.9%	6.0%	3.4%	3256	3091	165	5.1%	95	2.9%
1980	2586303	2476268	110035	116456	63881	4.3%	4.5%	2.5%	3082165	2945412	136754	142934	78487	4.4%	4.6%	2.5%	3844	3655	191	5.0%	117	3.0%
1981	2980165	2909528	70638	46058	22633	2.4%	1.5%	0.8%	3593390	3487506	105885	78222	40204	2.9%	2.2%	1.1%	4434	4286	148	3.3%	37	0.8%
1982	3020208	3072477	-52271	-116722	-67337	-1.7%	-3.9%	-2.2%	3610845	3648130	-37285	-120136	-79339	-1.0%	-3.3%	-2.2%	4467	4486	-19	-0.4%	-86	-1.9%
1983	3006816	2981888	26931	-25251	-9333	0.9%	-0.8%	-0.3%	3615541	3575752	39789	-23149	-12982	1.1%	-0.6%	-0.4%	4455	4393	62	1.4%	-19	-0.4%
1984	3267639	3171347	96292	26534	36027	2.9%	0.8%	1.1%	3932486	3823932	108555	33042	46444	2.8%	0.8%	1.2%	4844	4695	149	3.1%	69	1.4%
1985	3527243	3490491	36751	-74365	-29999	1.0%	-2.1%	-0.9%	4294782	4256339	35442	-80825	-31059	0.8%	-1.9%	-0.7%	5395	5292	103	1.9%	1	0.0%
1986	3736703	3549990	186713	56930	46806	5.0%	1.5%	1.3%	4510395	4304065	206332	87192	81571	4.6%	1.9%	1.8%	5814	5557	257	4.4%	104	1.8%
1987	4607363	4359717	247646	132434	78703	5.4%	2.9%	1.7%	4866095	4618369	247725	142473	88542	5.3%	3.1%	1.9%	5971	5648	323	5.4%	142	2.4%
1988	4985240	4803743	181497	158086	96641	3.6%	3.2%	1.9%	4985240	4803743	181497	158086	96641	3.6%	3.2%	1.9%	6642	6435	207	3.1%	106	1.6%
1989	5197591	5152086	45506	114506	76426	0.9%	2.2%	1.5%	5197591	5152086	45506	114506	76426	0.9%	2.2%	1.5%	7231	7182	49	0.7%	10	0.1%
1990	5782055	5887662	-105604	-170004	-129197	-1.8%	-2.9%	-2.2%	5782055	5887662	-105604	-170004	-129197	-1.8%	-2.9%	-2.2%	7729	7782	-53	-0.7%	-147	-1.9%

Source: Statistics Canada

TABLE II.3
CANADIAN MAJOR CARRIERS
OUTPUT & UNIT LABOUR COSTS

	INDUSTRY I-IV						MAJOR CARRIERS					
YEAR	LABOUR COSTS % OP.COSTS	LABOUR COSTS PREDICTIVE TREND	PRODUCTIVITY AMS PER EPLOYEE	INDEX	PRODUCTIVITY PREDICTIVE TREND *	**	LABOUR COSTS % OP.COSTS	LABOUR COSTS PREDICTIVE TREND	UNIT LABOUR COST (ASM) (1986$)	INDEX	UNIT LAB.COST PREDICTIVE TREND *	**
1961	38%	0.38	344094	0.352	0.36	0.36	40%	0.38	70.38	1.89	1.68	1.68
1962	37%	0.38	398852	0.408	0.39	0.39	38%	0.38	61.90	1.66	1.64	1.64
1963	36%	0.38	439930	0.449	0.43	0.43	37%	0.38	58.14	1.56	1.60	1.60
1964	35%	0.38	440146	0.450	0.47	0.47	37%	0.38	60.31	1.62	1.55	1.55
1965	34%	0.38	484526	0.495	0.50	0.50	35%	0.38	55.53	1.49	1.51	1.51
1966	34%	0.37	505619	0.517	0.54	0.54	35%	0.38	53.09	1.43	1.47	1.47
1967	35%	0.37	534889	0.546	0.58	0.58	36%	0.37	51.36	1.38	1.43	1.43
1968	36%	0.37	615731	0.629	0.61	0.61	38%	0.37	46.53	1.25	1.39	1.39
1969	36%	0.37	632090	0.646	0.65	0.65	38%	0.37	45.94	1.23	1.34	1.34
1970	38%	0.37	707449	0.723	0.69	0.69	37%	0.37	44.80	1.20	1.30	1.30
1971	35%	0.36	716333	0.732	0.72	0.72	38%	0.37	46.18	1.24	1.26	1.26
1972	37%	0.36	721051	0.737	0.76	0.76	38%	0.37	47.84	1.28	1.22	1.22
1973	36%	0.36	768584	0.785	0.80	0.80	38%	0.37	45.14	1.21	1.18	1.18
1974	35%	0.36	803112	0.821	0.83	0.83	36%	0.37	42.38	1.14	1.13	1.13
1975	33%	0.36	870848	0.890	0.87	0.87	36%	0.36	40.39	1.08	1.09	1.09
1976	35%	0.36	888278	0.908	0.91	0.91	36%	0.36	41.43	1.11	1.05	1.05
1977	36%	0.35	921048	0.941	0.94	0.94	36%	0.36	41.46	1.11	1.01	1.01
1978	32%	0.33	978760	1.000	0.96	1.01	34%	0.33	37.24	1.00	1.05	0.99
1979	31%	0.33	1001121	1.023	0.97	1.00	33%	0.33	37.00	0.99	1.04	1.01
1980	31%	0.32	960304	0.981	0.99	0.99	32%	0.33	37.81	1.02	1.03	1.03
1981	30%	0.32	982503	1.004	1.01	0.98	31%	0.32	38.40	1.03	1.01	1.05
1982	31%	0.32	943255	0.964	1.02	0.97	32%	0.32	39.00	1.05	1.00	1.07
1983	31%	0.31	950075	0.971	1.04	0.96	33%	0.32	40.00	1.07	0.99	1.09
1984	31%	0.31	1020682	1.043	1.05	1.01	32%	0.32	37.27	1.00	0.97	0.99
1985	29%	0.31	1105022	1.129	1.07	1.03	31%	0.31	35.07	0.94	0.96	0.97
1986	29%	0.30	1061803	1.085	1.09	1.05	32%	0.31	35.74	0.96	0.95	0.95
1987	29%	0.30	1016896	1.039	1.10	1.07	31%	0.31	36.23	0.97	0.94	0.93
1988	28%	0.30	1078171	1.102	1.12	1.08	30%	0.31	34.10	0.92	0.92	0.91
1989	28%	0.29	1198533	1.225	1.13	1.11	31%	0.31	31.04	0.83	0.91	0.89
1990	27%	0.29	1139642	1.164	1.15	1.13	30%	0.30	33.07	0.89	0.90	0.87

Source: Statistics Canada.
Output per employee and unit labour cost computed by the author.
* Data refer to the periods 1960-1977 and 1978-1990
**Data refer to the periods 1960-1977, 1978-1983, 1984-1990

TABLE II.3 (Cont.)

	AIR CANADA (AC)		CANADIAN (CAIL)				AIR CANADA (AC)			CANADIAN AIRLINES (CAIL)				
YEAR	PRODUCTIVITY ASM PER EMPLOYEE AC	INDEX	PRODUCTIVITY ASM PER EMPLOYEE CAIL	INDEX	PRODUCTIVITY PREDICTIVE TREND AC	CAIL	LABOUR COSTS % OF OP.COSTS	UNIT LABOUR COST (1986$) AC	INDEX	LABOUR COSTS % OF OP.COSTS	UNIT LABOUR COST (1986$) CAIL	INDEX	UNIT LABOUR COST PREDICTIVE TREND AC	CAIL
1961	328105	0.337	413462	0.415			42%	74.38	1.978	34%	56.59	1.564		
1962	367458	0.378	546315	0.549			40%	67.22	1.787	30%	45.06	1.245		
1963	395875	0.407	633434	0.636			39%	64.83	1.724	29%	39.74	1.098		
1964	399089	0.410	621488	0.624			39%	67.27	1.789	30%	40.57	1.121		
1965	445524	0.458	654802	0.657	0.454	0.669	36%	61.16	1.626	29%	40.92	1.131	1.555	1.020
1966	465666	0.479	677541	0.680	0.493	0.695	36%	58.45	1.554	30%	37.21	1.028	1.517	1.018
1967	509069	0.523	688650	0.691	0.532	0.721	38%	56.04	1.490	30%	37.00	1.023	1.479	1.016
1968	578643	0.595	760521	0.764	0.571	0.747	39%	50.72	1.349	32%	34.07	0.942	1.441	1.014
1969	580089	0.596	818898	0.822	0.610	0.773	40%	50.91	1.354	32%	33.31	0.921	1.403	1.012
1970	658752	0.677	873961	0.877	0.649	0.799	39%	49.49	1.316	32%	32.71	0.904	1.365	1.010
1971	682127	0.701	827516	0.831	0.688	0.825	39%	49.60	1.319	35%	37.01	1.023	1.327	1.008
1972	696298	0.716	801868	0.805	0.727	0.851	39%	50.84	1.352	36%	39.34	1.087	1.289	1.006
1973	753536	0.775	820229	0.824	0.766	0.877	38%	47.06	1.251	38%	39.10	1.081	1.251	1.004
1974	772625	0.794	893313	0.897	0.805	0.903	36%	45.20	1.202	34%	35.16	0.972	1.213	1.002
1975	845105	0.869	941268	0.945	0.844	0.929	37%	42.85	1.139	33%	34.41	0.951	1.175	1.009
1976	866075	0.890	951343	0.955	0.883	0.955	36%	43.16	1.148	35%	36.98	1.022	1.137	0.998
1977	894765	0.920	999125	1.003	0.922	0.981	37%	43.05	1.145	35%	37.24	1.029	1.099	0.996
1978	972873	1.000	995994	1.000	0.982	0.935	34%	37.61	1.000	33%	36.18	1.000	1.032	1.050
1979	1016775	1.045	983758	0.988	0.985	0.971	34%	37.00	0.984	33%	36.97	1.022	1.033	1.021
1980	965903	0.993	984472	0.988	0.988	1.007	32%	38.50	1.024	31%	35.95	0.994	1.034	0.992
1981	948662	0.975	991031	0.995	0.991	1.043	31%	39.28	1.044	29%	36.20	1.001	1.035	0.963
1982	938151	0.964	956517	0.960	0.994	1.079	33%	40.08	1.066	29%	36.25	1.002	1.036	0.934
1983	920186	0.946	1030036	1.034	0.997	1.115	34%	41.81	1.112	30%	35.67	0.986	1.037	0.905
1984	946362	0.973	1232694	1.238	1.000	1.151	34%	40.83	1.086	29%	29.46	0.814	1.038	0.876
1985	1028360	1.057	1313710	1.319	1.003	1.187	32%	38.85	1.033	27%	27.01	0.747	1.039	0.847
1986	980545	1.008	1272510	1.278	1.006	1.223	33%	39.15	1.041	30%	28.91	0.799	1.040	0.818
1987	933515	0.960	1155303	1.160	1.009	1.259	33%	40.15	1.068	27%	30.97	0.856	1.041	0.789
1988	961926	0.989	1266357	1.271	1.012	1.295	34%	38.78	1.031	26%	28.35	0.784	1.042	0.760
1989	1029680	1.058	1452394	1.458	1.015	1.331	33%	37.26	0.991	28%	24.41	0.675	1.043	0.731
1990	1039973	1.069	1272100	1.277	1.018	1.367	33%	38.96	1.036	26%	26.68	0.737	1.044	0.702

