Market Power, Efficiency, and the Merger effect: An Event Study of the New Monopoly in the Canadian Airline Industry.

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I Introduction

Many studies have evaluated the impact of mergers on merging firms as well as their rivals (Banerjee and Eckard, 1998; Knapp, 1990; Eckbo, 1983). The principal goals of these studies are to measure the profitability of firms involved in mergers after these mergers were realised as well as their consequences on welfare. To evaluate the profitability of firms that have been involved in mergers, studies usually use one of two popular approaches: the financial approach and the industrial organization approach. Mcdougall (1995) proposed a description of these approaches:

> The *financial approach* examines trends in the share prices of corporations involved in mergers or acquisitions and compares them to a reference group of corporations. Corporate performance is considered to have improved if the returns to shareholders are greater after the acquisition or merger... Stock markets seem to have a positive view of announcements that corporations will be merged or taken over.
> The *Industrial Organization approach* examines certain financial or economic performance variables of corporations before they have been taken over. Trends in these variables as compared to a reference group, provide an indication of the net effect of the acquisition on profitability rates.

Among these two ways of conducting economic analysis on the effects of mergers, the industrial organization approach is arguably the best because it uses economic variables, like the level of production, information on cost structure and profit, which give a better estimate in evaluating the effect of merger or any other kind of firm's behaviour on consumer welfare and the industry, thus on social welfare and efficiency.

The financial approach by contrast is well suited to study the effect of merger or acquisitions in studies that are conducted shortly after the merger events. Since this approach uses information from the stock market, which is assumed to be efficient, we do not need a large

interval of time to study the impact of the merger and to draw inferences as to its effect on welfare. Time constraint between the realisation of the merger and the manifestation of its effects on the industry renders the financial approach more attractive than the industrial organisation approach in some circumstances. But this approach is very limitative in the sense that information containing in stock price movements relative to a merger announcement might be the result of other type of information related to the market or the economic state. The use of stock market reaction is also a weak way to look at the effects of mergers because of the possibility of speculation that drives the behaviour of stock prices.

Although the financial approach is widely used, the conclusions that can be drawn from this type of study are limited because of the ambiguous effect of mergers on welfare. Nevertheless, one benefit of this approach is that it can be carried out right away while the other approach needs more time to gather reliable information on economic variables in order to assess the outcome of a merger. Since our study is undertaken only few months after the airline merger, the financial approach is more suitable because the economic variables used in industrial organisation approach are simply not available in such a short time.

The purpose of this paper is to use the stock market to gain some understanding about the potential impact of the merger between Canada's two major airlines: Air Canada and Canadian Airlines International ltd. A merger can be driven by two rather different reasons: monopoly power, or efficiency. These motivations for merger have important implications for social welfare because if market power is the reason for a merger, it will result in an increase in the level of product price, a diminution in the level of production or a decrease in quality. Thus, consumers are worse off. But, if the merger is motivated by the desire for greater efficiency, the scenario may be reversed, leading to an increase in social welfare. In that case, the financial

approach can give us insight about the monopoly effect on social welfare, more precisely the financial approach will allow us to draw conclusion about the motivation of a merger and its effect on welfare.

There are few studies about airline mergers in Canada unlike the many that exist for the United States. To date no articles have analysed empirically the impact of the recent merger in the Canadian airline industry on the firms' profitability and on efficiency. The relevant articles that exist about the recent merger in Canada are essentially newspaper commentaries or magazine's articles. Most of these studies usually concentrate on examining the phenomenon of merger from the industrial organisation point of view, evaluating its possible implications for the market and the consumers; none of them has evaluated the possible motivations of that merger using evidence from the stock market reaction relative to different types of events affecting the merger.

In Canada, there exists no study about a merger in the airline industry for a monopoly case, but Gillen, Stanbury and Tretheway (1988) have evaluated the effect of the duopoly previously formed by Air Canada and Canadian Airlines International Limited (CAIL) on the industry. A monopoly in the Canadian airline industry existed at an early stage of development of the industry in 1937 with the creation of Trans Canada Airlines (TCA) by the federal government (Heaver, 1990). The evolution of the industry leads to competition, mostly in regional service areas as more carriers enter the industry. We had to wait until 1999 to witness a monopoly situation in the airline industry. This new development in the industry, while attracting the attention of economists, does not seem to generate the same kind of interest that the banking merger proposals did one year earlier. Perhaps this is due to the fact that the public had been

anticipating some sort of amalgamation in this industry after experiencing years of reports regarding the poor profit performance of, especially, Canadian Airlines in the market.

To study the merger we will empirically examine the stock market reactions to many events pertaining to the merger process. The considered events are: the first merger proposal by the Onex corporation, the counterproposal by Air Canada, the withdrawal of offer by Onex and, the release of the Bureau's recommendation that the merger be allowed. The objective of this analysis is to measure the level of any abnormal returns surrounding the event dates. The signs of those abnormal returns for both merging parties and rival firms will reveal if the search for greater market power or the search for greater efficiency motivated the merger. We assume that the financial market is efficient, thus it will react to any new information released and the effects will be manifested on stock prices movements and the returns. Since there exist no potential rivals to the merging parties for which their stock are traded on the Toronto Stock Exchange, we also study the effects of this merger on rival firms in the United States by considering two US stock markets were most of the American competitors of Air Canada and Canadian Airlines are traded, the New York Stock Exchange (NYSE) and the National Association of Securities Dealers Automated Quotation (NASDAQ). This analysis allows us to assess the effect of the merger on the profitability of international competitors.

The rest of the paper is organized as follows; section II presents a short review of regulation and deregulation in the airline industry for the United States and Canada. Section III presents an overview of the airline mergers that occurred in Canada and in United States. Section IV presents the role of the Competition Bureau and discusses the importance of market definition. Section V discusses the existing theories on merger and deals with the motives for merger. Section VI presents the empirical model and discusses the choice of the event date and

the source of the data. This section deals with the estimation procedure and presents an analysis of the empirical results, and section VII presents a summary of the findings and a conclusion.

II Regulation and Deregulation of the Airline Industry in Canada and the United States: A Short Review

The regulation of aviation in Canada falls under the jurisdiction of the federal government by the decision of the Privy Council in 1932 (Heaver, 1990). The federal government created Trans Canada Airlines (TCA) in 1937, which became Air Canada in 1964. From the date of its creation until 1959, Air Canada enjoyed a monopoly position on transcontinental routes due to government policy until Canadian Pacific Airlines (CP) was granted limited operation to protect Air Canada's financial position (Heaver, 1990, Oum, Stanbury and Tretheway, 1991). The restrictions of capacity on CP were lifted in 1979 and the same year, another air carrier, Wardair, was also granted the right to operate on transcontinental routes.

In 1985 the government issued the policy paper "freedom to move" which proposed a virtual complete deregulation of the industry, and in 1988, the *National Transportation Act* of 1987 (Bill C-18) deregulated the airline industry (Gillen et al., 1988). This Act allows new entrants to enter the industry more freely because most of the then entry restrictions were lifted. Licences to operate were issued freely and carriers were allowed to engage in competition by reducing airfare rates. Under this Act, two distinct regulatory regimes were in effect: One for the carriers operating in the Northern Canada and the other for those in the Southern region of the country. The regulation was tighter[1] for carriers operating in the North. However effective May 1996, Northern Canadian routes became subject to the same regulatory framework as Southern

Canadian routes, the same month when the *Canada Transportation Act* was passed[2]. After the consolidation of the industry – with the acquisition of Wardair by CP - creating a virtual duopoly, the international market was divided between Air Canada and Canadian. This repartition of the market was made under the "Division of the World" principle, which restrict competition on routes served by a carrier in other to promote growth in the industry. In 1994, this policy was replaced by the new "use-it-or-lose-it" policy, which assigned a non-utilized or under utilized route to the competitor or to foreign carriers if none of the Canadian airlines were interested in increasing their presence in the route in question (Oum and Yu, 1998).

In the United States, the airline industry witnessed the movement of deregulation even before the ratification of the *Airline Deregulation Act* of 1978 (O'Connor, 1995). At this time, members of the Civil Aviation Board (CAB) were making decisions that gradually liberalized entry into new markets, allowing carriers to exit more easily from markets that were no longer profitable. Also, airlines had greater liberty to set air fares. On December 31, 1981, control over domestic entry was abandoned, and at the end of 1984, control over foreign air transportation was transferred from the CAB to the Department of Transport (DOT).

III Overview of Airline Mergers

When looking at the market for air transport in Canada and the United States, we can see that the firms have a tendency to move toward the gradual elimination of competitors over time. Even though competitors can enter a market with ease, in the long run, only the strongest will remain. Practices like merger or acquisition will affect the structure of the market where further consolidation will result into an oligopoly or even a monopoly situation.

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[1] The regulation for carriers operating in the North was tighter in the sense that there was not enough competition allowed. Legal barriers to entry still existed and also, these carriers could not enjoy the same liberty at fixing airfare rates and acquiring operating licences.

For the airline industry in particular, the merger or consolidation of two or more airlines into one company is an action that may have important consequences for the industry and the public in general. When two airlines merge, their individual route systems are combined so that a single enlarged system is formed. Moreover, if the merged airlines were competing in the same market, the number of competitors in this market is reduced resulting in lesser competition on price. Thus, the airline no longer has the incentive to reduce prices or to operate more efficiently. As it appears, airlines have found that the practical way to enter a new market effectively is to acquire a carrier already in that particular market, with its aircraft, personnel, airport gates and slots. For example, the TWA's acquisition of Ozark has served to eliminate a competitor at its hub in St Louis and become the dominant carrier in this market (Butler and Huston, 1989). We can put this situation in the Canadian context where since the acquisition of Canadian, Air Canada became the only dominant carrier in Toronto and Vancouver hubs.

III.1 Overview of Airline Mergers in the United States

Since the airlines market in the United States was deregulated in 1978, more than forty airline mergers have taken place in the market (Morrison, 1996). The merger movement was accelerated in the mid-1980's (1985-1988) and during that period, all the proposed mergers were allowed by the DOT on the basis that the market was contestable (Singal, 1996). The more significant mergers were the acquisition of Air California by American. American added California's routes to its system, Delta merged with Western, Northwest acquired republic, TWA acquired Ozark, Texas Air acquired People Express and Eastern, United acquired the pacific division of Pan American and US Air acquired Piedmont and Pacific Southwest. This wave of

[2] Air Canada Annual information form, May 2000, www.sedar.com.

merger has reduced the number of major passenger airlines to seven. This situation raises concerns about the fear that the airline industry was going toward an oligopoly structure.

While most of the mergers during the 1980's were not opposed, two of them - the merger between Republic Airlines and Northwest Airlines, and the merger between Trans World Airlines and Ozark Air Lines - gave rise to certain controversies because of disagreements between the US Department of Justice (DOJ) and the US Department of Transport. Those mergers were opposed by the DOJ on the ground that contestability was not generally applicable to the airline industry. The DOJ argued that for these two mergers, the merging parties shared the same hub in Minneapolis and St. Louis respectively, which gave them feed[3] advantage over nearly all non-incumbents on the great majority of city pairs (Butler and Huston, 1989; Kim and Singal, 1993; Morrison, 1996; and Singal, 1996). Disagreeing with the DOJ, the DOT argued that entry was easy and incumbent would always face the threat of potential entrants. Thus, entry or the threat of entry was likely to prevent non-competitive performance. Such assumption was based on the contestability of the airline market.