TABLE II.4
CANADIAN AIRLINE INDUSTRY
EMPLOYMENT AND COMPENSATION

	MAJOR CARRIERS				REGIONAL CARRIERS			SCHEDULED INDUSTRY	AIRLINE INDUSTRY			
YEAR	EMPLOYMENT	REAL EARNINGS	PREDICTIVE TREND‡	‡‡	EMPLOYMENT	REAL EARNINGS	PREDICTIVE TREND	EMPL.	EMPLOYMENT	REAL EARNINGS	PREDICTIVE TREND‡	‡‡
1960	13878	23881			1296	21520		15174	17080	23517		
1961	14435	24218			1237	22777		15672	17688	24146		
1962	14454	24686			1221	22810		15675	17806	24508		
1963	14225	25577			1483	21202		15708	17575	25102		
1964	14268	26546			1465	23418		15733	17757	26068		
1965	15058	26907	26292	26292	1577	24686	23601	16635	19007	26560	26122	26122
1966	16906	26842	27263	27263	1730	23975	24585	18636	21440	26500	26977	26977
1967	19629	27938	28234	28234	1814	24717	25569	21443	24673	27431	27832	27832
1968	21092	28648	29205	29205	1965	25775	26553	23057	26550	28167	28687	28687
1969	22163	29040	30176	30176	2444	27462	27537	24607	28625	28580	29542	29542
1970	22861	31697	31147	31147	2860	29390	28521	25721	30698	31600	30397	30397
1971	22893	33078	32118	32118	3091	29330	29505	25984	29622	32194	31252	31252
1972	23291	34494	33089	33089	3413	31288	30489	26704	31480	32835	32107	32107
1973	25197	34694	34060	34060	3932	32991	31473	29129	34061	33708	32962	32962
1974	28534	34033	35031	35031	4957	31050	32457	33491	38874	32987	33817	33817
1975	28749	35176	36002	36002	5473	32896	33441	34222	40321	33873	34672	34672
1976	28177	36804	36973	36973	5530	34446	34425	33707	39950	35305	35527	35527
1977	27219	38191	37944	37944	5714	35566	35409	32933	39466	36542	36382	36382
1978	27448	36451	36564	37090	5910	35557	35571	33358	40167	35279	35223	36303
1979	29451	37302	36747	37126	6307	35840	36168	35758	43336	35990	35446	36150
1980	31817	36704	36930	37162	6503	36515	36765	38320	47676	35106	35669	35997
1981	32119	36877	37113	37198	6785	37017	37362	38904	47534	35626	35892	35844
1982	31774	36789	37296	37234	6331	38071	37959	38105	45707	35886	36115	35691
1983	29244	38002	37479	37270	5770	39875	38556	35014	42093	36800	36338	35538
1984	29107	38038	38379	37306	5979	40202	39153	35086	42282	36653	36795	35385
1985	28832	38755	38103	37342	6363	38849	39750	35195	43330	36936	36212	35232
1986	30128	37944	37827	37378	5698	39691	40347	35826	45489	35854	35629	35079
1987	34683	36845	37551	37414				34683	46356	34403	35046	34926
1988	36032	37375	37275	37450				36032	49401	33420	34463	34773
1989	37757	37202	36999	37486				37757	51018	34232	33880	34620
1990	39150	36679	36723	37522				39150	52490	33829	33297	34467

Source: Statistics Canada.
Average compensation per employee has been computed by dividing total employment costs by the number of employees.
‡ Data are for the periods 1965-1977, 1978-1983, 1984-1990
‡‡Data are for the periods 1965-1977, 1978-1990

TABLE II.4 (Cont>)

	AIR CANADA					CANADIAN/CAIL				
YEAR	EMPLOYMENT	PREDICTIVE TREND	REAL EARNINGS	PREDICTIVE TREND$	$$	EMPLOYMENT	PREDICTIVE TREND	REAL EARNINGS	PREDICTIVE TREND$	$$
1960	11195		24178			2683		22665		
1961	11731		24406			2704		23397		
1962	11917		24702			2537		24620		
1963	11587		25667			2638		25187		
1964	11634		26849			2634		25418		
1965	12253	13785	27249	26833	26833	2805	3012	25412	24027	24027
1966	13718	14462	27218	27825	27825	3188	3404	25214	25001	25001
1967	15823	15139	28525	28817	28817	3806	3796	25482	25975	25975
1968	16791	15816	29348	29809	29809	4301	4188	25913	26949	26949
1969	17337	16493	29530	30801	30801	4826	4580	27277	27923	27923
1970	17688	17170	32603	31793	31793	5173	4972	28590	28897	28897
1971	17507	17847	33834	32785	32785	5386	5364	30624	29871	29871
1972	17830	18524	35395	33777	33777	5461	5756	31548	30845	30845
1973	19512	19201	35458	34769	34769	5685	6148	32069	31819	31819
1974	21326	19878	34920	35761	35761	7208	6540	31409	32793	32793
1975	21053	20555	36195	36753	36753	7696	6932	32387	33767	33767
1976	20840	21232	37375	37745	37745	7337	7324	35183	34741	34741
1977	20364	21909	38522	38737	38737	6855	7716	37203	35715	35715
1978	20459	21884	36590	36783	37014	6989	5831	36039	35925	36409
1979	21878	21913	37625	37052	37209	7573	6543	36370	35894	36273
1980	23316	21942	37185	37321	37404	8501	7255	35388	35863	36137
1981	23199	21971	37261	37590	37599	8920	7967	35875	35832	36001
1982	22943	22000	37602	37859	37794	8831	8679	34673	35801	35865
1983	21287	22029	38471	38128	37989	7957	9391	36746	35770	35729
1984	21552	22058	38642	38556	38184	7555	10103	36317	36898	35593
1985	21086	22087	39956	38640	38379	7746	10815	35483	36389	35457
1986	21743	22116	38392	38724	38574	8385	11527	36783	35880	35321
1987	21644	22145	37484	38808	38769	13039	12239	35784	35371	35185
1988	22047	22174	38309	38892	38964	13985	12951	35901	34862	35049
1989	22675	22203	38367	38976	39159	15082	13663	35448	34353	34913
1990	22340	22232	40516	39060	39354	16810	14375	31888	33844	34777

TABLE II.5
Regression results of the two equations relating employment to years for the the periods 1965-77 and 1978-90 for the National carriers

	AIR CANADA		CAIL	
	1965-77	1978-90	1965-77	1978-90
Constant	n. 13784	21883	3012	5831
	(994)	(902)	(454)	(1962)
Year	n.677	29	391	712
	(73)	(66)	(33)	(145)
R Squared	.885	.017	.924	.685

TABLE II.6
Regression results of the three equations relating real average earnings to year for the periods 1965-77, 1978-83, 1984-90 for the National carriers

	AIR CANADA			CANADIAN		
	1965-77	1978-83	1984-90	1965-77	1978-83	1984-90
Constant	$26833	$36783	$38556	$24027	$35925	$36897
	(879)	(410)	(1134)	(1006)	(820)	(1284)
Year	$ 991	$ 268	$ 84	$ 973	$ -30	$ -508
	(65)	(98)	(214)	(74)	(196)	(242)
R Squared	.955	.652	.030	.939	.006	.467

TABLE II.7
Regression results of the two equations relating indexes of labour output and unit labour costs to year for the periods 1965-77 and 1978-90 for the National carriers.

	LABOUR OUTPUT				UNIT LABOUR COSTS			
	AIR CANADA		CAIL		AIR CANADA		CAIL	
	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90	1965-77	1978-90
Constant	.454	.982	.669	.935	1.55	1.03	1.02	1.05
	(.015)	(.041)	(.037)	(.090)	(.00)	(.038)	(.07)	(.059)
Year	.039	.003	.026	.036	- .038	.001	- .002	- .028
	(.001)	(.003)	(.002B)	(.006)	(.0037)	(.002)	(.005B)	(.004)
R Squared	.990	.100	.888	.723	.905	.017	.011	.795

TABLE II.8
CANADIAN INDUSTRY
EMPLOYMENT AND AVERAGE REAL EARNINGS
SELECTED LABOUR GROUPS

	PILOTS							FLIGHT ATTENDANTS						
	AC		CP/CAIL		MAJOR SECTOR		INDUSTRY	AC		CP/CAIL		MAJOR SECTOR		INDUSTRY
YEAR	EMPLOYMENT	REAL WAGES	EMPLOYMENT	REAL WAGES	TOTAL EMPLOYMENT	REAL WAGES	TOTAL EMPLOYMENT	EMPLOYMENT	REAL WAGES	EMPLOYMENT	REAL WAGES	TOTAL EMPLOYMENT	WAGES	TOTAL EMPLOYMENT
1964	605	62685	201	62576	906	62658	1022	732	22130	252	18276	984	21143	1070
1965	650	56989	226	60087	876	57788	1102	807	22078	278	25712	1085	23009	1183
1966	802	58613	267	58686	1069	58631	1315	1060	20081	312	25617	1372	21340	1482
1967	1031	56383	325	55719	1356	56224	1613	1399	21203	384	25277	1783	22081	1905
1968	1156	60144	374	54622	1530	58794	1811	1576	22633	444	25716	2020	23310	2175
1969	1134	61546	370	65955	1504	62631	1862	1679	22827	515	26071	2194	23539	2440
1970	1118	70336	383	68315	1501	69820	1858	1750	26177	600	26585	2350	26281	2657
1971	1105	74671	382	75703	1487	74936	1885	1987	26475	656	30732	2643	27531	2957
1972	1119	80169	408	75914	1527	79033	2024	2257	27188	597	28716	2854	27507	3223
1973	1232	82449	454	75000	1686	80444	2263	2574	27341	610	27304	3184	27334	3632
1974	1377	76512	544	73672	1941	75716	2613	2935	26880	783	28257	3718	27170	4325
1975	1511	77290	582	75905	2093	76905	2817	2796	28708	883	29056	3679	28791	4438
1976	1512	75844	556	82738	2068	77697	2785	2840	30368	891	32282	3731	30821	4484
1977	1489	78177	528	83049	2017	79452	2742	2663	31642	835	32163	3498	31766	4301
1978	1482	75290	526	76229	2008	75536	2742	2760	29380	839	32574	3599	30194	4403
1979	1676	79501	569	85378	2245	80991	3017	2968	30082	928	31243	3896	30359	4728
1980	1879	75770	638	84481	2517	77978	3284	3239	29417	1113	30560	4352	29710	5179
1981	1867	77316	668	84566	2555	79212	3310	3200	29774	1159	33821	4359	30866	5293
1982	1857	77247	636	89010	2493	80248	3191	3104	30074	1195	30880	4299	30298	5192
1983	1820	74859	569	92796	2389	79131	3023	2893	30735	1149	33527	4042	31529	4877
1984	1794	77422	511	93304	2305	80943	2943	2850	31044	1153	32971	4003	31599	4899
1985	1767	85700	525	87627	2292	86141	2966	2457	32823	1139	33160	3596	32930	4600
1986	1732	97079	604	98045	2336	89914	2999	3001	29517	1248	31239	4249	30023	5171
1987	1715	82365	963	94446	2678	86709	2678	2932	28665	1951	29095	4883	28838	4883
1988	1733	85609	1133	89978	2866	87336	2866	3016	29327	2246	30043	5262	29634	5262
1989	1755	86230	1227	93149	2982	89077	2982	3468	26862	2493	30825	5961	28520	5961
1990	1791	88114	1363	93130	3154	90289	3154	3373	27840	2904	29571	6277	28638	6277

TABLE II.8 (Cont.)

	MAINTENANCE LABOUR							AIRCRAFT & TRAFFIC SERVICING							OTHER PERSONNEL				
	AC		CP/CAIL		MAJOR SECTOR		INDUSTRY	AC		CP/CAIL		MAJOR SECTOR		INDUSTRY	AC		CP/CAIL		MAJORS
YEAR	EMPLOYMENT	REAL WAGES	EMPLOYMENT	REAL WAGES	TOTAL EMPLOYMENT	WAGES	TOTAL EMPLOYMENT	EMPLOYMENT	REAL WAGES	EMPLOYMENT	REAL WAGES	TOTAL EMPLOYMENT	WAGES	TOTAL EMPLOYMENT	EMPLOYMENT	REAL WAGES	EMPLOYMENT	REAL WAGES	TOTAL EMPLOYMENT
1964	2559	25562	539	23128	3098	25139	3644	3874	23874	846	20730	4720	23310	5094	3799	25020	677	18885	4476
1965	2681	26211	541	23807	3222	25807	3801	4126	23856	920	20669	5046	23275	5446	3921	25660	728	19279	4649
1966	2823	25689	593	23831	3416	25366	4034	4717	23911	1056	20427	5773	23274	6206	4243	26679	846	19299	5089
1967	3071	28580	676	25298	3747	27988	4367	5642	24676	1316	20564	6958	23898	7416	4599	28090	984	19961	5583
1968	3436	28070	743	26787	4179	27842	4845	5773	25305	1592	21151	7365	24407	7858	4758	28588	1028	20035	5786
1969	3361	27770	766	28673	4127	27937	4859	6056	25514	1848	22220	7904	24744	8518	5005	29144	1199	20709	6204
1970	3210	30772	889	29464	4099	30488	4893	6361	28371	1763	23523	8124	27319	8836	5140	31235	1382	23185	6522
1971	3136	31755	1053	32744	4189	32004	5007	6044	29831	1103	24419	7147	28998	7957	5127	32407	2107	23930	7234
1972	3068	34121	1054	33028	4122	33841	4971	6223	31265	1248	26980	7471	30549	8505	5051	33621	2066	24814	7117
1973	3243	34961	732	33694	3975	34727	4920	6929	30928	1340	27419	8269	30359	9415	5416	33026	2461	26462	7877
1974	3468	33819	1207	33788	4675	33811	5795	7488	30650	1751	27414	9239	30037	10722	5915	33759	2821	24726	8736
1975	3332	34647	1167	32374	4499	34057	5705	7451	31213	1932	27769	9383	30504	10995	5841	35074	3037	27219	8878
1976	3202	36657	1154	33909	4356	35929	5572	7498	32334	1848	31694	9346	32207	11032	5665	36540	2821	28815	8486
1977	3034	36413	1130	34456	4164	35882	5400	7456	32794	1832	32659	9288	32767	11067	5587	38357	2451	32946	8038
1978	2982	35215	1129	33847	4111	34639	5337	7695	31990	1957	31885	9652	31968	11459	5405	35570	2455	31925	7860
1979	3240	39742	1691	34914	4931	38086	6172	8093	31382	3146	31613	11239	31447	13302	5752	35171	1149	29400	6901
1980	3636	34623	1916	34346	5552	34659	6710	8526	32301	3609	29863	12135	31576	14413	5870	36065	1138	29673	7008
1981	3670	33768	2038	33473	5709	33663	7002	8471	31915	3799	30079	12270	31347	14476	5800	36428	1169	30759	6969
1982	3606	34163	1975	33360	5581	33879	6855	8298	32231	3819	28198	12117	30960	14330	5894	36605	1122	30094	7016
1983	3198	36565	1718	35377	4916	36150	6106	7784	33200	3473	30072	11257	32235	13199	5422	37098	983	32198	6405
1984	3346	37017	1588	34933	4936	36346	6227	7980	33609	3331	29987	11311	32542	13140	5407	36379	896	32503	6303
1985	3472	36854	1567	34618	5039	36156	6300	7944	34281	3457	29405	11401	32803	13348	5287	36664	992	31672	6279
1986	3331	36394	1676	35418	5007	36067	5994	8217	32683	3639	29916	11856	31834	13630	5299	35958	1125	32395	6424
1987	3312	34997	1948	37330	5260	35881	5260	8316	31746	3972	27114	12288	30249	12288	5205	36676	1840	26457	7045
1988	3348	37145	2216	32763	5564	35398	5564	8536	32161	4430	24135	12966	29419	12966	5191	37076	2094	30178	7287
1989	3429	36625	2010	33614	5439	35513	5439	8591	32134	5089	22551	13670	29566	13670	5376	38221	2319	34756	7695
1990	3599	35985	3430	35982	7029	35982	7029	8602	31836	6389	23348	14991	28219	14991	5100	45382	2056	27379	7156

Source: Statistics Canada

TABLE II.9
CANADIAN SCHEDULED INDUSTRY
PREDICTIVE TRENDS IN
EMPLOYMENT, PRODUCTIVITY AND EARNINGS
BY LABOUR CATEGORIES

	PREDICTIVE TRENDS IN EMPLOYMENT								PRODUCTIVITY INDEX*			
YEAR	MAJOR CARRIERS				AIRLINE INDUSTRY				MAJOR CARRIERS			
	PILOTS	FLT.ATT.	MECHANICS	AGENTS	PILOTS	FLT.ATT.	MECHANICS	AGENTS	PILOTS	FLT.ATT.	MECHANICS	AGENTS
1965	1048	1257	3578	5857	1216	1260	4089	6056	1.606	1.110	2.886	1.925
1966	1138	1484	3659	6179	1355	1552	4230	6507	1.673	1.198	2.612	1.880
1967	1228	1711	3739	6501	1494	1844	4371	6958	1.699	1.247	2.294	1.814
1968	1318	1938	3819	6823	1633	2136	4512	7409	1.576	1.161	2.103	1.578
1969	1408	2165	3899	7145	1772	2428	4653	7860	1.436	1.169	1.925	1.570
1970	1498	2392	3979	7467	1911	2720	4794	8311	1.242	1.085	1.656	1.398
1971	1588	2619	4059	7789	2050	3012	4935	8762	1.213	1.203	1.669	1.213
1972	1678	2846	4139	8111	2189	3304	5076	9213	1.216	1.269	1.604	1.238
1973	1768	3073	4219	8433	2328	3596	5217	9664	1.165	1.227	1.341	1.188
1974	1858	3300	4299	8755	2467	3888	5358	10115	1.133	1.211	1.333	1.122
1975	1948	3527	4379	9077	2606	4180	5499	10566	1.118	1.097	1.174	1.043
1976	2038	3754	4459	9399	2745	4472	5640	11017	1.105	1.113	1.137	1.039
1977	2128	3981	4539	9721	2884	4764	5781	11468	1.076	1.042	1.085	1.031
1978	2131	3497	4729	10533	3068	4598	6313	13167	1.000	1.000	1.000	1.000
1979	2196	3667	4826	10792	3059	4686	6287	13218	1.011	0.979	1.085	1.053
1980	2261	3837	4923	11051	3050	4774	6261	13269	1.090	1.052	1.175	1.093
1981	2326	4007	5020	11310	3041	4862	6235	13320	1.108	1.055	1.209	1.107
1982	2391	4177	5117	11569	3032	4950	6209	13371	1.113	1.071	1.217	1.125
1983	2456	4347	5214	11828	3023	5038	6183	13422	1.150	1.086	1.156	1.128
1984	2521	4517	5311	12087	3014	5126	6157	13473	1.038	1.006	1.086	1.060
1985	2586	4687	5408	12346	3005	5214	6131	13524	0.962	0.842	1.034	0.996
1986	2651	4857	5505	12605	2996	5302	6105	13575	0.977	0.991	1.023	1.032
1987	2716	5027	5602	12864	2987	5390	6079	13626	1.016	1.033	0.975	0.970
1988	2781	5197	5699	13123	2978	5478	6053	13677	0.971	0.995	0.921	0.914
1989	2846	5367	5796	13382	2969	5566	6027	13728	0.882	0.983	0.785	0.841
1990	2911	5537	5893	13641	2960	5654	6001	13779	0.946	1.050	1.030	0.935

* Productivity refers to employees per unit of output (ASM).

TABLE II.9 (Cont.)

PREDICTIVE TRENDS IN WAGES

	PILOTS			FLIGHT ATTENDANTS			MAINTENANCE/OVERHAUL			AIRCRAFT SERVICING		
YEAR	AC	CP/CAIL	MAJOR	AC	CP/CAIL	MAJOR	AC	CP/CAIL	MAJOR	AC	CP/CAIL	MAJOR
1965	56823	55744	56544	20333	24686	21345	25718	24300	25532	23512	18892	22617
1966	59008	58058	58761	21221	25231	22153	26681	25273	26479	24345	19934	23492
1967	61193	60372	60978	22109	25776	22961	27644	26246	27426	25178	20976	24367
1968	63378	62686	63195	22997	26321	23767	28607	27219	28373	26011	22018	25242
1969	65563	65000	65412	23885	26866	24577	29570	28192	29329	26844	23060	26117
1970	67748	67314	67629	24773	27411	25385	30533	29165	30267	27677	24102	26992
1971	69933	69628	69846	25661	27956	26193	31496	30138	31214	28510	25144	27867
1972	72118	71942	72063	26549	28501	27001	32459	31111	32161	29343	26186	28742
1973	74303	74256	74280	27437	29046	27809	33422	32084	33108	30176	27228	29617
1974	76488	76570	76497	28325	29591	28617	34385	33057	34055	31009	28270	30492
1975	78673	78884	78714	29213	30136	29425	35348	34030	35002	31842	29312	31367
1976	80858	81198	80931	30101	30681	30233	36311	35003	35949	32675	30354	32242
1977	83043	83512	83148	30989	31226	31041	37224	35976	36896	33508	31396	33117
1978	74513	82644	76251	30582	32780	31034	35876	34122	35323	32297	32460	32545
1979	75587	83769	77433	30428	32571	30902	35913	34204	35367	32318	31770	32289
1980	76661	84894	78615	30274	32362	30770	35950	34286	35411	32339	31080	32033
1981	77735	86019	79797	30120	32153	30638	35987	34368	35455	32360	30390	31777
1982	78809	87144	80979	29966	31944	30506	36024	34450	35499	32381	29700	31521
1983	79883	88269	82161	29812	31735	30374	36061	34532	35543	32402	29010	31265
1984	80957	89394	83343	29658	31526	30242	36098	34614	35587	32423	28320	31009
1985	82031	90519	84525	29504	31317	30110	36135	34696	35631	32444	27630	30753
1986	83105	91644	85707	29350	31108	29978	36172	34778	35675	32465	26940	30497
1987	84179	92769	86889	29196	30899	29846	36209	34860	35719	32486	26250	30241
1988	85253	93894	88071	29042	30690	29714	36246	34942	35763	32507	25560	29985
1989	86327	95019	89253	28888	30481	29582	36283	35024	35807	32528	24879	29729
1990	87401	96144	90435	28734	30272	29450	36320	35106	35851	32549	24180	29473

Note: The regression results of the wage equations generating these trends for Air Canada and Canadian are found in Table II.10

TABLE II.10
Regression results of the two equations relating average real earnings to year for each labour group in the two National carriers.

	PILOTS				FLIGHT ATTENDANTS			
	1965- -77		1978-8-90		1965- -77		1978-8-90	
	AC	CAIL	AC	CAIL	AC	CAIL	AC	CAIL
Constant	$ 56823	$ 55744	$ 74513	$ 82643	$ 20333	$ 24686	$ 30581	$ 32780
	(4870)	(4055)	(2864)	(3877)	(1057)	(1356)	(1398)	(1418)
Year	$ 2184	$ 2316	$ 1074	$ 1125	$ 888	$ 545	$ - 154	$ - 208
	(361)	(300)	(212)	(287)	(78)	(100)	(103)	(105)
R Squared	.769	.844	.699	.582	.921	.728	.167	.264

	MAINTENANCE/OVERHAUL				TICKETING/SALES			
	1965- -77		1978-8-90		1965- -77		1978-8-90	
	AC	CAIL	AC	CAIL	AC	CAIL	AC	CAIL
Constant	$ 25718	$ 24300	$ 35876	$ 34122	$ 23512	$ 18891	$ 32296	$ 32460
	(1068)	(1463)	(1621)	(1258)	(975)	(1089)	(975)	(1622)
Year	$ 963	$ 973	$ 37	$ 81	$ 833	$ 1042	$ 20	$ - 689
	(79)	(108)	(120)	(93)	(72)	(80)	(63)	(120)
R Squared	.931	.880	.009	.066	.924	.938	.010	.750

TABLE II.11
CANADA-SELECTED INDUSTRIES
EMPLOYMENT AND AVERAGE EARNINGS

EMPLOYMENT

YEAR	AIR INDUSTRY	INDEX	PREDICTIVE TREND	MAJOR AIR SECTOR	INDEX	PREDICTIVE TREND	MANUFACTURING INDUSTRY	INDEX	PREDICTIVE TREND	LAND TRANSPORTATION COMMUN. UTILITIES	INDEX	PREDICTIVE TREND
1960	17080	0.425		13878	0.506		1265	0.647				
1961	17638	0.440		14435	0.526		1353	0.692				
1962	17806	0.443		14454	0.527		1390	0.711				
1963	17575	0.438		14225	0.518		1425	0.729				
1964	17757	0.442		14268	0.520		1491	0.762				
1965	19007	0.473	0.507	15058	0.549	0.612	1570	0.803	0.813			
1966	21440	0.534	0.547	16906	0.616	0.651	1646	0.842	0.829			
1967	24673	0.614	0.587	19629	0.715	0.690	1653	0.845	0.845			
1968	26550	0.661	0.627	21092	0.768	0.729	1642	0.839	0.861			
1969	28625	0.713	0.667	22163	0.807	0.768	1675	0.856	0.877			
1970	30698	0.764	0.707	22861	0.833	0.807	1768	0.904	0.893	667302	0.815	0.819
1971	29622	0.737	0.747	22893	0.834	0.846	1766	0.903	0.909	677378	0.827	0.841
1972	31480	0.784	0.787	23291	0.849	0.885	1823	0.932	0.925	702520	0.858	0.863
1973	34061	0.848	0.827	25197	0.918	0.924	1927	0.985	0.941	740939	0.905	0.885
1974	38874	0.968	0.867	28534	1.040	0.963	1978	1.011	0.957	752126	0.919	0.907
1975	40321	1.004	0.907	28749	1.047	1.002	1871	0.957	0.973	771679	0.942	0.929
1976	39950	0.995	0.947	28177	1.027	1.041	1921	0.982	0.989	784050	0.958	0.951
1977	39466	0.983	0.987	27219	0.992	1.080	1888	0.965	1.005	779534	0.952	0.973
1978	40167	1.000	1.047	27448	1.000	1.009	1956	1.000	1.022	818833	1.000	1.010
1979	43336	1.079	1.063	29451	1.073	1.036	2071	1.059	1.024	859664	1.050	1.015
1980	47676	1.187	1.079	31817	1.159	1.063	2111	1.079	1.026	858324	1.048	1.020
1981	47534	1.183	1.095	32119	1.170	1.090	2124	1.086	1.027	863466	1.055	1.025
1982	45707	1.138	1.111	31774	1.158	1.117	1928	0.986	1.029	836293	1.021	1.030
1983	42093	1.048	1.127	29244	1.065	1.144	1879	0.961	1.031	822907	1.005	1.035
1984	42282	1.053	1.143	29107	1.060	1.171	1954	0.999	1.033	809718	0.989	1.040
1985	43330	1.079	1.159	28832	1.050	1.198	1960	1.002	1.035	832670	1.017	1.045
1986	45489	1.132	1.175	30128	1.098	1.225	1989	1.017	1.036	845511	1.033	1.050
1987	46356	1.154	1.191	34683	1.264	1.252	2018	1.032	1.038	852644	1.041	1.055
1988	49401	1.230	1.207	37025	1.349	1.279	2104	1.076	1.040	854599	1.044	1.060
1989	51072	1.271	1.223	37757	1.376	1.306	2126	1.087	1.042	909928	1.111	1.065
1990	52490	1.307	1.239	39150	1.426	1.333				898510	1.097	1.070

Source: Air Industry and Major Carriers: Statistics Canada
Other Industries: Statistics Canada, Aggregate Productivity Measures.