Studies by Bailey, Graham and Kaplan (1985) and Moore (1986) show that the airline industry is not likely to be fully contestable. Contrary to the DOT's belief, the study by Werden, Joskow and Johnson (1991) did not find that an entrant disciplined the merged carriers. According to the view of the DOJ, the literature shows evidence of increases in fare prices and lower rate of services resulting from merger. Morrison and Winston (1989) and Butler and Huston (1989) indicate that a reduction in the actual number of competitors following a merger does result in higher fares. This result compromises the arguments that the airline markets can be

[3] Many small airlines play the role of feeder to the biggest airlines by delivering passenger to some cities where the big airlines can carry them to their final destination.

characterized as contestable. The debate over the two opposed merger has attracted the interest of many scholars. Borenstein (1990), examine both NW-RC and TW-OZ mergers by calculating relative fare changes for the merged airlines for one year before and one year after the merger. He found that on 11 routes served by NW-RC, fares experienced an increase of 22.5 percent while he found no evidence of fare increases on routes served by TW-OZ. Werden, Joskow and Johnson (1991) compared relative fares for the involved carriers in the mergers one year before and after the merger took place. They found that routes served by NW-RC from Minneapolis-St Paul, experienced relative fare increase of 5.2 percent and 7.5 percent on routes of less than 1,000 miles and on routes of more than 1,000 respectively. For the TW-OZ merger serving St Louis, those numbers are 4.6 percent and 0.2 percent for the respective distances.

Kim and Singal (1993), analyze the effect of 14 mergers as a group. Analysing mergers occurring during the 1985-1988 period, the authors found that the merged firms increase fares by an average of 9.44 percent relative to other routes unaffected by the merger. They also find a positive relationship between airfare change and changes in concentration, which is consistent with the existence of market power. They conclude that even though the airline mergers also lead to greater efficiency gains for the merging firms, the effect of market power on airfares dominates the effect of efficiency gains leading to the observed net increase in fares.

The paper by Morrison (1996) studies those same two merger but for a longer period of time before and after the merger. The study shows that fares increased to 2.5 percent for the NW-RC merger and observed a decrease of 15.3 percent for the TW-OZ merger. The fact that he used longer periods in its study allows his results to show the impact of the mergers in a much favourable way than the previous studies. Moreover, the study found evidence that services have significantly decreased for the two mergers. Departures and seats from St Louis and

Minneapolis-St Paul has been cut by 21 to 39 percent on overlap or competing city pairs and by 13 to 24 percent on all city pairs. But, for Minneapolis-St Paul, the number of cities served has increase significantly.

III.2 Overview of Airline Mergers in Canada

The Canadian airline industry has also seen changes in ownership since 1974, but not as many as it is the case for the US. The historical dates of mergers and acquisitions that occurred in Canada during the 1974-1988 period are presented - with lengthy details about the processes of these changes in ownership - in Gillen, Stanbury, and Tretheway (1988). The authors argued that this wave of mergers result from both the demand side – in the sense that customer prefer large airlines because they can get all the necessary information about a flight at less costs, the geographic area served is larger, the service quality is higher, and also, because of the frequent flyer program - and the supply side - because of the economy of traffic density that the carriers can achieve.

Besides Air Canada and Canadian Airlines, Wardair was the only remaining major carrier, which had attempted aggressive growth from a charter to a major scheduled carrier that could have competed with Air Canada and Canadian Airlines Limited on international routes. But Pacific Western Airlines (PWA), the parent of Canadian, absorbed Wardair In April 1989. This amalgamation was the final step in the consolidation of the Canadian airline industry (Zhang and Aldridge, 1997). The merger between PWA and Wardair as a consequence created a virtual duopoly in the Canadian airline industry. This duopoly was composed of Canada's biggest air carriers, Air Canada, and Canadian Airlines International Limited (CAIL)[4].

[4] CAIL had emerged from the takeover by Pacific Western Airlines (PWA) of Canadian Pacific Air Lines Ltd. (CPAL)

The new structure of the industry marked by the presence of a duopoly was fragile and the market was not totally profitable for the two carriers taken together. The situation was even worse for Canadian. In fact, Canadian Airlines International (CAI)[5] was in financial distress as far back as 1991 and since then, the structure of the industry was expected to move toward further changes. At this time, many scenarios were considered to prevent the liquidation of Canadian. The possibilities were a merger between CAI and Air Canada or a merger between CAI and American Airlines. The talks about the merger between the parties failed because of the precarious financial position of CAI and other issues related to debt restructuring of CAI that needed to be satisfied before Canadian Airlines can be taken over (Zhang and Aldridge, 1997). Finally, in April 1994 CAI signed an alliance with AMR, the parent of American, after having restructured its financial situation[6].

One can argue that the alliance between CAI and AMR did not really solve CAI's financial problems because the same concerns were raised again in 1999 with the merger proposal between the two Canada's major carriers. This proposal brings up the debate over the hypothesis that the Canadian market is too small to sustain two big carriers and that in the long run one of them will suffer from profit loss and might drop out of the market. Indeed, even though Canadian shows a good service record, the company suffered from great losses in revenue for many years, in fact, it experienced continuous financial losses since 1988. The company shows an average decrease in yield of about 19 percent since 1986 while the decrease has been only about 13 percent for Air Canada[7]. It certainly seems that two major air carriers are too many for the small Canadian market.

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[5] CAIL, CAI and, Canadian are invariably the same entity.
[6] A chronological history of these events can be found in lengthy details in Zhang and Aldridge (1997).
[7] These numbers are reported in Tae Hoon Oum and Chunyan Yu, 1998, pg. 180.

Two outcomes of the merger between the two Canadian major airlines can be considered. The first one is that the merger will be beneficial for the industry and particularly for the two merged carriers, allowing them to increase efficiency and profitability. For a geographically large country like Canada, the size of the population and its geographic location play a big role in determining traffic demand and the carriers' operating costs. The fact that "Canada has a population base of 30 millions people spreading along the long southern border with the United States makes the country a difficult place to serve by air... Canada has been unable to support its two major airlines. The two companies have been faced by excess capacity and, they have lost together 2 billion since 1990" (Ott, J., August 1999).

The second outcome is that the merger will increase market power and will have as an effect a lessening of competition in the industry, resulting in an increase in airfare and possibly a decrease in service while regional carriers might be forced to shut down. Moreover, we can argue that in the long run, some of the regions might not be well served because of the possible elimination of certain non-profitable routes by the new monopolist.

III.3 Merger Involving a Bankrupt Airline

One of the more important reasons that explain the disappearance of an entity through merger is the fact that a company cannot generate enough revenue to finance its production cost or pay back its financial debts. For the airline industry, when a merger involved a financially distressed airline, any regulatory agency will find it difficult to oppose that merger. There exist the fear that an airline in a weakened financial situation will offer a deteriorating quality of service to its consumers, perhaps with some safety implications resulting from the diminution in the level of aircrafts maintenance. Aircrafts maintenance can be hampered by the company's incentive to divert most of the financial resources to finance its debts. If the fate of an airline is

bankruptcy, the company will be liquidated, the public will be deprived of the service, the number of competitors in the market will be reduced, and some social problems may arise. The employment rate may suffer and there might be some political repercussions that usually follow the collapse of any large firm (O'Connor, 1995). In such case, a merger would only result in the reduction in competition that was going to occur anyway.

III.4 Overview of the Recent Airline Merger Proposal

Due to its financial position, Canadian Airlines obtained from the government a special exception of the *Transportation Act* in mid-August 1999, which allowed a 90-day period for sharing competitive information with competitors for the purpose of promoting a merger (Ott, J., August 1999). Even though everyone knew that a single major airline would emerge in Canada, the issue was who would have control over it. We have observed a series of proposal and counterproposals among the bidders of Canadian. The talking between all the interested parties brought many proposals to deal with the Canadian Airlines' misfortunes. The first proposal came from the Onex Corporation, partially owned by American Airlines. Onex's plan was to purchase the two major airlines and merge them into a single one while conserving the name Air Canada. Onex intended to buy each Canadian's common share for $2 in cash or give to Canadian shareholders an equivalent common share of Airline Revitalization Co. Inc. (AirCo) of 0.2424. The company would also buy Air Canada's common share for $8.25 in cash or exchange it for a "one for one" AirCo common share (Ott, J., August 1999). Air Canada and Canadian Shares were supposed to be acquired through Onex's new created company, AirCo. Canadian welcomed the Onex proposal but Air Canada rejected it. Another proposal came from Air Canada. Air Canada offered to buy Canadian shares on international routes and run the company as a low cost domestic airline, but Canadian rejected this offer (Burnson, Nov 1999).

The fight over the control of Canadian has been taken into court where the Toronto-based Onex corporation accused Air Canada of adopting a 'costly poison pills' measure to prevent a takeover while the Montreal-based Air Canada accused Onex of attempting to avoid governmental review of the proposed merger and argued that if the Onex takeover bid succeeded, it would be in direct violation of the legislation that limits foreign ownership to 10 percent in a Canadian corporation (Burnson, Nov 1999). Air Canada won the battle and Onex withdrew its offer to acquire the two airline companies. This situation left Canadian Airlines with no other alternative than to accept Air Canada's proposal for merger.

The situation in the industry gave rise to great competitive concerns from the Competition Bureau and from the minister of transport himself. "If a dominant carrier emerges that would provide most of the international services out of Canada, competition concerns may arise in certain international and transborder markets. These concerns would be magnified when the dominant carrier joins an alliance whose partners fly the same international routes", said the transport minister Collenette (Ott, J., August 1999). Since the merger was inevitable and the lack of national competitors gives to the merging parties a monopoly position it become necessary that the Bureau evaluates the anti-monopolistic impact of the merger on small carriers and on consumer's welfare.

IV Role of the Competition Bureau

In a deregulated system, competitive forces can fail to sustain competition because of various kind of behaviour from firms in their attempt to control the market. Regulation is needed, especially to limit and evaluate the effects of mergers, acquisitions, and other types of control relationships among and toward firms and *vis-à-vis* the consumers.

The Competition Bureau has as a mission to ensure that firms operating in Canada satisfy a set of rules that are designed to promote a competitive environment in the relevant market. Those rules require that before a merger can take place, a proposal to merge should be presented to the Bureau, which will determine if the planned merger will substantially lessen competition and cause public harm. Competition can be lessened by various means like barriers to entry[8], increases in prices and decreases in service. The *Competition Act* requires that the merging parties provide all the necessary information to the Bureau, which will consider in its evaluation the size of the parties in the market and the resulting size of the merging parties after the merger took place. This requirement has to do with the process called the "merger prenotification" which allows the Bureau to assess the impact on competition of the proposed merger and take the appropriate action if it finds that the merger is likely to substantially lessen competition. The Bureau's study of the proposed merger will allow it to decide if the proposal should be restructured before materialization or abandoned. For the recent airline merger, the Competition Bureau began examining the merger between the two Canadian airlines on November 11, 1999 after the government, on August 13, 1999, suspended the *Competition Act*. The Bureau had to evaluate the effect on welfare of the bankruptcy and liquidation of Canadian Airlines, against the merger.[9] Because of significant competition concerns in most domestic airline passenger markets and because a dominant carrier which will provide most of the international services out of Canada would emerge from the restructuring of the industry, the Bureau recommended:

> that the limit on foreign ownership of voting shares of Canadian air carriers be raised by regulation to 49, from the current 25 percent;

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[8] Gillen, Stanbury and Tretheway (1998) have identified the frequent flyer program, which rewards customer for choosing one of the big carriers, as being a source of barriers to entry. The authors recommend that such practice be prohibited because of its adverse effects on small carriers and rivals costs.

[9] Commissioner's speech, www.strategis.ic.gc.ca

that the government of Canada immediately attempts to negotiate reciprocal modified Sixth Freedom[10] rights with the US for passenger service. This would allow US carriers to market – as a single ticket – travel from one Canadian city to another, via a US destination; and

that the *Canada Transportation Act* be amended to allow for the licensing of Canada-only carriers, and that these carriers should be free of any Canadian ownership or control restrictions. Under this system, carriers would be restricted to serving points within Canada and would not be allowed to fly to a foreign destination.[11]

These recommendations are designed to promote international competition and prevent Air Canada from adopting measures that would allow it to earn monopoly rent at the cost of the consumers. By offering to consumers a wider choice between carriers offering services to international routes, the competitive forces will prevent a wealth transfer from the consumers to Air Canada.

IV.1 Market Definition

The market definition employed by the Bureau[12] - or/and by the merging parties - will be an important factor in determining whether or not the merger will result in market power. The

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[10] Restrictions on freedom (to move):
Those restrictions on freedoms relate to the limitations on entry. These freedom are:

a) First freedom – the right to fly over another country without landing
b) Second freedom – the right to make a technical stop in another country, meaning a stop for fuel or repairs without taking on or leaving off passengers or cargo
c) Third freedom – the right to take on passengers or cargo in the home country of the airline and carry them to a foreign point
d) Fourth freedom – the right to take on passengers or cargo at a foreign point and bring in to the home country of the airline as their destination
e) Fifth freedom – the right to pick up passengers or cargo at a point not in the home country of the airline and take them to a destination that is also not in the home country of the airline
f) Sixth freedom – the right to take on passengers or cargo at a point not in the home country of the airline and bring them to a point in the home country of the airline and then take them to a destination that is not in the home country of the airline.

Source: O'Connor, 1991

[11] Commissioner speech, www.strategis.ic.gc.ca

[12] The Bureau defines the relevant market by using the "Hypothetical monopolist" test. The relevant market is then defined as "the smallest group of product and smallest geographic area in relation to which sellers, if acting as a single firm (a "hypothetical monopolist") that was the only seller of those products in that area, could profitably

purpose of market definition is to determine the boundaries of the relevant market so that the impact of the merging entity can be assessed.

Defining the relevant market will allow us to identify the suppliers of products or substitutes with which the merging parties are likely to compete. The relevant market in the case of the airline industry includes all substitute services (bus, train) to which consumers would turn in reaction to a significant and non-transitory price increase adopted by the merging firms.[13] The market can be defined as geographical routes or product and/or as other types of services (e.g., first class travelers and frequent flyer program) competing in the product markets.

Attempting to define the relevant geographical market for the airline industry can be difficult in the sense that the geographical market is not always the same for business travelers as for a regular traveler because of the fact that the former will prefer direct flight to one-connection point flight. Thus, defining the relevant market is not so obvious and is in fact the most difficult aspect of merger analysis. To get a sense of this affirmation, Butler and Huston (1989, pg. 8) maintain that:

> the industry is made up of a number of distinct sub-markets, which may or may not resemble each other. For example, on any given route it is clear that unrestricted tickets and tickets which carry advance purchase or timing restrictions do not compete in the same market. The two types of tickets are sold to different groups of customers, for different purposes and at different prices.

How much market power an individual firm possesses depends largely on how the market is defined. If the market is defined too broadly, a particular firm will seem to have a weak market power. Defining the market for the airline industry, Singal (1996) consider the market as being

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impose and sustain a significant and non transitory price increase above levels that would likely exist in the absence of the merger." (Merger enforcement guidelines, 1991, pg 7.)

[13] In the case of considering travel by bus or train, the distance and the time of the travel can render difficult such evaluation.

composed of direct routes - which consist of the origination and the termination of the flight – and also of the one-connection route. By doing so, the author tries to minimize the problem of defining the market too narrowly or too broadly. Also, in testing the market power hypothesis, Kim and Singal (1993, pg. 551) consider a market to be each individual route while they use "the routes not affected by merger as a control group to capture industry-wide factors... that affect demand and airfares".

V Merger Theories and Motives for Merger

V.1 Merger Theories

A successful[14] merger is the combination of at least two firms. Satisfying legal requirements, one of the firms control and influence the economic behaviour of the acquired firm (Weston and Halpern, 1983). In its section 91, the *Competition Act* defines a merger in terms of: "... the acquisition or establishment, direct or indirect, by one or more persons, whether by purchase or lease of shares or assets, by amalgamation or by combination or otherwise, of control over or significant interest in the whole or a part of a business of a competitor, supplier, customer or other person." [15]

Weston and Halpern (1983) present two classes of merging theories. The first class of theories refers to non-value maximizing behaviour by the managements of the acquiring firms. They attempt to maximize growth in sales or assets or to control a large empire. This kind of behaviour may be motivated by the management's desire to increase the size of the corporation with no regard for any efficient investment strategies. Merger of this type have no economic

[14] Morrison (1996) considers that for the airline industry particularly, the effect of a merger usually takes many years to work out fully. Thus, we cannot know if a merger is successful at an earlier stage.

[15] Definition taken from the Merger Enforcement Guidelines Part 1 at: http://www.strategis.ic.gc.ca

gains to be shared among the members of the expending corporations. This type of merger is likely to incur an overall economic loss to the merged parties.

The second class of merger theories refers to value maximization motivations in which the merger should satisfy the same criteria as any other investment decisions (Gordon and Yagil, 1981). The decision to merge with another firm, as any other investment decision, should be greatly motivated by the managements' desire to increase the market value of the merging firms. In this case, the managements of the merging firms are showing in their decisions wealth maximization behaviour. Thus, the increase in the stockholders' wealth of the merging firms could be the result due to the merger. In that case, there should be a positive expected economic gain or "at least earning of a normal rate of return" to the shareholders, resulting from the merger.

As we have seen above, non value-maximization behaviour cannot be justified by any economic or financial goal. Value-maximization behaviour is then the one that deserve our attention.

There are a number of merger motivations that are consistent with the goal of value maximization. The first type consists of financial motivations. One of the arguments presented is that a merger permits a redeployment of excess cash held by either of the merging firm (Weston and Halpern, 1981). Another group of economic motivations can be identified through the wealth maximization motive in which the merger results in an increase in the total expected cash flowing to the firm (Dodd, 1980). These gains can occur from economies of scale[16] generated from horizontal mergers, excess capacity in factor of production (such as managerial or financial

[16] There is evidence in the literature that economies of scale may not be a source of gain from merger for the airline industry. Rather, the gains can emerge from economies of density – addition of more flights or more seats per flight on a given route. See for example the article by Caves, Christensen and Tretheway (1984).

control), or cost advantages when output is increase by the post-merger in a range of products. There is evidence indicating that mergers generate net aggregate gains, resulting in benefits or at least no losses to merging firm shareholders (See Jensen and Ruback, 1983).

Being able to identify the source of gains to merging firms is important to policymakers for decision-making. Many of the motivations stated earlier appear to be reasonable explanations of merging activities. "However, a number of these motivations have similar predictions regarding the impact of the merger on the security price of the affected firms" (Weston and Halpern, pg. 100) as merger gains are most likely due to more than a single factor. For example, these factors can be the replacement of an inefficient management team or the synergies resulting from the combination of at least two independent management teams. Thus, it may be difficult to distinguish among the motivations.

Many hypotheses were advanced to explain the sources of these gains. Hypotheses that assume that the goal of the merger is to increase the shareholders' wealth are consistent with the wealth maximizing behaviour (Weston and Alpern, 1983). The shareholder's wealth will increase as a result of the merger if the future cash flow stream generated by the combination of the merged firms exceeds the sum of future cash flow stream of the two individual firm, and/or the risk to the merged firms is reduced.

In order for the future cash flow generated by the merger to exceed the sum of the two individual firms, the post-merger production should be cost-efficient. This may result from the adoption of a more efficient technology, the removal of inefficient management team or the removal of management that does not implement policies that maximize the wealth of the shareholders. Another way to increase future cash flow is for the firm to raise the price of its product after the merger. This increase in product or service prices is due to the creation of

monopoly power. By accessing more markets and controlling more routes, the merged airlines can increase their airfare ant thus increase their profit rate.

The generally accepted effect of mergers in any market has two counterparts, a positive effect and a negative effect. The potential benefits of mergers are increased geographic diversification, elimination of inefficiencies and creation of economy of scales. Theoretically, the implication of increased efficiency for airlines from merger would be to lower prices, raise traffic density and better service standard (Kim and Singal, 1993). The second effect of merger, however, is to increase market power of the merged firms, which theoretically implies the ability, that the merged airlines capture a large segment of the market, to raise their services charges and collect economic profits (Singal, 1996, Knapp, 1990). Moreover, according to this idea, in the particular region that the merged airlines possess a hub, the prices should be higher.

In light of the market power hypothesis, horizontal merger create monopolistic power by reducing the number of competitors in a market and even an industry. The reduction in the number of competitors allows the merged firms to raise their product price. The traditional collusion argument presumes the incentive to coordinate the production rates of the individual firms operating within an industry is a function of the cost of monitoring the collusive agreement (Stigler, 1964). Using Stigler's (1964) theory of oligopoly, a horizontal merger can reduce the monitoring costs by reducing the number of independent producers in the industry. The action of each producer will be more observable. Thus, the probability of detecting a potential cheater who may try to increase output will be higher. As this probability becomes higher, the cost of cheating will increase. This situation guarantees that the cartel will be more stable (Ekcbo, 1983).

Many scholars hypothesize that airlines merge for efficiency gains or market power. To test this hypothesis, we can use the market model[17] presented by Eckbo (1983) to examine the price reaction of rival firms in the industry when the merging firms announce their intention to merge. The market model will allow us to detect any level of abnormal stock return or abnormal performance, which is any additional revenue gain or loss that occur from events specific to the company independently of the market general movement. When a merger occurs, the number of airlines operating on a given route may change. The fact that the merger activities alter the number of competitors in the airline industry means that the announcement of a merger may have implications for merging airlines as well as their rivals. If the merger creates market power, this will be translated into higher product prices and lower monitoring cost, then all the remaining firms in the industry should benefit and not just the proposed merging firms. Thus the merger announcement should increase the rival's benefits as well. Since effective collusion generates monopoly rents, the market power hypothesis implies that the rivals of the merging firms should earn positive abnormal return around the merger proposal announcement. Furthermore, the rivals and the participants should earn negative abnormal return in response to merger challenge and decisions prohibiting the merger from taking place[18].

A merger that raises market prices will benefit both the merging parties and their rivals and thus raise the prices for all their shares. On the other hand, suppose the financial community expects the efficiencies from a merger to be so large that the merged firm will drive down market prices. In this case, the share values of the merging firms' rivals would fall when the probability

[17] Brown and Warner (1980) discuss about the existing methods that exist to evaluate stock price reaction to a particular event. In our study, we will use the market model because Brown and Warner (1980) have found no evidence that a more complicated model can give any additional benefit in measuring price performance.

[18] We can find evidence to support this hypothesis from the study by Bosch and Eckard, (1991).

of the merger goes up. Thus, evidence from financial markets can be used to predict market price effects when significant merger-related efficiencies are likely to occur (Boulton and Serdar, 1999).

Table 1. Expected sign of the abnormal returns for the horizontally merged firms and their rivals as predicted under the collusion and efficiency hypotheses.

Hypothesis	Announcement of merger proposal by Onex			Announcement of counterproposal by Air Canada			Withdrawal of offer from Onex			Announcement of the acceptation of the merger by the government		
	Air Canada	CAI	Rivals	Air Canada	CAI	Rivals	Air Canada	CAI	Rivals	Air Canada	CAI	Rivals
Market Power	+	+	+	+	+	+	-	-	+	+	+	+
Efficiency	+	+	-	+	+	-	-	-	+	+	+	-

The expected sign of the abnormal returns to the merging firms and their horizontal rivals as predicted under the collusion and efficient hypothesis are positive for the announcement date and negative in case of challenge. Moreover, the sign of the abnormal return for rivals at the announcement period will depend also on the nature of the merger.