TABLE II.11 (Cont.)

REAL AVERAGE WAGES

YEAR	AIR INDUSTRY	PREDICTIVE TREND	MAJOR AIR SECTOR	PREDICTIVE TREND	LAND TRANSPORT COMMUNICATION UTILITIES	PREDICTIVE TREND	MANUFACTURING INDUSTRY	PREDICTIVE TREND
1961	24146		24218				18029	
1962	24508		24686				18583	
1963	25102		25577				19059	
1964	26068		26546				19517	
1965	26560	26212	26907	26292			20062	20006
1966	26500	27067	26842	27263			20613	20441
1967	27431	27922	27938	28234			21038	20876
1968	28167	28777	28648	29205			21772	21311
1969	28580	29632	29040	30176			22364	21746
1970	31600	30487	31697	31147	22773	22229	21466	22181
1971	32194	31342	33078	32118	23125	22966	22283	22616
1972	32835	32197	34494	33089	23598	23703	22802	23051
1973	33708	33052	34694	34060	23544	24440	22574	23486
1974	32987	33907	34033	35031	25085	25177	23075	23921
1975	33873	34762	35176	36002	25144	25914	24230	24356
1976	35305	35617	36804	36973	27835	26651	26140	24791
1977	36542	36472	38191	37944	27374	27388	25574	25226
1978	35279	36303	36451	37090	26872	27176	25113	24014
1979	35990	36150	37302	37126	26480	27222	24629	24225
1980	35106	35997	36704	37162	26848	27268	24208	24436
1981	35626	35844	36877	37198	27415	27314	24217	24647
1982	35886	35691	36789	37234	27627	27360	24133	24858
1983	36800	35538	38002	37270	27826	27406	24571	25069
1984	36653	35385	38038	37306	28835	27452	24646	25280
1985	36936	35232	38755	37342	28294	27498	25494	25491
1986	35854	35079	37944	37378	27621	27544	25548	25702
1987	34403	34926	36845	37414	27236	27590	26249	25913
1988	33420	34773	37375	37450	27521	27636	26434	26124
1989	34232	34620	37202	37486	26618	27682	26835	26335
1990	33829	34467	36679	37522				

TABLE II.12
CANADA-AIRLINE INDUSTRY
ACQUISITION & CONNECTOR NETWORK

YEAR	CPAL	AIR CANADA	PWA	YEAR	AIR CANADA	PWA/CAIL
1977			Acquisition of TRANSAIR, 73%	1986	AIR NOVA(1)	
				1987	AIR NOVA	TIME AIR
1979			TRANSAIR 100%		AIR ONTARIO(2)	CALM AIR
					AIR BC(3)	ONTARIO EXPRESS
1978		Acquisition of NORDAIR, 85.5%				LIGNE AERIENNES
						INTER QUEBEC
						QUEBEC AIR
1982			40% SWIFTAIR (cargo airline)			AIR ATLANTIC
1983			42% TIME AIR	1988	AIR NOVA	TIME AIR
					AIR ONTARIO	CALM AIR
1984	100% EPA & AIR MARITIME	Sold NORDAIR			AIR BC	ONTARIO EXPRESS
					AIR ALLIANCE(4)	INTER CANADIEN
					AIR TORONTO(5)	AIR ATLANTIC
1985		24.5% AIR ONTARIO	24.5% AIR ONTARIO		NWT AIR(7)	
1986	20% AIR ATLANTIC			1989	as above	TIME AIR; CALM AIR
	100% NORDAIR	75% AIR ONTAIO &	Sold AIR ONTARIO			ONTARIO EXPRESS
	35% QUEBECAIR	AUSTIN AIR	shares			INTER CANADIEN(3)
	30% NORCANAIR					AIR ATLANTIC
	(Saskatchewan)	100% AIR BC	100% CPAL			FRONTIER AIR
1989			WARDAIR	1990	as above	TIME AIR; CALM AIR
						ONTARIO EXPRESS
						AIR QUEBEC METRO(4)
						AIR ATLANTIC
						CANADIAN FRONTIER
				1991	AIR NOVA	TIME AIR; CALM AIR
				(1)	AIR ONTARIO	ONTARIO EXPRESS(2)
					AIR BC	INTER CANADIEN(5)
					AIR ALLIANCE	AIR ATLANTIC
					AIR TORONTO(6)	CANADIAN FROENTIER(2)
					NWT AIR	AIR TORONTO(6)

Air Canada Connector Network:
(1)- July 1986
(2)- January 1987
(3)- February 1987
(4)- February 1988
(5)- Commercial Agreement, no ownership
(6)- Air Toronto assets bought by PWA, July 1991
(7)- May 1988

Canadian Connector Network
(1)- January 1991 PWA consolidated its holdings in its Partners under one holding company Canadian Regional Airlines.
(2)- Jan.1992, Ontario Exp.,Can.Frontier & Air Toronto merged to form Ontario Express.
(3)- Became INTAIR, Ended affiliation Oct.1989
(4)- Commercial Agreement only.
(5)- PWA brought the turboprops of Intair in 1991. Began service in June 1991.

TABLE II.13
CANADIAN CARRIERS
STRIKE ACTIVITY

YEAR	PILOTS	MECHANICS	CABIN ATTENDANT	GROUND PERS.
1963				CALEA PWA: 3210
1966		IAM AC: 49336		
1969		AC:131120		
1971		AC: 12600		
1973		ND: 11110 CP: 54060 AC: 16200		AC:22000
1974		AC: 3180		
1975		TA: 19970		
1976	CALPA ALL: 17000		EPA: 1990	AC:14280
1977		AC: 100		
1978	CALPA ND: 250 AC:12days	AC: 58930 QB: 3710	QB: 32days	PWA: 9830
1980	EPA:4days			
1981		QB: 640	CALFA ND: 2730	
1982				ND:159days
1983	EPA:156days	EPA:156days		ND:23days
1984			QB:	
1985		CPAL:1day PWA:132days	AC:46days PWA:132days	AC:23days PWA:132days
1988		AC:21days		

Data from 1963 to 1981 refer to person-days lost.
Data after 1981 refer to days lost.

APPENDIX III: LIST OF TABLES

TABLE III.1
US & CANADIAN CARRIERS
PILOTS & CO-PILOTS
REAL HOURLY WAGE RATES

	CAPTAIN B-727s		2-YEARS CO-PILOT		3-YEARS CO-PILOT		2-YEARS OFFICER		3-YEARS OFFICER		CAPTAIN DC-9s		CAPTAIN B-727s		3-YEARS CO-PILOT			3-YEARS OFFICER		CAPTAIN B-737s		CAPTAIN B-727s		3-YEARS CO-PILOT			3-YEARS OFFICER	
YEAR	AA	NW	AA	NW	AA	NW	AA	NW	AA	NW	AC	US$	AC	US$	DC-9s	B-727s	US$	B-727s	US$	CAIL	US$	CAIL	US$	B-737s	B-727s	US$	B-727s	US$
1965	114	93	54.25	34.90	65.52	40.52	48.83	21.81	58.97	24.66																		
1966	110	95	52.60	35.66	63.53	41.38	47.34	22.29	57.17	25.19	90	83			36.75													
1967	107	95	51.05	35.70	61.65	41.42	45.94	26.77	55.49	29.71	91	84			37.18													
1968	121	91	54.91	34.24	66.58	39.72	49.42	25.68	59.92	28.50	92	86			37.53													
1969	116	97	52.13	44.87	61.49	53.46	46.92	37.69	55.34	41.68	96	89			39.16													
1970	119	109	53.71	49.15	65.19	58.59	48.34	41.28	58.67	45.69	101	100			42.23													
1971	120	113	54.09	51.24	65.64	61.09	48.69	43.04	59.08	47.63	107	107			45.28													
1972	116	121	52.53	55.37	63.75	67.07	47.29	46.51	57.37	55.89	116	116			50.64													
1973	116	116	52.93	53.13	64.18	64.35	47.63	44.63	57.76	53.62	118	119			51.95					114	115	120	120	50.04	52.64	52.85	40.11	40.27
1974	112	111	51.27	50.67	62.12	61.60	46.14	42.73	55.91	51.33	117	118	125	127	51.52	55.63	56.14	43.12	43.52	116	117	125	126	50.70	54.76	55.25	41.72	42.10
1975	113	113	52.14	51.63	63.12	62.51	46.93	43.37	56.81	52.09	115	113	121	120	51.49	54.69	53.83	41.94	41.28	109	108	119	117	47.98	52.19	51.37	39.76	39.14
1976	119	117	55.48	53.66	67.09	64.99	49.93	45.07	60.38	54.16	114	113	121	120	51.21	54.43	53.94	41.74	41.37	112	111	120	119	49.19	52.75	52.28	42.47	42.09
1977	122	121	56.91	55.37	68.78	67.36	51.22	46.51	61.90	56.13	111	102	119	108	50.05	53.41	48.82	40.96	37.44	111	102	118	108	49.88	53.25	48.68	41.97	38.37
1978	123	121	58.09	55.79	70.16	68.13	52.28	46.87	63.15	56.78	107	90	113	95	47.89	50.89	42.91	39.03	32.91	111	93	120	102	46.43	51.04	43.04	40.23	33.92
1979	116	117	54.92	53.82	66.31	65.69	49.43	45.21	59.68	54.74	111	95	118	101	48.01	51.11	43.76	39.20	33.56	112	96	120	103	48.08	52.13	44.63	41.09	35.18
1980	122	115	57.94	52.75	69.89	64.37	52.14	44.31	61.85	53.64	111	93	119	99	47.84	51.40	43.01	39.42	32.99	112	93	121	101	48.10	52.57	43.99	41.43	34.67
1981	122	116	58.42	54.24	70.43	66.19	50.83	45.56	60.22	55.16	110	93	117	98	47.56	50.51	42.59	38.74	32.67	115	97	120	101	49.64	51.95	43.81	40.95	34.53
1982	124	122	59.83	56.14	72.11	68.52	52.05	47.16	61.65	57.10	109	89	115	94	47.14	49.98	40.67	36.33	31.19	113	92	116	94	49.00	50.33	40.95	39.67	32.28
1983	127	130	30.70	59.60	31.87	72.74	26.71	50.07	27.91	60.62	109	88	116	93	47.1	50.06	40.24	36.40	30.87	114	92	117	94	49.51	50.76	40.81	40.01	32.16
1984	125	134	30.36	61.44	31.49	74.98	26.41	51.61	27.46	62.48	110	84	116	88	47.49	50.24	38.04	36.53	29.17	111	84	113	86	47.83	49.04	37.12	38.65	29.26
1985	124	139	31.89	63.17	34.45	77.09	27.70	53.06	30.05	64.24	111	80	119	95	47.95	51.62	36.93	39.59	28.32	105	75	108	77	45.42	46.64	33.36	36.76	26.29
1986	124	139	33.44	63.90	37.82	77.98	29.35	53.67	32.99	64.98	112	81	119	96	47.95	51.37	37.20	33.61	24.34	109	79	112	81	46.24	49.61	35.93	38.29	27.73
1987	120	134	41.52	61.67	45.66	75.27	32.59	51.81	36.34	62.72	112	86	118	91	48.37	51.37	39.51	32.59	25.07	107	83	110	84	42.15	42.15	32.42	33.21	25.54
1988	117	129	40.66	59.22	44.73	72.27	31.91	49.74	37.54	60.22	112	94	119	99	48.44	51.48	43.13	32.84	27.53	114	95			44.73	44.73	37.49	35.24	29.54
1989	114	126	39.57	58.27	43.70	70.49	31.05	48.95	36.53	58.75	110	95	117	101	47.55	50.98	44.02	32.40	27.98	115	99			45.22	45.22	39.05	35.64	30.77
1990	110	119	37.51	38.67	41.42	46.76	29.44	32.48	34.64	38.98	113	97	118	102	48.71	51.16	44.10	33.24	28.65	115	99			45.30	45.30	39.05	35.69	30.77