Those implications of the market power hypothesis are necessary but not sufficient to conclude a given merger is highly anti-competitive. As shown in table 1, a pattern of abnormal returns to the merging firms and their rivals, which is consistent with market power hypothesis, can also be consistent with productive efficiency (Eckbo 1983). For the productive efficiency hypothesis, the observed increase in the market value of the merging airlines is due to a more efficient investment and/or production policy after the completion of the merger. In the case of the rival airlines, the productive efficiency hypothesis cannot restrict the sign of their abnormal returns. Evidently, if a merger is based on efficiency, each merger announcement can have both an information effect and a product-price effect. The information effect occurs when the news of

an efficient merger is release, which signal to the rivals the opportunity to increase their productivity (since their technology are closely related to the merged firms technology). Conversely, the product-price effect might cause a negative change in the market value of the rivals at the time of the merger announcement. Thus, the overall wealth impact on the rivals is the sum of both price and information effects with no restrictions on the sign of their abnormal returns. Eckbo (1983) supports this view.

The market power and efficiency hypotheses are not mutually exclusive. Thus, the observed stock value changes in a given merger can result from the combination of simultaneous positive and negative effect and, the positive effect caused by the realized benefits within the merging airlines can outweigh the negative social welfare of collusion. Thus, even a pattern of positive abnormal returns to the rival firms, which is consistent to the market power hypothesis is not sufficient to prove that a merger will have adverse effect on welfare. This is one of the reasons why a merger can be allowed even if it will lessen competition. In the case of the merging airlines, blocking the merger will deter collusion but might also reduce social welfare. Thus the social efficiency gains created by the merger are sufficient to outweigh the potential welfare loss from collusion. The implications in table 1 can be used to examine whether the merger is efficient and socially desirable.

Horizontal mergers by nature may be anti-competitive. As a market becomes more concentrated, the more likely that anti-competitive behaviour will result. That is why the Bureau and the Transport minister himself were concerned that the merger would give rise to predatory behaviour, which may follow by an increase in the airlines' ticket prices and thereby benefit only the participant to the merger in the industry. Since our study focuses on merging activities in the airline industry, evidence from studies on merger in other industry may not be totally applicable

because airlines operate in a different environment compare to non-airlines firms. This is due to regulatory framework, which has the potential to affect the incentives for horizontal airlines merger. These mergers are subject to antitrust policies and laws and must be processed and approved by the ministry of transport.

V.2 Motives for Merger

To explain the motivates for merger in the airline industry, many aspects and objectives of the firms involved in the merger can be considered as well as the market within which they operate. Firms can merge in order to expand their overall size in the hope of benefiting from economies of scale. An airline might want to acquire profitable route or to add points that, taken together with its existing routes, would result in more profitable operations. (Even if entry is easy; post-deregulation motives include the acquisition of additional aircraft, trained personnel, airport gates and slots, and customer goodwill, as well as the desire to eliminate a competitor). Kyle, Strickland and Fayissa (1992, pg. 1097) indicate that the motivation for airline mergers can be "the potential for gaining market power, the achievement of scale economies... and fire sales by bankrupt carriers". These factors are susceptible to attract bidders for the target carriers.

Knapp (1990) argued that horizontal combination of airlines into more concentrated networks has the potential to increase operating efficiencies, while increase in market share and industry concentration may adversely affect competition. Negative rival stock returns suggest either the newly formed firm is a stronger industry competitor through increased efficiency, that the new firm has acquire so much market power that rivals may be forced out of business by anticompetitive practices such as predatory practices or concentration. Moreover, Zero abnormal returns to rival firms mean that the merger effects are specific to the acquiring and acquired firms - tax savings or value transferred from labour or bond holders (Knapp, 1990).

The motivation for merger in the airline industry can be expressed in term of market power or in term of operating efficiency. Morrison (1996) argued that mergers could be motivated by one of the firm's precarious financial position. Without the merger, the carrier may simply go out of business. The adverse effect of a merger is to increase monopoly power due to increase in concentration resulting in a lessening of competition. But also, as the time period after the merger lengthens, it is increasingly likely that the observed changes are due to other factors in addition to the merger. For the recent merger between Air Canada and Canadian, the motive was the salvation of Canadian from bankruptcy, even though it will result in monopoly power, considering the fact that the merger would be more beneficial for Canadian customers than liquidation. While Canadian's financial troubles will be resolved and uncertainty faced by shareholders eliminated, merger will insure Air Canada's monopoly position and might increase the efficiency of both carriers under Air Canada's management team.

VI Empirical Model

The event-time methodology will be used to examine the impact of the merger announcement on the merging and rival firms. We follow Brown and Warner (1985) who study the effects of events on stock prices using daily data. Our choice to use daily data is based on the fact that all abnormal returns that occur in the same month or the same week as the announcement date of the merger will not be noticed if we use monthly or weekly data. Thus, daily returns become important to accurately measure the abnormal price movement occurring around the announcement date. Moreover, Brown and Warner (1985) studied the properties of daily stock return and the effect of the characteristics of these data on event study methodology. Using simulations, the results reinforce the conclusion of previous work using monthly and weekly data. The authors found that while explicit recognition of the characteristics of daily data

can sometimes be advantageous (for cases involving variance increase or unusually high autocorrelation), the characteristics of daily data presents some statistical problems in the case of event study methodologies. As stated in Brown and Warner (1985), daily data has a tendency to depart from normality. Moreover, non-synchronous trading of a security – Which is a situation where a security is traded only periodically on the stock market – complicates the estimation of the market model parameters because of missing data in its historical stock prices.

The capital market is considered to be efficient in responding to new information pertaining to the market. Thus, stock price reaction depicts the changes in the firm's value. For this study, we use daily event-time period where t = 0 is the event date. We use a maximum of 166 days of daily return observations for the period around the respective event, starting at day –156 and ending at day 10 relative to the event. The estimation period is from day –156 to day –11 and the following 21 days (-10 through 10) is considered as the event period. Daily abnormal returns is calculated for 21 days for each event period and for each security j. The –10 days time lag allows us to single out any information leak occurring before the event. The market model[19] used to estimate the parameter for each stock in our sample is as follows:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt} \quad (1)$$

where

R_{jt} is rate of return of security j on day t,

R_{mt} is the total market index (TSE 300). It is the rate of return for event day t on the Toronto stock exchange.

[19] This model is used in the majority of studies using event time methodology; see for example Bosch and Eckard 1991; Davidson, Chandy and Cross, 1987; Eckbo 1983.

To test the stock market reactions of the proposed merger on the Toronto Stock exchange, we choose the market index (TSE 300) for each event period, which is the rate of return of the value-weighted of all stocks traded on the Toronto Stock Exchange to estimate the value of coefficients. Although the TSE 300 index will be used as a proxy for the market portfolio, this index can be expected to reflect many of the economy-wide events that affect Canadian airline markets, but it might be relatively insensitive to the events that may affect the structure of the Canadian airline industry (Zhang and Aldridge, 1997).

The coefficients α_j and β_j are the intercept and slope of the market model regression. The value of these parameters α_j and β_j will vary from security to security and they are estimated using the time series of R_{jt} and R_{mt} for each security in the sample. These OLS coefficients are estimated enough in advance of the event to preclude the event's affecting their value.

The stochastic term ε_{jt} is assumed to be i.i.d., normal with zero mean and constant variance σ_j^2. We also test that ε_{jt} satisfies the basic assumptions of the linear regression model, namely:

ε_{jt} has zero expectation and variance independent of t;

the ε_{jt} is serially independent over time and,

the distribution of ε_{jt} is independent of R_{mt}.

The parameters' estimates will allow us to compute the abnormal return, or predicted error, to each firm (AR_{jt}) for the event period using:

$$AR_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt}), \quad (2)$$

This formula can be rewritten as:

$$AR_{jt} = R_{jt} - \hat{R}_{jt} \qquad (3)$$

where AR_{jt} is the daily abnormal return for security j for the event-day t, R_{jt} is the daily return for the 'market' and, $\hat{R}_{jt}$ is the predicted return or "normal return" for firm "j" by the market model. A positive (negative) residual would indicate a return higher (lower) than expected.

$\hat{\alpha}_j$ and $\hat{\beta}_j$ are the estimates of the market model coefficients.

The computed abnormal returns are summed up for some specific interval around the event period to form the cumulative abnormal return (CAR):

$$CAR_{j\tau} = \sum_{\tau=K}^{L} AR_t \quad (4)$$

where $\tau = L - K + 1$, and the CAR is computed for event day K through event day L.

The average abnormal return for the merging firms as well as rivals are computed by summing the abnormal return AR_{jt} across firms for the number of firms in the selected sample at each relative event time. These average abnormal returns (AAR_t) are computed using:

$$AAR_t = \bar{A}_t = \frac{1}{N}\sum_{j=1}^{N} AR_{j,t} \quad (5)$$

where N is the number of firms.

Statistical significance of these average abnormal returns is tested following Brown and Warner (1985). The null hypothesis that will be tested is that the sample average of the market model excess return is equal to zero (Brown and Warner 1985, pg 7). This concerns the average effect of an event on returns to shareholders. The t-test is the ratio of the day "t" mean excess return to its estimated standard deviation. The t-test for any event day "t" is:

$$t = \bar{A}_t / \hat{S}(\bar{A}_t) \quad (6)$$

where

$$\bar{A}_t = \frac{1}{N}\sum_{j=1}^{N} AR_{ij,t}\,, \qquad (7)$$

and

$$\hat{S}(\bar{A}_t) = \sqrt{\left(\sum_{t=t_1}^{t_2}\left(\bar{A}_t - \bar{\bar{A}}\right)^2\right)\Big/ N-1}\,, \qquad (8)$$

is the standard deviation of the daily abnormal return to the portfolio over the estimation period t (-156, -11), with

$$\bar{\bar{A}} = \frac{1}{N}\sum_{t=t_1}^{t_2} \bar{A}_t \quad (9)$$

where N is the number of days

Since the standard deviation is estimated using time series data from the estimation period, it explicitly accounts for cross-sectional dependence in abnormal returns. If the AR_{jt} are normal, independent, and identically distributed random variables, this test statistic is distributed student-t with 144 degrees of freedom and is approximately unit normal under the null hypothesis (Campbell and Wasley, 1993).

To examine the effects of these events on stockholders' wealth, we will examine the cumulative effects of abnormal return behaviour in the dates surrounding the events dates. The cumulative average abnormal return (CAAR) analysis for z days measured relative to the event date will be computed using:

$$CAAR_z = \sum_{z=K}^{L} ARt \qquad (10)$$

where z = L – K + 1, and the CAAR will be computed for event day K through event day L. The null hypothesis that will be tested is that there is no impact on the firms due to the release of each information event. The t-test for the $CAAR_z$ will be slightly different where:

$$t = CAAR_z / \sqrt{\sum_{z=K}^{L}\left(\left(\hat{S}^2(\bar{A}_t)\right)\right)} \qquad (11)$$

This equation can be rewritten as:

$$t = \sum_{z=K}^{L} ARt / \left(\hat{S}(\bar{A}_t)\right)\sqrt{z} \qquad (12)$$

This model is largely used in the literature but it has one major weakness – sometimes the event date considered is not entirely accurate because of the problem of leaks in information or insider trading. This can cause the parameters' estimates to be biased. Another limitation of the model is that the existence of non-normality in the daily returns can persist even at the portfolio level. This situation leads the portfolio to depart from their theoretical unit normal distribution under the null hypothesis (Campbell and Wasley, 1993). In that case, the traditional t-test is not accurate since it rejects the null hypothesis too often in the absence of abnormal performance.

VI.1 Data Source and Event Dates

The data that will be used for this study will consist of the historical stock prices of the two participants of the proposed merger and also of five American rivals[20]. The fact that most of the Canadian airlines are not publicly traded and also because the potential Canadian carrier

[20] Since no Canadian carriers competitors could be used because they were not traded on the Toronto Stock Exchange long enough, U.S. competitors was used instead. Five U.S. Carriers were studied but results for only three of them are reported.

competitor, Westjet, started trading on the TSE only in July 1999, our sample is greatly reduced and this situation forced us to look in the United States for more viable rivals.

The data are downloaded from the Internet at the following address: www.investcom.com/page/Toronto.html. The sample is for approximately 270 days from January 1999 to January 2000. This time window is considered to cover the periods for all of the events that occurred from August 1999 to December 1999 and will also allow pre-events data to be available for the estimations of the model's parameters.

Canadian Airlines Ltd. has been in financial distress for some time despite its management efforts to correct the situation. Two possibilities were raised to solve the Canadian's dilemma: Bankruptcy or merger. Since the government dismissed bankruptcy as the acceptable solution to correct the situation in the airline industry, merger was considered as the solution that would be in the best interest of the consumers. The merger process lead to a series of events which determined who would, in the end, have the control over Canadian. On August 24, 1999, Onex announces its proposal to buy the two Canadian carriers and merge them into a single one. While Canadian's board of management accepted the offer, Air Canada rejected it, which on October 19 announced it would take up shares of Canadian.

Air Canada challenged Onex's offer before the court on the ground that the Onex bid to acquire Air Canada was illegal since it violates the law that limits ownership in Air Canada by a single shareholder to 10 per cent. Onex lost by the ruling of the court and announces the same day, on November 5th, the withdrawal of its offer. On November 15th Canadian receives Air Canada's offer to buy its share for $2 cash per unit. On Dec. 4th, the board of Canadian Airlines recommends Air Canada's $92 million bid to its shareholders after its attempt to come up with a better alternative from its Oneworld partners failed. On December 8th, Air Canada takes control

over Canadian with more than fifty percent of Canadian shares tendered. On December 23rd, after receiving the bureau's approval and the federal government's clarification on 'airline industry restructuring' on Dec 21st, Air Canada officially wins its bid to acquire Canadian Airlines. Air Canada acquired more than fifty percent of Canadian Airlines' shares through the newly formed corporation 853350 Alberta Ltd.

The choice of the appropriate event date is crucial for an event study. One choice can be the first public announcement date of the merger. The problem that may arise in choosing this date is that the uncertainty concerning the ultimate success and profitability of the merger might not be resolved due to the fact that new information can become available, which can cause a continuous adaptation of the market (Weston and Halpern, 1983). The alternative could be the choice of the actual merger date because the uncertainties will cease to exist. But, if the purpose of a study is to explain the motivation of a merger, scholars usually use the first public announcement date as the appropriate event date. Since our study is to explain the market reactions to some specific events and to determine the potential motivation of the merger through the signs of the abnormal returns, we will use the actual date of each relevant event. But, our event period will be large enough in order to capture any abnormal performance due to information leaks that occurs before the actual event date. Many dates is considered in our study: the date of the announcement of the proposed merger by Onex on August 24th, the date of the counter proposal by Air Canada on October 19th, the withdrawal of offer by Onex on November 5th, and the date of the approval of the merger by the Bureau and the Federal Government on December 21st. This last event is considered because we assume that there might still exist uncertainty from the shareholders' expectations about the end result of the merger process as long as the Competition Bureau did not give its final say.

VI.2 Estimation Procedures

Because we are using time series data for our estimations it is therefore important for us to ensure that none of our regressions was 'spurious'. A regression is 'spurious'[21] because of the existence of a unit root in the time series. By using nonstationary time series, a regression will have high R^2 and significant t-statistics, but the results will be without any economic meaning. Thus we test all of our time series for unit root[22] using the Augmented Dickey-Fuller test (ADF-test). The null hypothesis of the existence of a unit root was rejected for all return time series in our data set. As we run the regressions, we test for autocorrelation and heteroscedasticity to ensure that our estimated parameters were not biased. Since autocorrelation is common to regression involving time series, we first apply the Durbin-Watson autocorrelation test then we use the Ljung-box autocorrelation test by analyzing the correlogram of the residuals. The Ljung-Box test will tell us what is the order of the existing autocorrelation. When autocorrelation exists, we correct our regression by adding the corresponding AR(p) term(s) – "p" is the order of the autocorrelation - to our equation. Autocorrelation was found in most of the estimations for the four event periods. For the first announcement of the merger, autocorrelation was found for the regression between Canadian airlines and the TSE300 index, for the regression between Northwest and the NASDAQ index, and for AMR Corp. and the NYSE index. The necessary AR(p) term was added to the right hand side of these regressions to correct for the existing autocorrelation. For the air Canada counteroffer, only the regression for Air Canada on NYSE and NASDQ and the regression for Continental on NYSE did not show any existence of autocorrelation. The correlated estimations were corrected using the same method as earlier. The

[21] This term is from Granger and Newbold (1974)

[22] The unit root test can be found in Enders W. (1995)

results were consistent with each other for the remaining estimations and only the time series of Air Canada and Continental have never shown the presence of autocorrelation. After the corrections were performed and the parameters re-estimated, we test again for autocorrelation to make sure that our estimators were no longer biased.

An heteroscedasticity test was conducted using White's method. Heteroscedasticity was detected for the regression of Air Canada on the TSE300 and for Northwest Airline on the NASDAQ for the second event period when air Canada made its counteroffer to buy Canadian. For the third estimation period, when Onex withdrew its offer, heteroscedasticity was found for the regression of Air Canada on TSE300 and on NASDAQ. Heteroscedasticity for the fourth event period existed only for Air Canada on NASDAQ. When heteroscedasticity was detected, we corrected by mean of White's consistent covariance estimators to obtain constant variance. The tests for autocorrelation and heteroscedasticity are summarized in table 4 in the appendix.

Judging from the value of the t-test reported in table 2, we can see that all the estimated β coefficients are significant at least at the 5 percent level except for the value of β for the Air Canada stocks traded on NASDAQ for the first estimation period. Since most of the estimated β values are less than one, then the corresponding stocks are less sensitive than the market for the event periods considered.

Table 2. Estimates of the parameters α_j and β_j.

Parameters	Stocks[1]	Offer Bid From Onex		Counteroffer From Air Canada		Onex's Withdrawal		Competition Bureau Approves Merger	
		α-value	t-value	α-value	t-value	α-value	t-value	α-value	t-value
	AC	0.000	-0.192	0.003	1.492	0.003	1.302	0.003	0.881
	CA[2]	-0.003	-1.646	-0.002	-0.982	-0.001	-0.426	-0.001	-0.394
	ACNAF	-0.001	-0.402	0.004	1.452	0.003	1.236	0.003	0.890
$\hat{\alpha}$	NWAC	0.000	0.158	0.000	-0.135	-0.001	-0.391	-0.004	-1.608
	AMR	-0.001	-0.443	0.000	-0.031	0.000	-0.141	-0.001	-0.829
	CAL	0.000	0.124	-0.001	-0.453	0.000	-0.071	-0.001	-0.584
	DAL	0.000	-0.143	-0.002	-1.235	-0.002	-1.601	-0.002	-1.418
	UAL	0.000	-0.308	0.000	0.029	-0.002	-1.147	-0.001	-0.593
		β-value	t-value	β-value	t-value	β-value	t-value	β-value	t-value
	AC	0.541	3.213	0.628	2.732	0.610	2.652	1.743	2.615
	CA	0.767	2.904	0.652	2.202	0.658	2.225	0.598	2.181
	ACNAF	0.171	1.365	0.342	2.284	0.311	2.074	0.778	3.021
$\hat{\beta}$	NWAC	0.571	4.102	0.553	3.804	0.476	4.282	0.517	4.436
	AMR	1.029	4.880	1.150	5.580	1.028	5.321	1.231	6.968
	CAL	0.799	3.257	0.706	3.147	0.715	3.295	0.945	4.681
	DAL	0.645	2.816	0.942	4.613	0.846	4.411	1.104	6.145
	UAL	0.866	4.216	0.724	3.673	0.673	3.965	0.905	5.260

Note: [1]AC: Ticker symbol of Air Canada on the TSE.

CA: Ticker symbol of Canadian Airlines TSE.

ACNAF: Ticker symbol of Air Canada (non-voting shares) on NASDAQ. NWAC: Ticker symbol of Northwest Airline on NASDAQ.

AMR: Ticker symbol of AMR Corporations, parent of American airlines the NYSE. CAL: Ticker symbol of Continental Airlines the NYSE.

DAL: Ticker symbol of Delta Airlines on the NYSE. UAL: Ticker symbol of United Airlines the NYSE.

[2]Canadian Airlines is no longer quoted on the Toronto Stock Exchange, Westjet has replaced it in the transportation and environmental index.

VI.3 Analysis of Results

The computed values of AR_{jt}[23] for the four events for each security along with their t-test are reported in table 3 for the merging parties and tables 5.1 to 5.4 in the appendix for rivals. Table 6 (in the appendix) reports the computed values of AR_{jt} for the events for Air Canada traded on NASDAQ. Since all the results for the non-merging firms are consistent with each other, we focus our analysis on the three more important rivals and/or allied firms because of their direct relation with the merging parties. Thus, only the abnormal returns for these firms are reported in this study. The reported rival securities' abnormal returns are Northwest Airlines, AMR Corporation and United Airlines. Northwest is chosen because it is traded on the NASDAQ Stock Exchange as is the non-voting shares of Air Canada - we expect that any effect of the considered events on NASDAQ will be reflected on the behaviour of Northwest's price movements. AMR Corporations, the parent of American Airlines, is considered because it is the major competitor of Air Canada in transborder markets and some international routes. One additional reason is that American Airlines was a partner of Canadian Airlines in the Oneworld alliance. Finally, United Airlines with which Air Canada has formed an alliance since 1992 is

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[23] To verify the accurateness of the parameters' estimates and the abnormal returns computation from the market model as well as their statistical significance, a modified version of the market model, which uses dummy variables, was estimated. The model is as follow:

$$R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt}) + \sum_{n=T+1}^{T+N} \hat{\tau}_{jn} D_{nt} + \hat{\varepsilon}_{jt}$$

$\hat{\tau}_{jn}$ Are the estimated coefficients of dummy variables D_{nt}. It is the abnormal return to security j on observation t. D_{nt} is a dummy variable that is equal to one on observation n and zero elsewhere.

$\hat{\varepsilon}_{jt}$ Is the residual for security j on observation t. With the dummy variable technique, the residual is zero for observation T+1 through T+N.

The results were not different from those of the traditional market model. Thus this model allows performing the two steps in estimating the abnormal return by the market model into one single step.

This version of the model is used by Zhang and Aldridge (1997), Singal (1996) and Karafiath (1988)

also considered. We expect the merger process to have some effect on rivals as well as partners of the merging Canadian companies.

VI.3.1 Merging Parties

Event 1: First proposal

According to the results in table 3, for the first announcement of the merger by the Onex Corporation, the abnormal returns for the merging airlines are not significantly different than zero, which means that the abnormal returns were zero for this day. But, the market reacted positively for Air Canada on the day following the announcement of the merger. While there was no response for the Canadian Airline stock on the market, Air Canada enjoyed an 8.43 percent (t = 4.48) on abnormal performance for the day following the event day on August 25th and for the two days preceding the announcement. Nevertheless, Canadian Airlines seemed to have shown a better performance during the day of the suspension of the *Competition Act* by the government on August 13th and the following day on August 14th. During this period, the merging firms have both benefited from a positive reaction of the market due to the government decision to allow the market to correct the situation of the airline industry.