TABLE III.2
FLIGHT ATTENDANTS
REAL MONTHLY SALARY
US & CANADIAN CARRIERS

	TOP SALARY		7-8 YEARS		ENTRY SALARY		TOP SALARY				ENTRY SALARY			
YEAR	AA	NW	AA	NW	AA	NW	AC	US $	CAIL	US $	AC	US $	CAIL	US $
1960	1611		1574											
1961	1593	1612	1557	1575	1282	1245	1854	1777			1393	1336		
1962	1630	1594	1594	1558	1312	1232	1913	1775			1384	1284		
1963	1692	1663	1645	1602	1315	1254	1898	1756			1374	1271		
1964	1749	1767	1661	1643	1314	1290	1924	1792			1390	1295		
1965	1735	1787	1683	1683	1334	1324	1934	1799			1397	1299		
1966	1757	1845	1693	1740	1324	1365	1925	1776			1387	1280		
1967	1833	1869	1672	1764	1308	1407	1967	1820			1417	1311		
1968	1921	1991	1843	1849	1462	1462	2063	1922			1488	1387		
1969	2099	2116	1985	1952	1430	1546	2090	1948	2187	2038	1507	1404	1580	1473
1970	2062	1994	1955	1831	1407	1418	2216	2194	2190	2169	1600	1584	1584	1568
1971	2278	2000	2057	1822	1481	1392	2304	2299	2288	2284	1665	1661	1652	1649
1972	2331	2147	2168	1958	1562	1528	2350	2360	2338	2348	1698	1704	1689	1695
1973	2286	2020	2131	1842	1533	1437	2528	2538	2511	2521	1828	1835	1817	1824
1974	2162	2320	2029	2320	1438	1422	2449	2471	2481	2504	1769	1785	1794	1811
1975	2071	2126	1910	2126	1387	1422	2500	2461	2545	2505	1808	1779	1853	1824
1976	2301	2012	2000	2012	1441	1428	2691	2667	2722	2698	1945	1928	1996	1978
1977	2374	2020	2098	1888	1510	1376	2647	2420	2729	2495	1912	1748	2000	1828
1978	2311	2242	2055	2242	1528	1343	2587	2181	2717	2291	1869	1576	2000	1686
1979	2168	2379	1926	2092	1385	1536	2559	2191	2703	2314	1849	1583	1992	1705
1980	2372	2305	2114	2025	1416	1477	2499	2091	2686	2248	1807	1512	1979	1656
1981	2427	2205	2160	1938	1441	1489	2556	2155	2657	2240	1848	1558	1958	1651
1982	2506	2426	2206	2132	1480	1557	2522	2052	2644	2151	1823	1483	1921	1563
1983	2639	2583	2326	2271	998	1657	2514	2021	2641	2123	1817	1461	1919	1542
1984	2609	2552	2300	2248	957	1113	2475	1874	2602	1970	1789	1354	1891	1431
1985	2611	2610	2359	2319	924	1109	2453	1755	2571	1839	1446	1034	1406	1006
1986	2623	2638	2370	2344	907	1107	2373	1718	2532	1833	1398	1012	1350	978
1987	2532	2546	1840	2263	1114	1069	2354	1811	2452	1886	1387	1067	1315	1012
1988	2431	2445	1766	2172	1112	1026	2354	1973	2448	2052	1387	1162	1332	1117
1989	2319	2332	1685	2073	1061	979	2339	2020	2431	2099	1378	1190	1342	1159
1990	2242	2237	1614	1988	1018	939	2334	2012	2417	2083	1375	1185	1353	1166

Source: Carriers' contract data.
Salary based on 75 hours per month.

TABLE III.3
MECHANICS
REAL HOURLY WAGE RATES
US & CANADIAN CARRIERS

	TOP HOURLY RATES 2/5 YEARS				ENTRY RATES									
YEAR	AA	NW	AA	NW	AC Can.$	AC US $	CAIL Can.$	CAIL US $	AA	NW	AC Can.$	AC US $	CAIL Can.$	CAIL US $
1961	11.39	11.36			11.05	10.59			10.66	10.54	10.21	9.79		
1962	11.59	11.56			11.32	10.50			10.87	10.76	10.50	9.74		
1963	11.83	11.86			11.42	10.57			11.10	11.08	10.57	9.78		
1964	12.12	12.01			11.75	10.94	11.47	10.68	11.42	11.24	10.92	10.16	10.56	9.83
1965	12.33	12.26			11.95	11.11	11.83	11.00	11.66	11.50	11.09	10.32	11.28	10.50
1966	12.47	12.50			12.22	11.27	12.07	11.13	11.80	11.72	11.28	10.40	11.13	10.27
1967	12.89	12.75			13.48	12.47	13.33	12.33	12.23	11.93	12.07	11.16	11.96	11.06
1968	13.52	12.64			13.66	12.73	13.59	12.66	12.87	12.10	12.26	11.43	12.20	11.37
1969	13.94	15.76			14.5	13.51	14.50	13.51	13.26	15.13	12.93	12.05	12.93	12.05
1970	15.54	16.16			14.94	14.79	15.00	14.85	13.66	15.49	13.26	13.13	13.39	13.25
1971	15.49	16.54			15.77	15.74	15.77	15.74	14.73	15.82	13.89	13.86	14.04	14.02
1972	16.59	16.27			16.35	16.41	16.26	16.32	15.79	15.59	14.28	14.34	14.22	14.28
1973	16.54	17.04			16.42	16.48	16.17	16.23	15.75	16.37	14.22	14.28	14.14	14.20
1974	16.09	17.64			16.02	16.16	15.86	16.01	15.31	17.07	13.86	13.99	13.81	13.93
1975	16.09	16.95			15.16	14.92	15.38	15.14	15.17	16.36	12.96	12.76	12.85	12.65
1976	16.44	16.20			15.47	15.34	15.79	15.65	15.66	15.51	13.16	13.04	13.26	13.14
1977	16.58	16.42			15.19	13.88	16.22	14.82	15.82	15.63	12.88	11.78	13.94	12.74
1978	17.08	16.94			14.69	12.38	16.73	14.10	16.31	16.22	12.49	10.53	14.51	12.23
1979	16.47	16.96			14.82	12.69	16.64	14.25	15.72	16.25	12.61	10.79	14.39	12.32
1980	16.22	15.89			17.66	14.78	17.37	14.53	15.51	15.21	12.78	10.70	15.00	12.55
1981	15.85	15.54			17.72	14.94	17.56	14.81	15.15	14.88	12.48	10.52	15.15	12.78
1982	16.51	16.59			17.71	14.41	17.60	14.32	15.88	15.89	14.64	11.91	15.20	12.37
1983	17.71	17.50	13.42		18.17	14.61	18.00	14.47	11.44	16.77	15.69	12.62	15.56	12.51
1984	18.06	17.72	12.87		18.32	13.87	17.64	13.35	10.97	16.97	15.82	11.98	15.26	11.55
1985	18.22	17.26	12.42	13.83	17.09	12.23	17.41	12.45	10.59	12.47	14.76	10.56	15.05	10.77
1986	17.89	17.55	12.20	13.94	16.76	12.14	17.05	12.35	10.40	12.57	14.47	10.48	14.74	10.67
1987	17.27	17.62	11.78	13.99	16.81	12.93	16.86	12.97	10.04	12.62	14.51	11.16	14.56	11.20
1988	17.27	17.52	11.78	13.91	16.8	14.09	17.28	14.49	10.04	12.28	14.51	12.16	14.96	12.54
1989	17.07	17.24	11.80	13.69	16.73	14.45	17.22	14.87	10.13	11.96	14.45	12.48	14.89	12.85
1990	16.69	16.93	11.55	13.45	16.84	14.51	17.22	14.85	9.96	11.75	14.54	12.54	14.92	12.86

Source: data abtained from collective bargaining agreements

TABLE III.4
GROUND AGENTS
REAL MONTHLY SALARY
US & CANADIAN CARRIERS

	TOP MONTHLY SALARY							ENTRY MONTHLY SALARY				
YEAR	AA Average	NW	NW 5 Yrs	AC Can.$	AC US$	CAIL Can.$	CAIL US$	NW	AC Can.$	AC US$	CAIL Can.$	CAIL US$
1961	1564	1516	1407	1762	1689	1724	1653	1136	1042	999	1033	991
1962	1609	1518	1421	1806	1675	1736	1610	1174	1066	989	1041	966
1963	1659	1577	1473	1813	1677	1760	1628	1208	1073	993	1057	978
1964	1700	1580	1523	1845	1718	1765	1643	1208	1092	1016	1056	983
1965	1728	1606	1592	1852	1723	1809	1683	1230	1093	1017	1086	1010
1966	1777	1598	1553	1872	1727	1793	1654	1223	1105	1020	1075	992
1967	1803	1675	1530	1938	1793	1851	1713	1305	1145	1059	1112	1029
1968	1824	1733	1561	1990	1854	1916	1786	1352	1185	1104	1150	1072
1969	1919	1848	1660	2083	1942	1943	1811	1430	1250	1165	1157	1078
1970	2014	1997	1788	2171	2149	2026	2006	1534	1294	1281	1210	1198
1971	2078	2132	1884	2288	2284	2013	2009	1568	1357	1355	1270	1267
1972	2294	2281	2008	2404	2414	2207	2215	1630	1395	1401	1362	1368
1973	2148	2306	2032	2394	2404	2278	2287	1704	1397	1403	1325	1330
1974	2153	2189	1929	2366	2387	2253	2274	1618	1401	1414	1326	1338
1975	2222	2145	1890	2215	2180	2106	2073	1585	1310	1289	1244	1225
1976	2229	2241	1964	2232	2212	2126	2107	1634	1324	1312	1261	1250
1977	2286	2288	1983	2595	2372	2460	2249	1620	1526	1395	1396	1276
1978	2346	2292	1969	2589	2183	2504	2113	1541	1467	1237	1415	1193
1979	2332	2298	1968	2561	2192	2528	2164	1521	1452	1244	1428	1222
1980	2263	2237	1916	2540	2126	2408	2015	1500	1438	1203	1363	1141
1981	2314	2187	1873	2534	2136	2233	1883	1467	1428	1204	1265	1069
1982	2315	2265	1934	2528	2057	2430	1977	1507	1423	1158	1369	1114
1983	2386	2362	2006	2584	2077	2360	1897	1549	1450	1165	1330	1069
1984	2364	2456	2058	2475	1874	2470	1870	1576	1389	1051	1392	1054
1985	2147	2476	1771	2417	1729	2393	1712	1567	1122	802	1118	800
1986	1989	2528	1756	2420	1752	2373	1718	1554	1117	809	1109	803
1987	1857	2538	1712	2458	1891	2374	1826	1464	1126	866	1109	853
1988	1796	2522	1661	2389	2002	2403	2015	1470	1094	917	1122	941
1989	1607	2455	1608	2379	2054	2390	2064	1431	1087	939	1117	964
1990	1573	2367	1547	2353	2029	2394	2064	1379	1075	927	1119	965

Source: Data obtained from collective bargaining agreements.