Why did Canadian Airlines not show any level of abnormal performance in days close to the event? We can argue that this was due to the fact that the proposal came from Onex Corp., a company partly owned by American Airlines. At this time, American was a partner of Canadian and was attempting to control Canadian through its partly owned Onex Corp. It is likely that there was leakage of information since the day of the suspension of the *Competition Act* about a potential indirect offer from American Airlines through Onex, thus the proposal was not considered as new information for Canadian's shareholders. These results are further reinforced by the cumulative average abnormal returns also reported in table 3. We can see that for the

entire event period from day –10 to day 10, Air Canada witnessed a large positive abnormal return while Canadian did not show any performance. The picture is the same for the event period from day –2 to day +2. When looking at table 6 for the Air Canada shares traded on NASDAQ, we see that the results do not present a different pattern than the one observed on the TSE. Thus, the analysis made above for Air Canada on the TSE is applicable for the company's performance on NASDAQ as well.

Event 2: Second proposal

The counterbid of Air Canada to the Onex proposal did not show any response from the market. For both Canadian Carriers, there was no abnormal performance relative to the announcement. We would have expected a positive abnormal return for the merging parties, although less as compared to the first announcement but the Air Canada's offer did not produce the expected result. Shareholders of both companies might have anticipated the Air Canada's response to Onex bid and have already taken it into account in their expectations of future prices of their shares on the market.

Event 3: Withdrawal of offer from Onex.

While the second event did not seem to affect the behaviour of the stock prices of any of the Canadian carriers, the offer withdrawal by Onex on November 5th seemed to have had the predicted effect of a negative impact on shareholders' return. In fact, even though the actual event date did not show any abnormal negative performance, the merging carriers individually suffered from losses in returns around 10 percent the next day and the negative effect lasted two days for Canadian Airlines. This result confirms our prediction in table 1 - that this event will negatively affect the shareholders' revenue of both companies; this is because the companies will not enjoy any new cash injection while both of them are in an uncomfortable financial position.

The cumulative average abnormal return around the day –1 through day 1 confirms that each company suffer losses of at least 12 percent in expected revenue.

Event 4: Approval of the merger by the Competition Bureau.

A positive effect of that decision was expected in table 1 since the Bureau, the last body that could have challenged the merger, chose not to do so. But, the approval of the merger by the Bureau does not appear to affect the returns of either party. In fact, this event did not have any impact on the stock market probably because uncertainties about the merger was already resolved since Air Canada won the battle against Onex on November 5th and that the occurrence of the merger still remained imminent. Thus, shareholders of both companies were assured that the merger would occur anyway, which eliminated the effect of this last event on the market.

Overall the merger seems to be beneficial to Air Canada and at best yields no benefits to Canadian Airlines. During the entire merger process, shareholders of Canadian Airlines did not benefit from the merger, rather, their expected benefit remain at nil as evidenced by their cumulative average abnormal returns reported in table 3. These results are in contradictions with earlier studies that use the event methodology to study a merger.

Evaluating the capital market's reaction to the restructuring of the airline industry for the United States following the *Airline Deregulation Act* of 1978, the event study by Kyle, Strickland and Fayissa (1992) of 24 merger announcements indicates that stockholders of target firms experienced positive abnormal returns of 14.5 percent over a three-day period around the merger announcement date. Bidding firms experience a 3.7 percent increases over the same time window. These results are similar to the ones indicated in Knap (1990). Those studies give different results than the ones found in other event studies where they found that corporate restructuring benefits accrue to the stockholders of acquired firms while stockholders of

acquiring firms, on average, experience zero or slightly negative returns at the acquisition date. Evidence shows that shareholders of acquired firms almost always gain, while the shareholders of acquiring firms do not lose.[24] The results presented in our study might be the exception that reinforces this rule.

[24] Shareholders of acquired firms in mergers gain on average 20 while the gain is small or not significantly different from zero. A summary of empirical evidence can be found in Jensen and Ruback (1983))

Table 3. Abnormal returns to individual merging airline

	Offer Bid From Onex				Counteroffer From Air Canada				Onex's Withdrawal				Competition Bureau Approves Merger			
	AC		CA		AC		CA		AC		CA		AC		CA	
	AR	t-test	AR	t-test	AR	t-test	AR	t-test	AR	t-test	AR	t-test	AR	t-test	AR	t-test
-10	-2.40	-1.27	0.53	0.18	0.70	0.28	-0.19	-0.06	-2.52	-1.01	1.65	0.52	-8.37	-2	8.30	2.5
-9	2.10	1.12	-0.99	-0.33	-2.32	-0.94	-1.87	-0.59	-1.93	-0.77	-3.06	-0.96	-1.31	-0.31	-0.48	-0.1
-8	-3.79	-2	-0.37	-0.12	-0.61	-0.24	-1.42	-0.45	-0.32	-0.13	-3.04	-0.96	3.44	0.82	1.70	0.52
-7	6.73	3.58	12.04	4.01	-1.14	-0.46	3.10	0.98	4.18	1.67	3.67	1.15	-3.59	-0.85	2.25	0.69
-6	7.95	4.23	7.56	2.52	0.25	0.1	4.70	1.49	-0.67	-0.27	3.29	1.03	-6.79	-1.62	-0.70	-0.2
-5	-1.35	-0.72	-1.87	-0.62	0.54	0.22	-5.57	-1.77	4.65	1.86	-5.36	-1.69	-2.04	-0.49	-4.84	-1.5
-4	-1.23	-0.66	-6.79	-2.3	0.08	0.03	3.65	1.16	-0.39	-0.16	-0.04	-0.01	-2.04	-0.49	-2.56	-0.8
-3	0.95	0.5	-0.26	-0.09	-5.88	-2.4	2.70	0.86	-0.71	-0.28	1.81	0.57	-2.60	-0.62	0.75	0.23
-2	6.87	3.65	5.08	1.69	0.48	0.19	0.40	0.13	1.41	0.56	-2.50	-0.79	1.67	0.4	1.92	0.59
-1	5.12	2.72	0.40	0.13	3.51	1.42	4.60	1.46	-2.33	-0.93	1.06	0.33	-0.79	-0.19	0.93	0.28
0	2.39	1.27	2.02	0.67	3.36	1.36	0.94	0.3	-0.11	-0	-2.07	-0.7	1.47	0.35	-0.78	-0.2
1	8.43	4.48	0.31	0.1	-4.52	-1.82	-1.70	-0.54	-9.81	-3.9	-11.60	-3.6	-2.66	-0.63	0.00	-0
2	-3.25	-1.73	2.61	0.87	3.53	1.42	-1.19	-0.38	-1.83	-0.73	9.96	3.13	0.36	0.08	5.11	1.57
3	-0.12	-0.06	-1.22	-0.41	-2.57	-1.04	1.78	0.56	-1.39	-0.56	-3.12	-0.98	-2.40	-0.57	-0.01	-0
4	-1.68	-0.9	-2.22	-0.74	-1.96	-0.79	-2.94	-0.93	1.78	0.71	2.19	0.69	-2.33	-0.56	-2.10	-0.6
5	2.23	1.19	-1.15	-0.38	-0.35	-0.14	-2.92	-0.93	9.41	3.77	0.39	0.12	-3.41	-0.81	1.59	0.49
6	2.70	1.43	-3.21	-1.07	4.16	1.68	3.79	1.2	-5.49	-2.2	6.64	2.09	0.52	0.12	-2.57	-0.8
7	1.12	0.6	1.13	0.38	-0.72	-0.29	3.42	1.09	1.78	0.71	-4.46	-1.4	-0.92	-0.22	1.61	0.49
8	-0.21	-0.11	-0.17	-0.06	4.59	1.85	-5.23	-1.66	-2.24	-0.89	-1.84	-0.58	-1.45	-0.35	-1.43	-0.4
9	-1.98	-1.05	-2.00	-0.67	-0.42	-0.17	0.08	0.02	-3.59	-1.44	-2.88	-0.91	0.76	0.18	2.25	0.69
10	4.29	2.28	-3.26	-1.09	-0.72	-0.29	1.92	0.61	1.30	0.52	-2.22	-0.7	-5.92	-1.41	-2.19	-0.7
CAAR(-1, 0)	7.52	2.83	2.42	0.57	6.87	1.96	5.54	1.24	-2.43	-0.69	-1.01	-0.22	0.68	0.11	0.15	0.03
CAAR(-1, 1)	15.95	4.9	2.73	0.53	2.36	0.55	3.84	0.7	-12.24	-2.8	-12.60	-2.3	-1.98	-0.27	0.15	0.03
CAAR(0, 2)	7.58	2.33	4.94	0.95	2.38	0.55	-1.94	-0.36	-11.75	-2.7	-3.70	-0.67	-0.83	-0.11	4.32	0.77
CAAR(-2, +2)	19.57	4.66	10.42	1.55	6.37	1.15	3.06	0.43	-12.67	-2.3	-5.14	-0.72	0.05	0.01	7.17	0.98
CAAR(-5, 0)	12.75	2.77	-1.43	-0.19	2.09	0.34	6.71	0.87	2.52	0.41	-7.10	-0.91	-4.33	-0.42	-4.59	-0.6
CAR(-5, +5)	18.37	2.95	-3.09	-0.31	-3.78	-0.46	-0.25	-0.02	0.68	0.08	-9.28	-0.88	-14.77	-1.06	-0.02	-0
CAAR(-10, 0)	23.35	3.74	17.35	1.74	-1.02	-0.12	11.04	1.06	1.26	0.15	-4.59	-0.44	-20.94	-1.5	6.49	0.6
CAAR(-10, +10)	34.88	4.05	8.17	0.59	-0.01	-0	8.05	0.56	-8.83	-0.77	-11.54	-0.79	-38.39	-2	8.73	0.58

VI.3.2 Rival airlines

From the other side of the border, events affecting the Canadian airline industry had absolutely no impact on U.S. carriers. As reported by tables 5.1 to 5.4, none of the carriers operating in the United States, either allied or competitors of Canadian Airlines or Air Canada were affected by the events. When abnormal returns seemed to be present for a single day in an entire event period, the day of their occurrence did not correspond to a Canadian specific event. Notice that table 6.1 shows a positive abnormal return for United Airlines – allied to Air Canada - the day following the announcement day of Onex bid but we cannot confirm that this has something to do with this event.

From table 5.3 we can see that both Northwest Airlines and United Airlines show a positive abnormal return on October 28th, enough in advance of the withdrawal of offer from Onex on November 5th. We conclude that this abnormal performance of these two U.S. carriers is specifically related to the U.S. market or the state of the U.S. economy. Overall, shareholders of the U.S. carriers did not fear any threat from the monopoly power that the two Canadian carriers would achieve once merged. Thus, any effect of the Canadian airline industry was not reflected on the U.S. markets. Our results show the opposite of those presented in earlier studies. In fact, investigating the impact that the announcement of a merger plan of merging firms has on the share prices of the rivals, Eckbo (1983) finds evidence that both groups experience positive abnormal return during the announcement period. This finding is consistent with the market power hypothesis. On the other hand, the efficiency gains resulting from merger has an adverse impact on rival firms because they found themselves at a competitive disadvantage in the product market. Banerjee and Eckard (1998) examine the anticompetitive impact of mega-mergers on rivals firms. They find statistically and economically significant gains to merging firms around

the public announcement of trust formation. To analyze the source of gains they focus on the market reaction of trust competitors. They observed significant losses accrue to competitor firms around the announcement; the authors argued that the mergers were motivated by greater efficiency. If monopoly power or efficiency, or both were the motivations for the merger between Air Canada and Canadian, the predicted effects to competitors were not observed. We need to keep in mind that these competitors are operating in different markets and given the fact that U.S. markets are far bigger than Canadian markets, it is likely that the merger could not have any noticeable impact on U.S. carriers.