TABLE III.5
PILOTS
HOURS OF WORK & GUARANTEES

NORTHWEST AIRLINES

YEAR	MAG HRS	MAXIMUM HRS	DAILY ON-DUTY LIMITS	SCHED. TIME	MINIMUM REST TIME	MINIMUM DAILY CREDITS	DPG RATIO	THG RATIO
1960	60Hrs	85Hrs	16 Hrs		9 Hrs	4/6 Hrs	1/2.30Hrs	1/4 Hrs
1964			14/16 Hrs‡					
1966-67	70Hrs	85Hrs	14/15 Hrs				1/2.25Hrs‡‡‡	1/3.45‡‡‡
			11 Hrs:	15-05‡‡				
1969			14/15 Hrs		8.15 Hrs		1/2 Hrs	1/3.45
1970	68Hrs	82.30	13.30/14:	05-15				
			11/12:	15-05		4 Hrs		
1973	63Hrs	75Hrs						
1975			13/14Hrs:	05-12		4.15Hrs	1/2 Hrs	1/3.30Hrs
			12/13Hrs:	12-17				
			11/12Hrs:	17-05				
1977-78							1/2 Hrs 06-22	1/3.36Hrs
1983	Flex	75-80			9 Hrs		1/1.45 22-06	
1989	68Hrs	80-82.30	13/14Hrs:	05-22	9 Hrs			1/3.27Hrs
			12/13Hrs:	22-05				
			14/15Hrs:		8 Hrs			

AMERICAN AIRLINES

YEAR	MAG HRS	MAXIMUM MONTHLY HRS	DAILY ON-DUTY LIMITS	SCHED. TIME	MINIMUM REST TIME	MINIMUM DAILY CREDITS	DPG RATIO	THG RATIO
1960	60Hrs	85Hrs	14/15Hrs		8Hrs		Min:3Hrs	1/4 Hrs
					10Hrs		Max:6Hrs	
1963	64-60	80-75	13.30/14			4 Hrs	1/2 Hrs	1/3.30
1967	64Hrs	75Hrs						
1970	62.40	75Hrs	13.30/14					
			12/13Hrs:	23-06		4.30		
1973	64Hrs	75Hrs						
1977			12.30/14					
1979	Flex	78Hrs	12.30/14:	06-18				1/3.45
			11/13:	18-21				
			10/12:	21-06‡				
1982					Flex Rest			
1983	Flex	78.30-80			periods ‡‡			
1987						4.45	1/1.45	1/3.45

‡ If scheduled between 13-04, max 13 Hrs, unless it contains 4 hours sleeping accomodation at airport.
‡‡ Unless a minimum rest of 5 hours is scheduled.
‡‡‡ Up to 15 hours: trip hours/2.30 - Max. 4 hours
Over 15 hours: trip hours/3.45 - Max. 6 hours.

‡ If a duty period is broken by at least 5 hours rest or twice the number of hours of duty aloft, then the 12.30 hours schedule applies.
‡‡ Less than 8 Hrs flight:sched.10/9.30 hrs-reduced 10Hrs
8-9 Hrs flight: sched. rest 10Hrs - reduced 8Hrs
9Hrs or more:sched.rest 11Hrs - reduced 9Hrs

TABLE III.6
PILOTS HOURS OF SERVICE
AND 'GUARANTEES'

AIR CANADA

YEAR	MNS	MAI MONTHLY LMTS	DAILY ON-DUTY LMTS	CHECK-IN HOURS	MINIMUM REST TIME	MINIMUM DAILY CREDITS	DPG RATIO	HOURS DEPARTURE	THE RATIO
1960	60 Hrs	85 Hrs	Sched.:14 Hrs		Airp.:8 Hrs Downt:10Hrs Home :10Hrs		4Hrs:flt.Time 4- 8Hrs: 3Hrs 8-12 : 4Hrs 12 Over: 5Hrs		Ratio:1/4 Hrs
1963						3 Hrs			
1965	60 Hrs	85 Hrs	Sched.:14 Hrs ## Sched.:13 Hrs 23-24 Sched.:12 Hrs 24-05				Ratio 1/2Hrs		Ratio:1/4 Hrs Minim.:4Hrs‡
1966	65 Hrs	85 Hrs							
1967	67 Hrs	85 Hrs							
1968	68 Hrs	85 Hrs	Sched.:14 Hrs Sched.:12 Hrs 23-05 D/H layover:16 D/H Home:18Hrs		Airp.:9 Hrs	3.30 Hrs			
1969	69 Hrs	85 Hrs				4 Hrs			
1970	70 Hrs	85 Hrs							
1971	68/66	82.3/80	All D/H:16Hrs						
1973	62 Hrs	75 Hrs	Sched.:14 Hrs ### Sched.:11 Hrs 22-05						
1976			Sched.:12 Hrs 19-22‡‡						
1978	62/67	75/80‡‡‡							Ratio 1/3.30
1980			Sched.:10 Hrs 22-05			DC9: 4.45 Ratio 1/1.45: Hrs:22-05			
1983-84		71/73							
1985-87	62/67	75/80‡							
1989	64.30Hrs	78/80Hrs							

CANADIAN/CAIL

YEAR	MNS	MAI MONTHLY LTMS	DAILY ON-DUTY LMTS	CHECK-IN HOURS	MINIMUM REST TIME	MINIMUM DAILY CREDITS	DPG RATIO	THE RATIO
1971	66 Hrs	80 Hrs						
1973	62 Hrs	75 Hrs	Sched.:14 Hrs‡ Sched.:11 Hrs 22-05 Max.:16‡‡‡		L/O :9 Hrs Home:10Hrs	4 Hrs	Ratio 1/2Hrs	Ratio 1/4Hrs
1980-83	62/67	75/80‡‡	D/H Home:16Hrs					
1984-85	62/67	75/80‡	Outside Home: Sched.:12 Hrs	22-05				
1988	DSC	75/80	B-737/B-767 Sched.:12 Hrs+	23-05	L/O:10Hrs Min.: 9Hrs++ Home:12Hrs			
			DC-10:	Home dep.	Min.:10Hrs			
			Sched.:13 Hrs	20-21				
			Sched.:12 Hrs	21-22				
			Sched.:11 Hrs	22-05				
			Extra hour added for outside 'home' dep.					
1990	DSC	75/80	B-737/B-767 A-310/A-320 B-747-400 Max.: 14 Hrs Sched.:12 Hrs Sched.:12/14Hrs	23-05 05-14+++				

‡ A minimum of 4 Hrs per period, applies in schedules when exceed 16 duty period per month.
‡‡ 14 Hrs if a minimum of 5 hours en-route accomodation is provided.
‡‡‡ It applies for 4 months per calendar year, no furlough.
‡ It applies for 10 months per calendar year, no furlough.
‡‡ Scheduled duty reduced of 1 hour for each landing in excess of 6.
‡‡‡Scheduled duty reduced of 1 hour for each landing in excess of 5.

‡ Reduced of one hour for each landing in excess of 6.
‡‡ It applies for three months per calendar year.
‡‡‡It apply when a pilot is 'dead-head' home or when an extra qualified pilot is assigned and no pilot is scheduled to exceed 12 hours.
‡ It applies for 6 months per calendar year.
+ 14 hours if a minimum rest of 5 hours is provided.
++ When the aircraft remains with the crew.
+++Scheduled duty time varies with the time of check-in.

TABLE III.7
FLIGHT ATTENDANTS
HOURS OF SERVICE & GUARANTEES
AMERICAN & NORTHWEST AIRLINES

NORTHWEST AIRLINES

YEAR	MONTHLY MAXIMUM LIMITS	MMG	DAILY ON-DUTY LIMIT	SCHED. TIME	MINIMUM DAILY CREDITS	DPG RATIO	THG RATIO	MINIMUM REST
1961	85Hrs		16 Hrs					8Hrs Layover 9Hrs Home
1967	75 Sched. 80Hrs		14/15Hrs		3Hrs			
1970		70 Hrs	13.15/14				1/4Hrs‡	
1971		67 Hrs						
1972	80Hrs	67 Hrs	13.15/14: 11/12Hrs:	05-15 15-05		1/2.30Hrs	1/4 Hrs	8.15Hrs‡‡
1975			13/14Hrs: 12/13Hrs: 11/12Hrs:	05-12 12-15 15-05	3.30Hrs	1/2 Hrs		
1979	80Hrs Option to exceed it	65 Hrs					1/3.36	8.30Hrs
1981	80-85Hrs Option to exceed it	65 Hrs			4.15Hrs			8.45Hrs 8Hrs Home
1984								9 Hrs
1989						1/2:04-22 1/1.45:22-04		9 Hrs ‡‡‡

AMERICAN AIRLINES

YEAR	MONTHLY MAXIMUM LIMITS	MMG	DAILY ON-DUTY LIMIT	SCHED. TIME	MINIMUM DAILY CREDITS	DPG RATIO	THG RATIO	MINIMUM REST
1960	85 Hrs	80 Hrs	13/14Hrs		3-5 Hrs‡			8 Hrs 10 Downtown & Home Base
1963	85 Hrs	70 Hrs						
1966	85 Hrs	68 Hrs			3-6 Hrs			
1968	75 Sched 77 Hrs	71 Hrs			4-6 Hrs‡‡			
1971						1/2 Hrs	1/4 Hrs	
1972							1/3.45Hrs	
1976	75 Hrs Option: -77 Max -No LTS	67 Hrs	13/14Hrs 11/13Hrs:	23-06	4.30 Hrs			
1979			12.30/14 13/14Hrs 11/13Hrs:	Charter 23-06			1/3.30Hrs	Home:11 Hrs
1987					4.45‡‡‡	1/1.45		8 Hrs Flex Rest Periods

‡ 1 Hour for every 4 if layover exceeds 30 hours.
‡‡ Scheduled rests became also based on duty times:
Duty time of 11-12 hours: less than 10 hours rests
Duty time of 6-7 hours: less than 9 hours rests.
‡‡‡Scheduled rests became also based on number of landings:
max 14 landings for rest periods over 11 hours;
max 12 landings for rest periods below 11 hours.
If 12 landings are exceeded in a given duty period, 15 minutes pay credit applies for each landing over 12.

‡ Less than 8 hours on-duty time: minimum credit 3 hours; less than 10 hours 4 hours; 10 hours or more, 5 hours. In 1966, 6 hours credit for on-duty periods exceeding 12 hours.
‡‡Duty periods of less than 8 hours, attendants received 4 hours pay but 3 hours for flight time limitations.
‡‡‡While minimum daily credits increased to 4.45 hours, flight sequences with more than one on-duty period, were credited with a minimum of 3 hours for each duty period.

TABLE III.8
FLIGHT ATTENDANTS
HOURS OF SERVICE & GUARANTEES

AIR CANADA

YEAR	MNS	MAI MONTHLY LMTS	DAILY ON-DUTY LMTS	MINIMUM REST TIME	MINIMUM DAILY CREDITS	DPE RATIO	THS RATIO
1960	70 Hrs	85 Hrs	Sched:14Hrs	Airp. :8 Hrs Downt.:10Hrs Base :10Hrs		4- 8Hrs:3Hrs 8-12 :4Hrs Over 12:5Hrs	1Hr/4Hrs
1961	65 Hrs	75 Hrs					
1963					3 Hrs	1Hr/2 Hrs	
1969				Airp. :9 Hrs Downt.:10Hrs Base :10Hrs			
1971	65 Hrs	75/80 ‡					
1973			Sched.:14Hrs‡‡ D/H Home:16 Not at Crew Base: 16Hrs		3.30Hrs		
1974					4 Hrs	1Hr/2 Hrs	
1975	65 Hrs	75Hrs +2.30 (extension)					DC-9: 1/3.30Hrs‡
1978			Sched.:13Hrs D/H Home:15 Not at Crew Base: 15Hrs				
1981							DC-9/B-727: 1/3.30Hrs‡
1985	65 Hrs	75/60Hrs +2.30 Ext.	Charter: Sched.:14Hrs Max.: 15Hrs				
1990	65 Hrs	75/65Hrs	Max: 15Hrs All bases				DC9/B727/A320: 1/3.30Hrs‡

CANADIAN/CAIL

YEAR	MNS	MAI MONTHLY LMTS	DAILY ON-DUTY LMTS	MINIMUM REST TIME	MINIMUM DAILY CREDITS	DPE RATIO	THS RATIO
1960	70 Hrs	85 Hrs	Sched,:14Hrs Max. :16Hrs				
1969	65 Hrs	75 Hrs		West :8 Hrs Other:9 Hrs Base :10Hrs		3Hrs pay & 2Hrs time credit/2 Hrs duty.	1Hr/4Hrs
1970					3 Hrs	1Hr/2Hrs	
1971/72			Sched,:14Hrs D/H Home:16 Max. :16Hrs	West :9 Hrs Other:9 Hrs Base :10Hrs	3.30Hrs		
1974					4 Hrs		
1978			Sched:14Hrs‡			Min.4Hrs or actual time worked minus 4 hrs.	
1981	65 Hrs	70/80					
1984	65 Hrs	75/80	Sched:14Hrs D/H to position after duty period:16Hrs				
1987 1990	65 Hrs	78/85	Sched:14Hrs‡‡ Charter:15Hrs	L/H :10Hrs Min.:8 Hrs‡‡‡ Base:12Hrs			

‡ Flexible Monthly limitations to confore to fluctuations in schedules
‡‡For each landing in excess of 6, the duty period is reduced of 1 hour.
‡ For trips over 48 hours.

‡ Duty over 14 hours, except dead-head, paid at 1.1/2 hour.
‡‡ Maximum 14Hrs for flights with more than two landings.
Maximum duty 15 Hrs for charter flights to Mexico, Caribbean, High Artic and flights with two or less landings.
Duty time is reduced by one hour for each landing in excess of six.
Hours in excess of 16 are paid at 1.1/2 rate.
‡‡‡Minimum 8 hours of prone rest and for short turn-around trips.

TABLE III.9
AMERICAN AND NORTHWEST AIRLINES
VARIOUS LABOUR GROUPS-VACATIONS
1960-1990

YEAR	PILOTS AA	YEAR	PILOTS NW	YEAR	FLT.ATTENDANTS AA	YEAR	FLT.ATTENDANTS NW	YEAR	MECHANICS AA	YEAR	MECHANICS NW	YEAR	AGENTS NW
1960	1-11Yrs:2 weeks 12-more:3 weeks	1960	1-9 Yrs:2 weeks 10-more:3 weeks	1960	1-11Yrs:2 weeks 12-more:3 weeks	1960	1-9 Yrs:2 weeks 10-more:3 weeks	1960	1-11Yrs:2 weeks 12-more:3 weeks	1960 1962	1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks	1960	1-9 Yrs:2 weeks 10-more:3 weeks
1963	1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks	1964	1-9 Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks	1963	1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks			1964	1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks	1967	1- 9Yrs:2 weeks 10-14 :3 weeks 15-more:4 weeks	1963	1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks
1967	1- 7Yrs:2 weeks 8-14 :3 weeks 15-more:4 weeks	1969	1- 7Yrs:2 weeks 8-14 :3 weeks 15-more:4 weeks	1968	1- 7Yrs:2 weeks 8-14 :3 weeks 15-more:4 weeks	1967	1- 7Yrs:2 weeks 8-14 :3 weeks 15-more:4 weeks	1966	1- 4Yrs:2 weeks 5-14 :3 weeks 15-more:4 weeks	1968	1- 7Yrs:2 weeks 8- 14 :3 weeks 15-more:4 weeks	1966	1- 7Yrs:2 weeks 8- 14 :3 weeks 15-more:4 weeks
1970	1- 4Yrs:2 weeks 5-14 :3 weeks 15-19 :4 weeks 20-more:5 weeks	1971	1- 4Yrs:2 weeks 5-14 :3 weeks 15-19 :4 weeks 20-24 :5 weeks 25-more:6 weeks	1971	1- 4Yrs:2 weeks 5-14 :3 weeks 15-19 :4 weeks 20-more:5 weeks					1970 1971	1- 4Yrs:2 weeks 4.6-14 :3 weeks 14.6-19:4 weeks 19.6-24:5 weeks 24.6- :6 weeks	1970	1- 4Yrs:2 weeks 4.6-14 :3 weeks 14.6-19:4 weeks 19-more:5 weeks
1975	as above except: 20-24 :5 weeks 25-more:6 weeks			1974	1- 4Yrs:2 weeks 5- 12 :3 weeks 13-19 :4 weeks 20-more:5 weeks	1975	1- 4Yrs:2 weeks 5- 12 :3 weeks 13-19 :4 weeks 20-more:5 weeks	1974	1- 4Yrs:2 weeks 5-12 :3 weeks 13-19 :4 weeks 20-24 :5 weeks 25-more:6 weeks	1975	1- 4Yrs:2 weeks 4.6-12 :3 weeks 12.6-19:4 weeks 19.6-24:5 weeks 24.6- :6 weeks	1973	1- 4Yrs:2 weeks 4.6-14 :3 weeks 14.6-19:4 weeks 19.6-24:5 weeks 24.6- :6 weeks
1977	1- 4Yrs:2 weeks 5-11 :3 weeks 12-19 :4 weeks 20-24 :5 weeks 25-more:6 weeks	1977 1994	1- 4Yrs:2 weeks 5-12 :3 weeks 13-19 :4 weeks 20-24 :5 weeks 25-more:6 weeks			1981 1990	1- 4Yrs:2 weeks 5-12 :3 weeks 13-19 :4 weeks 20-24 :5 weeks 25-more:6 weeks	1980	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-16 :4 weeks 17-24 :5 weeks 25-more:6 weeks	1980	1- 3Yrs:2 weeks 4- 9 :3 weeks 10- 17 :4 weeks 18- 23 :5 weeks 24- 28 :6 weeks 29-more:7 weeks	1975	1- 4Yrs:2 weeks 4.6-12 :3 weeks 12.6-19:4 weeks 19.6-24:5 weeks 24.6- :6 weeks
1984 1989	i) Pilots hired prior to Nov.1983: 1- 7Yrs:2 weeks 8-14 :3 weeks 15-22 :4 weeks 23-29 :5 weeks 30-more:6 weeks ii) Pilots hired on/after 1983: 1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks	1991 1-5Yrs: 3WEEKS 6-12 : 4WEEKS 20-more 5WEEKS		1987 1990	i) Employees hired before Nov. 1983: 1- 4Yrs:2 weeks 5- 12 :3 weeks 13-19 :4 weeks 20-24 :5 weeks 25-more:6 weeks ii)Employees hired on/after 1983: 1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks			1985 1990	i) Employees hired before Sep.1985: status quo ii)Employees hired on/after 1985: 1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks	1981 1990	1- 3Yrs:2 weeks 4- 8 :3 weeks 9- 15 :4 weeks 16- 23 :5 weeks 24- 28 :6 weeks 29-more:7 weeks	1980 1989	1- 3Yrs:2 weeks 4- 9 :3 weeks 10- 17 :4 weeks 18- 23 :5 weeks 24- 28 :6 weeks 29-more:7 weeks 1- 3Yrs:2 weeks 4- 8 :3 weeks 9- 15 :4 weeks 16- 23 :5 weeks 24- 28 :6 weeks 29-more:7 weeks

TABLE III.10
AIR CANADA & CANADIAN PACIFIC/CAI
VARIOUS LABOUR GROUPS-VACATIONS
1960-1990

YEAR	PILOTS AC	YEAR	PILOTS CP/CAI	YEAR	FLT.ATTENDANTS AC	YEAR	FLT.ATTENDANTS CP/CAI	YEAR	MECHANICS AC	YEAR	MECHANICS CP/CAI	YEAR	PAX AGENTS AC	YEAR	PAX AGENTS CP/CAI
1960	1-11Yrs:2 weeks 12-more:3 weeks			1960	1-11Yrs:2 weeks 12-more:3 weeks	1962	1-11Yrs:2 weeks 12-more:3 weeks	1960	1-11Yrs:2 weeks 12-more:3 weeks	1965	1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks	1960	1-11Yrs:2 weeks 12-more:3 weeks	1961	1-11Yrs:2 weeks 12-more:3 weeks
1963	1- 9Yrs:2 weeks 10-24 :3 weeks 25-more:4 weeks			1963	1-9 Yrs:2 weeks 10-more:3 weeks			1962	1-11Yrs:2 weeks 12-24 :3 weeks 25-more:4 weeks			1961	1- 9Yrs:2 weeks 10-more:3 weeks	1964	1- 9Yrs:2 weeks 10-more:3 weeks
				1965	1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks					1971	1- 4Yrs:2 weeks 5-11 :3 weeks 12-24 :4 weeks 25-more:5 weeks	1963	1- 9Yrs:2 weeks 10-24 :3 weeks 25-more:4 weeks		
						1969	1-4 Yrs:2 weeks 5-19 :3 weeks 20-more:4 weeks	1964	1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks			1965	1- 9Yrs:2 weeks 10-19 :3 weeks 20-more:4 weeks		
				1969	1-4 Yrs:2 weeks 5-11Yrs:3 weeks 12-24 :4 weeks 25-more:5 weeks			1966	1- 4Yrs:2 weeks 5-14 :3 weeks 15-more:4 weeks	1974	1- 4Yrs:2 weeks 5-11 :3 weeks 12-20 :4 weeks 20-more:5 weeks	1968	1- 4Yrs:2 weeks 5-14 :3 weeks 15-more:4 weeks	1969	1- 4Yrs:2 weeks 5-14 :3 weeks 15-more:4 weeks
						1970	1-4 Yrs:2 weeks 5-11Yrs:3 weeks 12-24 :4 weeks 25-more:5 weeks	1969	1- 4Yrs:2 weeks 5-11 :3 weeks 12-24 :4 weeks 25-more:5 weeks	1978	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-19 :4 weeks 20-more:5 weeks	1969	1- 4Yrs:2 weeks 5-11 :3 weeks 12-24 :4 weeks 25-more:5 weeks	1972	1- 4Yrs:2 weeks 5-11 :3 weeks 12-24 :4 weeks 25-more:5 weeks
				1971	1-4 Yrs:2 weeks 5-12 :3 weeks 13-24 :4 weeks 25-more:5 weeks										
						1974	1-4 Yrs:2 weeks 5-11Yrs:3 weeks 12-19 :4 weeks 20-more:5 weeks	1973	1- 4Yrs:2 weeks 5-11 :3 weeks 12-20 :4 weeks 20-more:5 weeks	1981	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-14 :4 weeks 15-more:5 weeks	1973	1- 4Yrs:2 weeks 5-11 :3 weeks 12-19 :4 weeks 20-more:5 weeks	1977	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-19 :4 weeks 20-more:5 weeks
1973	1-4 Yrs:2 weeks 5-11Yrs:3 weeks 12-19 :4 weeks 20-more:5 weeks														
1979	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-19 :4 weeks 20-29 :5 weeks 30-more:6 weeks	1974	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-19 :4 weeks 20-more:5 weeks	1977	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-19 :4 weeks 20-29 :5 weeks 30-more:6 weeks	1977	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-19 :4 weeks 20-more:5 weeks	1975	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-19 :4 weeks 20-more:5 weeks	1987	1-2 Yrs:2 weeks at reduced pay 3- 5Yrs:2 weeks 6-10 :3 weeks 11-14 :4 weeks 15-more:5 weeks	1976	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-19 :4 weeks 20-29 :5 weeks 30-more:6 weeks	1981	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-14 :4 weeks 15-more:5 weeks
1984	1-2 Yrs:2 weeks 3-9 Yrs:3 weeks 10-17 :4 weeks 18-29 :5 weeks 30-more:6 weeks	1988	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-14 :4 weeks 15-more:5 weeks	1980	1-2 Yrs:2 weeks 3-9 Yrs:3 weeks 10-19 :4 weeks 20-29 :5 weeks 30-more:6 weeks	1986 1993	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-14 :4 weeks 15-more:5 weeks	1981	1-2 Yrs:2 weeks 3-9 Yrs:3 weeks 10-19 :4 weeks 20-29 :5 weeks 30-more:6 weeks	1990 1993	1-2 Yrs:2 weeks at reduced pay 3- 5Yrs:2 weeks 6-10 :3 weeks 11-15 :4 weeks 16-more:5 weeks	1980 1990	1- 4Yrs:2 weeks 5- 9 :3 weeks 10-17 :4 weeks 18-29 :5 weeks 30-more:6 weeks	1990 1993	1 Year :nil 2-4 Yrs:2 weeks 5-9 :3 weeks 10-14 :4 weeks 15-more:5 weeks
		1990	1-2 Yrs:2 weeks 3-9 Yrs:3 weeks 10-19 :4 weeks 20-29 :5 weeks 30-more:6 weeks	1984 1992	1-2 Yrs:2 weeks 3-9 Yrs:3 weeks 10-17 :4 weeks 18-29 :5 weeks 30-more:6 weeks			1982 1992	1-2 Yrs:2 weeks 3-9 Yrs:3 weeks 10-17 :4 weeks 18-29 :5 weeks 30-more:6 weeks						