To better assess the effects of these events on carrier's profitability, the average abnormal returns as well as the cumulative average abnormal returns were computed and are reported in table 8 for the merging airlines and in table 9 for the rivals. For the merging airlines, table 8 shows that no abnormal returns were realised at the announcement date for the four events considered. For the first event, the merging companies have realised positive abnormal returns around the date of the suspension of the *Competition Act*. These abnormal returns were 9.39 percent and 7.76 percent for august 13th and August 16th respectively and they are significant at the 5 percent level. On August 25th, the day following the merger announcement, the proposed merger airlines earned a 5.97 percent increase in return. From a bigger view, we found that the concerned airlines earned a cumulative average abnormal return of 14.99 percent during the five days surrounding the first announcement of the merger. Notice that these numbers are quite misleading because, as we have seen earlier, only Air Canada shows positive abnormal returns for these five days around the announcement. Indeed, combining the merging firms does not seem to be a good approach in evaluating stock performance for that specific merger. When looking at the evolution of the stock prices of these firms, we have noticed that the first merger

announcement was greatly beneficial to Air Canada. Air Canada's performance on the market was enhancing with its share price risen from $7 to $10. The effect was less beneficial for Canadian who knows a slight increase to $2 and rapidly decreases to its equilibrium level of $1.80.

The counteroffer of Air Canada had no effect on the market. Average abnormal returns as well as cumulative average abnormal returns were not significant in any day or interval during the event period. We assume that the reason for such result is that shareholders of both companies already knew that one way or another the two companies will be merged and they had already adapted their expectations to such an event. Onex's withdrawal of offer seems to better confirm the theoretical prediction of section V.1. Table 8 shows that the merging parties suffer from negative abnormal return the day following the withdrawal of offer from Onex on Monday 8^{th}. Evidently, merger decline has negatively affected the share value of the merging firms. They lost 10.70 percent (t=-4.9) on the expected return but this negative effect lasted only one day. As for the approval of the merger by the Bureau, the scenario is not different from what we have seen earlier when we analysed the effects of these events on individual firms. The signs of the abnormal returns for the events are summarised table 7.

Table 9 shows the average abnormal returns for rival airlines operating in the United States. The general conclusion is that the events under study had no impact whatsoever on U.S. carriers. The abnormal returns were never significant at any time of the merger process. Even though these carriers compete on international routes, the Canadian airline merger did not affect the profitability of the U.S. carriers. We are naively tempted to say that there was no impact on these carriers because the merger was specific only to the merged airlines. But the logical conclusion seems to be that the U.S. carriers are so big compared to the Canadian carriers that

the merger did not affect the share value of these firms. The result of this study with regard to the U.S. carriers is not different from those find by Zhang and Aldridge (1997).

While it is true that Air Canada possess a monopoly position we cannot evaluate the effect of its market power on competitors. Nevertheless, the merger certainly is perceived in the media as having a negative impact on social welfare. The difficulty to book flights, the line up in airports and the pilot strikes are evidences of the negative repercussions of the merger. We hope that in a near future all the economic factors will be available to better evaluate the real effect of the merger on the economy and on welfare.

VII Summary and Conclusion

In this study, we conducted an event time analysis to study the effects of the recent airline merger on participant and rival stock market returns. The findings about the existence of any potential abnormal performance allowed us to see if monopoly power or search for efficiency or even both motivated the merger. We examined the stock price reaction to four events affecting the Canadian airline industry from mid-August 1999 to December 1999. These events are: (1) the first announcement of the merger proposal between Air Canada and Canadian Airlines upon acquisition of these two companies by the Onex Corporation, (2) the counteroffer of Air Canada to acquire Canadian Airlines, (3) the withdrawal of offer from Onex, and (4) the approval of the merger by the bureau. The basic assumptions are that the proposed merging airlines can expect positive abnormal returns from the merger announcements but to a lesser extent for the second announcement. Furthermore, the merging firms will suffer from losses at the withdrawal of the merger by Onex and finally that the merging parties will further benefit from the approval of the merger by the Bureau because uncertainty about a potential challenge of the merger by the government is resolved.

The implications of the market power and efficiency hypotheses are tested in term of abnormal performance in response to the event dates considered. Taking each company individually, we found that Air Canada benefited the most from the merger while the market did not respond favourably to Canadian Airlines. In fact, Canadian Airlines never benefited from any positive abnormal returns derived from the announcement of the merger at the two first events. This is in contradiction with the pattern predicted by the market power hypothesis. The only response of the market toward Canadian Airlines stock, though negative, occurs only at the third event when Onex withdrew its bid. This result favours both the market power and efficiency hypotheses regarding merger decline. While the news of the Onex's withdrawal causes a reduction in the market value of each merging airline – result consistent with the value maximization theory – the absence of any effect on competitors made it impossible to correctly distinguish between the efficiency and market power hypotheses.

The fact that Canadian airlines was likely to go under because of its important debt load leads us to expect positive responses from the market at the two merger announcements because these events would have eliminated the threat of bankruptcy. We obtain opposite results showing that these announcements had no effect on the market value of Canadian. In fact, table 7 shows that the market never reacted to any event that should positively influence the merger. Since the market gave a negative response to the Onex withdrawal, we can argue that the merger announcements had no effect on the market because the threat of bankruptcy had been totally undermined by the governments' decision to suspend the *Competition Act* and since then, shareholders of Canadian Airlines knew that a merger was the only viable issue to the 'airline industry restructuring' announce by the government. Indeed, table 3 shows that the suspension of

the *Act* has had a positive impact on the value of Canadian airlines shares on days following the suspension of the *Competition Act*.

Overall, the merging parties benefited from positive abnormal returns at the first merger proposal. This result is consistent with our hypothesis concerning this event as reported in table 1. Since there was no effect of this event on competitors' performance, we cannot correctly distinguish between the monopoly power or efficiency motivations of the merger. Considering the fact that Air Canada and Canadian Airlines were not able to operate efficiently in the small Canadian market due to excess capacity, we can argue that both market power and efficiency motivated the merger. Contrary to our expectations about the counteroffer of Air Canada, none of the airlines seemed to have been affected by this event. We assumed that the market expected Air Canada's counter attack and did not see any additional gain from this information.

The Onex's withdrawal of offer confirms our prediction that this event will negatively effect the returns of the merging firms since the merger proposal has been cancelled, but this negative impact was transitory; the effect lasted one day with no further systematic movement thereafter. A few days later, transport Minister David Collenette said he expects Air Canada to take over Canadian Airlines. The fact that the approval of the merger had no impact on the market valuation of the merging parties can be linked with the transport minister speech after the court declared Onex's bid as illegal. Since then, uncertainty about the merger was resolved and the Bureau's decision not to oppose the merger was already old news to the market.

The merger between Air Canada and Canadian Airlines Ltd. gave birth to the first monopoly in the history of the modern airline industry in Canada. No other study to date has analyzed this phenomenon and evaluated its effect using evidence from the stock market reactions. However, our study has several limitations. The first limitation is that the Canadian

airline market as well as most of the international routes is mostly shared between the two merging airlines and worst, the stock market could not provide any reliable national competitor to evaluate the effect of the events on competitors' prices. Secondly, Since Air Canada and Canadian Airlines already served 90 percent of the Canadian market, our sample is biased toward the monopoly power hypothesis as opposed to the efficiency hypothesis. Third, the U.S. competitor carriers and markets are too big to be threatened by activities in the Canadian financial markets. Thus, using the U.S. market to evaluate the merger effect on rivals is not the ideal choice. Fourthly, our average abnormal return weighted by each company gives misleading results because the merging parties seemed to have benefited from the merger while it was only Air Canada that generated the gains. Finally, as stated in the introduction part of this paper, the event-time methodology using stock prices is a weak[25] way to assess the impact of merger on welfare or to evaluate market power. This is the biggest limitation of our study. As Singal[26] (1996, pg. 234) points out, "... [the] stock market, while directly measuring the effect of merger on stockholders of merging firms, only indirectly measure the effect on consumer welfare". He proposes the alternative of using jointly the stock market and the product[27] market tests. Thus, further study using the industrial organization approach could be carried out to better evaluate the effect of the merger on firm's profitability and on consumer welfare. This will give us insight about the real economic impact of the merger on social welfare.

[25] The tests based on stock-market prices are indirect and probably weak. See Bhagat et al (1990) for further criticisms of using stock market data for testing market power.
[26] For further criticisms, see Kim and Singal (1993), pgs 550 and 551;
[27] Product market can be seen as the change in price of tickets for routes affected by the merger and for routes that are not affected.

ANNEX

Table 4. Summary of tests for autocorrelation and Heteroscedasticity.

Stocks	Offer bid from Onex (Aug. 24)		Counteroffer from Air Canada (Oct. 19)		Onex withdraw its offer (Nov. 5)		Competition Bureau Allows merger (Dec. 21)	
	Autocorr.	Heterosc.	Autocorr.	Heterosc.	Autocorr.	Heterosc.	Autocorr.	Heterosc.
AC				✓		✓		
CA	✓		✓		✓		✓	
ACNAF						✓		✓
NWAC	✓		✓	✓	✓		✓	
AMR	✓		✓				✓	
CAL								
DAL	✓		✓		✓		✓	
UAL			✓		✓		✓	

Table 5.1 Abnormal return to individual rival airline - First announcement of the merger

	NWAC		AMR		UAL	
	A_Return	t-test	A_Return	t-test	A_Return	t-test
-10	-2.02	-0.56	-2.16	-0.8	-0.52	-0.21
-9	-1.93	-0.54	-1.84	-0.68	-0.30	-0.12
-8	0.31	0.09	3.43	1.27	3.30	1.32
-7	-1.36	-0.38	-0.21	-0.08	-2.08	-0.83
-6	0.01	0	1.61	0.6	-0.17	-0.07
-5	3.82	1.06	-0.50	-0.19	-0.87	-0.35
-4	-0.33	-0.09	-1.91	-0.71	2.07	0.83
-3	0.16	0.04	-1.55	-0.58	0.40	0.16
-2	-1.01	-0.28	-2.88	-1.07	-2.91	-1.16
-1	-0.56	-0.15	1.56	0.58	0.89	0.36
0	-0.91	-0.3	2.25	0.83	1.18	0.47
1	2.37	0.66	3.42	1.27	6.10	2.44
2	-1.91	-0.53	-3.76	-1.39	-1.20	-0.48
3	-7.65	-2.1	0.43	0.16	1.81	0.73
4	-0.78	-0.22	-0.67	-0.25	0.47	0.19
5	1.12	0.31	-1.16	-0.43	0.05	0.02
6	-2.41	-0.67	-1.63	-0.6	-1.53	-0.61
7	-2.10	-0.58	-2.67	-0.99	0.88	0.35
8	-1.16	-0.32	1.47	0.54	1.54	0.61
9	-3.71	-1.03	-2.30	-0.85	-1.84	-0.74
10	-6.05	-1.68	-2.32	-0.86	-2.43	-0.97
CAAR(-1, 0)	-1.47	-0.29	3.81	1	2.07	0.59
CAAR(-1, 1)	0.90	0.14	7.22	1.54	8.17	1.89
CAAR(0, 2)	-0.46	-0.07	1.91	0.41	6.08	1.4
CAAR(-2, +2)	-2.02	-0.25	0.59	0.1	4.07	0.73
CAAR(-5, 0)	1.16	0.13	-3.04	-0.46	0.76	0.12
CAR(-5, +5)	-5.68	-0.48	-4.78	-0.53	7.99	0.96
CAAR(-10, 0)	-3.82	-0.32	-2.20	-0.25	0.97	0.12
CAAR(-10, +10)	-26.10	-1.58	-11.39	-0.92	4.83	0.42