TABLE III.11
AMERICAN AIRLINE
CAPACITY. TRAFFIC, COSTS AND REVENUE

YEAR	ASM	RPM	LOAD FACTOR	EMPLOYMENT COSTS	EMPLOYMENT COSTS	AVERAGE EMPLOYMEN COSTS	REAL COSTS	PASSENGER REVENUE	OPERATING REVENUE	OPERATING EXPENSES	INCOME	INTEREST EXPENSES	NET INCOME	YIELD	ASM PER EMPLOYEES	UNIT LABOUR COST (ASM)	REAL
1960	9782	6371	65%	24102	185801	7709	28552	377	429	405	24	10	12	5.92	405.86	1.90	7.03
1961	9814	6011	61%	23550	191275	8122	29751	368	422	403	19	12	7	6.12	416.73	1.95	7.14
1962	11361	6480	57%	23978	204251	8518	30863	403	461	440	21	16	8	6.22	473.81	1.80	6.51
1963	12216	7154	59%	23012	205134	8914	31951	425	488	442	46	16	18	5.94	530.85	1.68	6.02
1964	13603	8105	60%	23062	220242	9550	33746	483	544	479	65	15	34	5.96	589.84	1.62	5.72
1965	15607	9195	59%	24500	244203	9967	34730	541	612	538	74	16	39	5.88	637.02	1.56	5.45
1966	18723	11801	63%	27189	287841	10587	35766	660	725	630	95	18	52	5.59	688.62	1.54	5.19
1967	22373	13391	60%	31294	347403	11101	36398	725	842	759	93	28	59	5.41	714.93	1.55	5.09
1968	27749	15457	56%	34083	409048	12002	37741	831	951	893	58	29	35	5.38	814.16	1.47	4.64
1969	30119	15906	53%	36264	455416	12558	37488	893	1032	970	62	27	39	5.61	830.55	1.51	4.51
1970	32637	16623	51%	37071	547908	14780	41751	983	1126	1141	-15	22	-26	5.91	880.39	1.68	4.74
1971	35181	17535	50%	36084	576180	15966	43156	1078	1244	1215	29	30	3	6.15	974.98	1.64	4.43
1972	36290	19366	53%	35468	625661	17640	46300	1184	1351	1310	41	33	6	6.11	1023.18	1.72	4.53
1973	39006	20654	53%	36950	699710	18937	46757	1296	1475	1512	-37	37	-48	6.27	1055.64	1.79	4.43
1974	35272	20488	58%	35733	719225	20128	44728	1435	1718	1677	41	29	20	7.00	987.10	2.04	4.53
1975	36682	20871	57%	35213	743989	21128	43031	1541	1714	1824	-110	25	-20	7.38	1041.72	2.03	4.13
1976	39441	23172	59%	35495	836148	23557	45389	1802	2006	2023	-17	21	56	7.78	1111.17	2.12	4.08
1977	41851	24634	59%	36946	958503	25943	46914	2029	2379	2315	64	25	82	8.24	1132.76	2.29	4.14
1978	45488	28987	64%	37822	1083387	28644	48142	2330	2736	2639	97	72	134	8.04	1202.69	2.38	4.09
1979	49485	33364	67%	41011	1248473	30442	45985	2753	3253	3248	5	77	87	8.25	1206.63	2.52	3.81
1980	46634	28178	60%	40656	1372732	33765	44900	3154	3706	3817	-111	91	-76	11.1[illegible]	1147.04	2.94	3.91
1981	45264	27798	61%	36469	1417418	38866	46883	3377	3924	3880	44	136	47	12.15	1241.16	3.13	3.76
1982	49792	30900	63%	34095	1472924	43201	49092	3414	3978	3996	-18	148	-14	11.05	1431.06	3.02	3.43
1983	52447	34099	65%	36924	1601209	43365	47706	3885	4532	4283	249	152	213	11.39	1420.49	3.05	3.36
1984	58667	36702	63%	38333	1748709	45619	48121	4336	5087	4748	339	153	209	11.81	1530.46	2.98	3.14
1985	68336	44138	65%	42162	1951881	46295	47143	4984	5859	5353	506	153	323	11.30	1620.89	2.86	2.91
1986	75087	48792	65%	47898	2053353	42869	42869	4961	5856	5464	392	178	249	10.17	1567.64	2.73	2.73
1987	88743	56794	64%	57275	2399800	41900	40444	6151	7125	6651	473	213	214	10.83	1549.42	2.70	2.61
1988	102045	64753	63%	65340	2820800	43171	40010	7555	8551	7750	801	233	449	11.67	1561.75	2.76	2.56
1989	115222	73503	64%	75086	3233600	43065	38077	8839	9961	9230	731	239	454	12.03	1534.53	2.81	2.48
1990	123773	76979	62%	85680	3609700	42118	35305	9743	11009	10941	68	337	-40	12.67	1444.60	2.92	2.44

TABLE III.12
NORTHWEST AIRLINE
CAPACITY. TRAFFIC, COSTS AND REVENUE

YEAR	ASM	RPM	LOAD FACTORS	EMPLOYMENT	EMPLOYMENT COSTS	AVERAGE EMPLOYMENT COSTS	REAL COSTS	PASSENGER REVENUE	OPERATING REVENUE	OPERATING EXPENSE	INCOME	NET INCOME	PROFIT MARGIN	YIELD RPM	ASM PER EMPLOYEE	UNIT LABOUR COST(ASM)	REAL COST
1960	3073	1654	54%	6818	50265	7372	27305	76	122	119	3	1	1%	4.59	450.72	1.64	6.06
1961	2614	1362	52%	4684	36531	7799	28568	62	111	101	10	1	1%	4.55	558.07	1.40	5.12
1962	3698	1904	51%	5785	46417	8024	29071	90	151	131	20	3	2%	4.73	639.24	1.26	4.55
1963	4305	2179	51%	5966	49308	8265	29623	100	171	143	28	5	3%	4.59	721.59	1.15	4.11
1964	5130	2668	52%	6406	56448	8812	31137	164	212	158	54	27	13%	6.15	800.81	1.10	3.89
1965	6141	3304	54%	7116	64226	9026	31448	198	263	178	85	46	17%	5.99	862.98	1.05	3.64
1966	6773	3700	55%	7605	74099	9743	32917	216	311	210	101	33	11%	5.84	890.60	1.09	3.70
1967	9198	4901	53%	9788	96486	9858	32320	276	384	271	113	58	15%	5.63	939.72	1.05	3.44
1968	10841	5459	50%	10780	115616	10725	33727	301	416	318	98	50	12%	5.51	1005.66	1.07	3.35
1969	14927	6209	42%	12132	142783	11769	35132	378	468	386	82	45	10%	6.09	1230.38	0.96	2.86
1970	15271	5881	39%	10865	144205	13272	37493	355	447	397	50	47	11%	6.04	1405.52	0.94	2.67
1971	15615	5553	36%	9580	145626	15201	41084	332	426	408	18	23	5%	5.98	1629.96	0.93	2.52
1972	17789	6781	38%	10218	169347	16574	43502	403	506	471	35	20	4%	5.94	1741.03	0.95	2.50
1973	19593	8008	41%	10855	193067	17786	43916	474	585	533	52	52	9%	5.92	1804.97	0.99	2.43
1974	20016	9174	46%	11353	220453	19418	43151	624	767	689	78	65	8%	6.80	1763.06	1.10	2.45
1975	20911	9471	45%	10923	237123	21709	44213	657	815	765	50	43	5%	6.94	1914.40	1.13	2.31
1976	22228	10759	48%	11152	265744	23829	45914	786	971	868	103	52	5%	7.31	1993.19	1.20	2.30
1977	22968	11100	48%	11340	296401	26138	47265	861	1050	945	105	93	9%	7.76	2025.40	1.29	2.33
1978	23499	12199	52%	12077	323902	26820	45075	964	1181	1100	81	62	5%	7.90	1945.76	1.38	2.32
1979	24029	13298	55%	12814	351403	27423	41425	1082	1311	1255	56	72	5%	8.14	1875.21	1.46	2.21
1980	24904	13811	55%	12746	403452	31648	42085	1364	1639	1663	-24	7	0%	9.89	1953.56	1.62	2.15
1981	24814	14252	57%	13096	444054	33908	40902	1544	1854	1853	1	10	.1%	10.83	1894.78	1.79	2.16
1982	26257	15675	60%	13754	478953	34823	39571	1603	1878	1886	-8	5	0%	10.23	1909.04	1.82	2.07
1983	29511	17712	60%	14187	569535	40145	44164	1848	2196	2127	69	50	2%	10.43	2080.14	1.93	2.12
1984	32664	19772	61%	15185	639606	42121	44431	2024	2445	2349	96	56	2%	10.24	2151.07	1.96	2.07
1985	37149	22341	60%	16864	715172	42408	43186	2210	2655	2578	77	73	3%	9.89	2202.86	1.93	1.96
1986	48408	28815	60%	33427	1028478	30768	30768	2998	3589	3423	166	92	3%	10.40	1448.17	2.12	2.12
1987	61421	39550	64%	33724	1522929	45159	43589	4442	5142	4946	196	141	3%	11.23	1821.28	2.48	2.39
1988	61275	40148	65%	35532	1674359	47123	43672	4905	5650	5445	205	163	3%	12.22	1724.50	2.73	2.53
1989	70213	45663	65%	37481	2012000	53681	47463	5635	6554	6264	290	355	5%	12.34	1873.30	2.87	2.53
1990	79340	51490	65%	35775	2302795	64369	53955	6338	7257	7399	-142	-10	0%	12.31	2217.75	2.90	2.43

TABLE III.13
TRENDS IN AVERAGE REAL EARNINGS
US & CANADIAN CARRIERS

YEAR	US INDUSTRY	TREND	US TRUNKS	TREND	CANADA INDUSTRY	TREND Can.$	US$	TREND	CANADA MAJORS	TREND (Can.$)	US$	TREND	AA AVERAGE EARNINGS	TREND	NW AVERAGE EARNINGS	TREND	AC AVERAGE EARNINGS US$	TREND	CP/CAIL AVERAGE EARNINGS US$	TREND
1961	28143		28575		24146		23151		24218		23219		29751		28568		23400		22433	
1962	29659		29370		24508		22735		24686		22900		30862		29072		22915		22838	
1963	30530		30427		25102		23221		25577		23661		31950		29624		23740		23288	
1964	32011		31286		26068		24272		26546		24717		33746		31138		24999		23493	
1965	32575	32359	32049	31580	26560	26212	24707	24470	26907	26292	25029	24628	34728	35226	31449	30841	25348	25213	23632	22492
1966	33007	33441	32351	32838	26500	27067	24446	25425	26842	27263	24762	25697	35767	36279	32916	32265	25109	26281	23240	23553
1967	33708	34523	33662	34096	27431	27922	25376	26380	27938	28234	25845	26766	36397	37332	32321	33689	26388	27349	23573	24614
1968	34522	35605	34352	35354	28167	28777	26251	27335	28648	29205	26699	27835	37742	38385	33726	35113	27352	28417	24150	25675
1969	35961	36687	35630	36612	28580	29632	26636	28290	29040	30176	27064	28904	37487	39438	35131	36537	27521	29485	25409	26736
1970	38427	37769	38059	37870	31600	30487	31287	29245	31697	31147	31383	29973	41751	40491	37492	37961	32280	30553	28307	27797
1971	40165	38951	39991	39128	32194	31342	32130	30200	33078	32118	33012	31042	43157	41544	41084	39385	33766	31621	30563	28858
1972	42682	39933	42974	40386	32835	32197	32967	31155	34494	33089	34633	32111	46299	42597	43501	40809	35537	32689	31675	29919
1973	42600	41015	43185	41644	33708	33052	33844	32110	34694	34060	34834	33160	46758	43650	43916	42233	35601	33757	32198	30980
1974	41242	42097	42484	42902	32987	33907	33267	33065	34033	35031	34342	34249	44729	44703	43151	43657	35237	34825	31691	32041
1975	41982	43179	43096	44160	33873	34762	33340	34020	35176	36002	34623	35318	43031	45756	44214	45081	35625	35893	31877	33102
1976	43482	44261	44399	45416	35305	35617	34999	34975	36804	36973	36476	35387	45389	46809	45913	46505	36175	36961	34869	34163
1977	44946	45343	46490	46676	36542	36472	33462	35930	38191	37944	34910	37456	46913	47862	47266	47929	35212	38029	34006	35224
1978	45269	44225	47427	47234	35279	36303	29746	29847	36451	37090	30734	30477	48141	49298	45076	40627	30852	30157	30387	29743
1979	43929	43650	45908	46636	35990	36150	30813	29649	37302	37126	31936	30435	45985	48521	41424	41205	32213	30260	31139	29615
1980	42020	43075	45770	46038	35106	35997	29377	29451	36704	37162	30715	30393	44900	47744	42085	41783	29792	30363	29614	29487
1981	41176	42500	45362	45440	35625	35844	30039	29253	36877	37198	31093	30351	46883	46967	40902	42361	31417	30466	30249	29359
1982	41420	41925	45192	44842	35896	35691	29200	29055	36789	37234	29934	30309	49092	46190	39572	42939	30596	30569	28212	29231
1983	42651	41350	46664	44244	36800	35838	30065	28857	38002	37270	31048	30267	47706	45413	44164	43517	31431	30672	30021	29103
1984	40635	40775	43557	43646	36653	35395	27746	28659	38036	37306	28795	30225	48121	44636	44431	44095	29252	30775	27492	28975
1985	40266	40200	43092	43048	36936	35232	26421	28461	39755	37342	27722	30183	47144	43859	43185	44673	28581	30879	25381	28847
1986	40102	39525	40065	42450	35854	35079	25962	28263	37944	37378	27476	30141	42869	43082	43784	45251	27200	30981	26435	28719
1987	39306	39050	40972	41852	34403	34926	26464	28065	36845	37414	28342	30099	40440	42305	43590	45829	28834	31084	27526	28591
1988	38448	38475	41687	41254	33420	34773	28013	27867	37375	37450	31328	30057	42166	41528	43673	46407	31271	31187	30093	28463
1989	37512	37900	41454	40656	34232	34620	29562	27669	37202	37486	32126	30015	40156	40751	47463	46985	33133	31290	30612	28335
1990			40207	40058	33829	34467	29163	27471	36679	37522	31620	29973	36621	39974	53956	47563	34728	31393	29259	28207