Table 5.2 Abnormal returns to rivals - Announcement of the second proposal

	NWAC		AMR		UAL	
	A_Return	t-test	A_Return	t-test	A_Return	t-test
-10	1.80	0.6	2.03	0.78	0.21	0.09
-9	1.84	0.61	0.04	0.02	-0.11	-0.05
-8	1.28	0.43	0.32	0.12	1.35	0.59
-7	1.70	0.57	1.12	0.43	0.67	0.29
-6	-6.29	-2.1	-3.92	-1.5	-2.56	-1.11
-5	-0.98	-0.33	-1.26	-0.5	-2.32	-1.01
-4	-0.23	-0.08	1.43	0.55	0.94	0.41
-3	0.62	0.21	-0.49	-0.2	-0.81	-0.35
-2	-1.33	-0.44	-1.32	-0.5	-2.09	-0.91
-1	0.17	0.06	-2.16	-0.8	-0.58	-0.25
0	1.97	0.66	-0.84	-0.3	-0.72	-0.3
1	-2.95	-0.98	-1.82	-0.7	-3.25	-1.41
2	-3.67	-1.22	-1.36	-0.5	0.26	0.11
3	0.23	0.08	0.29	0.11	3.36	1.46
4	-1.46	-0.49	3.22	1.24	0.71	0.31
5	-4.52	-1.51	1.51	0.58	-2.98	-1.3
6	7.80	2.6	4.49	1.73	4.63	2.01
7	-0.90	-0.3	-1.50	-0.6	0.78	0.34
8	-3.42	-1.14	2.57	0.99	0.12	0.05
9	-1.74	-0.58	-5.60	-2.2	-4.50	-1.96
10	0.77	0.26	-1.29	-0.5	-0.73	-0.32
CAAR(-1, 0)	2.14	0.5	-3.00	-0.8	-1.30	-0.4
CAAR(-1, 1)	-0.81	-0.16	-4.81	-1.1	-4.54	-1.14
CAAR(0, 2)	-4.65	-0.9	-4.01	-0.9	-3.70	-0.93
CAAR(-2, +2)	-5.81	-0.87	-7.49	-1.3	-6.37	-1.24
CAAR(-5, 0)	0.22	0.03	-4.65	-0.7	-5.58	-0.99
CAR(-5, +5)	-12.14	-1.22	-2.79	-0.3	-7.47	-0.98
CAAR(-10, 0)	0.56	0.06	-5.05	-0.6	-6.02	-0.79
CAAR(-10, +10)	-9.30	-0.68	-4.54	-0.4	-7.62	-0.72

Table 5.3 Abnormal returns to rivals - Withdrawal of offer from Onex

	NWAC		AMR		UAL	
	A_Return	t-test	A_Return	t-test	A_Return	t-test
-10	0.34	0.11	0.52	0.22	3.64	1.66
-9	-1.40	-0.5	3.17	1.32	0.88	0.4
-8	-4.47	-1.5	1.41	0.59	-2.83	-1.29
-7	7.84	2.6	4.65	1.94	4.89	2.22
-6	-0.65	-0.2	-1.08	-0.4	1.14	0.52
-5	-3.11	-1	2.73	1.14	0.38	0.17
-4	-1.68	-0.6	-5.65	-2.4	-4.33	-1.97
-3	0.86	0.29	-1.34	-0.6	-0.56	-0.25
-2	-0.41	-0.1	1.85	0.77	3.56	1.62
-1	-1.09	-0.4	-0.62	-0.3	-0.01	-0
0	1.11	0.4	2.48	1	0.90	0.41
1	-2.78	-0.9	-0.87	-0.4	0.48	0.22
2	-1.66	-0.6	-1.42	-0.6	-4.29	-1.95
3	2.15	0.72	-0.68	-0.3	4.00	1.82
4	-1.79	-0.6	0.59	0.25	0.02	0.01
5	2.73	0.91	1.71	0.71	2.04	0.93
6	-2.13	-0.7	-1.09	-0.5	-2.95	-1.34
7	-0.52	-0.2	0.69	0.29	0.28	0.13
8	-1.56	-0.5	-3.44	-1.4	-1.95	-0.89
9	0.74	0.25	-1.50	-0.6	-1.06	-0.48
10	-0.73	-0.2	-3.15	-1.3	-0.80	-0.36
CAAR(-1, 0)	0.02	0	1.86	0.55	0.89	0.28
CAAR(-1, 1)	-2.77	-0.5	0.99	0.24	1.36	0.36
CAAR(0, 2)	-3.34	-0.6	0.18	0.04	-2.91	-0.76
CAAR(-2, +2)	-4.83	-0.7	1.42	0.26	0.64	0.13
CAAR(-5, 0)	-4.32	-0.6	-0.55	-0.1	-0.07	-0.01
CAR(-5, +5)	-5.68	-0.6	-1.22	-0.2	2.18	0.3
CAAR(-10, 0)	-2.66	-0.3	8.12	1.02	7.65	1.05
CAAR(-10, +10)	-8.21	-0.6	-1.04	-0.1	3.42	0.34

Table 5.4 Abnormal returns to rivals - Approval of the merger by the bureau

	NWAC		AMR		UAL	
	A_Return	t-test	A_Return	t-test	A_Return	t-test
-10	-0.52	-0.19	3.20	1.33	3.13	1.42
-9	1.18	0.44	-0.66	-0.28	-0.67	-0.31
-8	-2.52	-0.93	-2.92	-1.21	-0.16	-0.07
-7	5.41	2	2.22	0.92	2.71	1.23
-6	-0.72	-0.27	4.02	1.67	1.44	0.66
-5	-1.93	-0.72	8.30	3.46	1.23	0.56
-4	-3.17	-1.17	0.04	0.01	-1.41	-0.64
-3	-0.68	-0.25	-1.62	-0.67	0.71	0.32
-2	-0.46	-0.17	0.49	0.21	1.45	0.66
-1	1.33	0.49	-1.43	-0.6	3.36	1.53
0	-1.92	-0.7	-1.24	-0.5	-2.04	-0.9
1	1.40	0.52	0.80	0.33	-1.67	-0.76
2	3.47	1.28	-1.15	-0.48	1.81	0.82
3	0.54	0.2	-0.96	-0.4	-0.30	-0.14
4	-0.95	-0.35	-0.58	-0.24	0.04	0.02
5	0.26	0.1	-0.52	-0.22	-1.22	-0.55
6	-1.49	-0.55	2.14	0.89	2.52	1.15
7	-2.83	-1.05	-0.49	-0.2	-0.98	-0.45
8	2.61	0.97	2.72	1.13	1.68	0.77
9	-0.02	-0.01	1.89	0.79	1.36	0.62
10	2.07	0.77	-3.52	-1.47	-3.65	-1.66
CAAR(-1, 0)	-0.59	-0.15	-2.67	-0.79	1.33	0.43
CAAR(-1, 1)	0.81	0.17	-1.87	-0.45	-0.34	-0.09
CAAR(0, 2)	2.95	0.63	-1.59	-0.38	-1.89	-0.5
CAAR(-2, +2)	3.82	0.63	-2.53	-0.47	2.92	0.59
CAAR(-5, 0)	-6.82	-1.03	4.54	0.77	3.30	0.61
CAR(-5, +5)	-2.10	-0.23	2.13	0.27	1.97	0.27
CAAR(-10, 0)	-3.99	-0.45	10.40	1.31	9.75	1.34
CAAR(-10, +10)	1.08	0.09	10.73	0.98	9.35	0.93

Table 6. Abnormal returns to Air Canada on NASDAQ - ACNAF

ACNAF	1st proposal		2nd proposal		Onex's withdraw		Competition Bureau approves merger	
	A_Return	t-test	A_Return	t-test	A_Return	t-test	A_Return	t-test
-10	1.94	0.69	-1.39	-0.46	1.47	0.49	-9.20	-2
-9	-3.75	-1.34	0.13	0.04	-3.23	-1.08	-1.12	-0.24
-8	1.88	0.67	-2.11	-0.7	-0.26	-0.09	0.36	0.08
-7	10.55	3.77	-1.17	-0.39	4.62	1.54	-0.86	-0.19
-6	7.24	2.59	-2.70	-0.9	-1.58	-0.53	-6.24	-1.36
-5	-0.07	-0.03	3.09	1.03	3.80	1.27	-2.01	-0.44
-4	-4.08	-1.46	-0.50	-0.17	0.57	0.19	-4.15	-0.9
-3	0.33	0.12	-5.47	-1.82	-2.26	-0.75	0.49	0.11
-2	12.18	4.35	1.57	0.52	3.65	1.22	0.71	0.15
-1	3.41	1.22	2.18	0.73	-3.24	-1.08	-2.74	-0.6
0	9.31	3.32	1.61	0.54	0.11	0.04	2.44	0.53
1	9.91	3.54	-4.61	-1.54	-12.95	-4.3	-2.56	-0.56
2	-4.39	-1.57	2.44	0.81	-2.14	-0.71	3.36	0.73
3	-0.88	-0.31	1.39	0.46	0.40	0.13	-2.97	-0.65
4	-0.70	-0.25	-3.30	-1.1	2.27	0.76	-1.98	-0.43
5	3.13	1.12	-0.32	-0.11	8.81	2.94	-2.53	-0.55
6	1.07	0.38	4.56	1.52	-4.86	-1.62	-2.00	-0.43
7	0.20	0.07	-1.72	-0.57	0.82	0.27	-0.03	-0.01
8	1.49	0.53	3.64	1.21	-2.86	-0.95	-0.58	-0.13
9	-0.90	-0.32	0.50	0.17	-0.10	-0.03	-2.25	-0.49
10	1.80	0.64	-2.34	-0.78	-1.46	-0.49	0.18	0.04
CAAR(-1, 0)	12.72	3.21	3.79	0.89	-3.13	-0.74	-0.30	-0.05
CAAR(-1, 1)	22.63	4.67	-0.82	-0.16	-16.07	-3.1	-2.86	-0.36
CAAR(0, 2)	14.82	3.06	-0.56	-0.11	-14.98	-2.9	3.24	0.41
CAAR(-2, +2)	30.41	4.86	3.20	0.48	-14.57	-2.2	1.21	0.12
CAAR(-5, 0)	21.08	3.07	2.49	0.34	2.63	0.36	-5.26	-0.47
CAR(-5, +5)	28.15	3.03	-1.92	-0.19	-0.98	-0.1	-11.93	-0.78
CAAR(-10, 0)	38.94	4.19	-4.76	-0.48	3.65	0.37	-22.32	-1.46
CAAR(-10, +10)	49.66	3.87	-4.53	-0.33	-8.43	-0.61	-33.66	-1.6

Table 7. Summary of the signs of the abnormal returns for each event as well as their overall tendencies

Stocks	Offer Bid From Onex	Counteroffer From Air Canada	Onex's withdrawal	Competition Bureau Approves Merger
AC	+	+	-	N/A
ACNAF	+	N/A	-	N/A
CA	N/A[1]	N/A	-	N/A
NWAC	N/A	N/A	N/A	N/A
AMR	N/A	N/A	N/A	N/A
CAL	N/A	N/A	N/A	N/A
DAL	N/A	N/A	N/A	N/A
UAL	N/A	N/A	N/A	N/A

Note: [1]N/A means that there was no response from the market given the event.

Table 8. Average Abnormal Returns to the proposed merger airlines

	Offer Bid From Onex		Counteroffer From Air Canada		Onex's withdrawal		Competition Bureau Approves Merger	
	AAR	t-test	AAR	t-test	AAR	t-test	AAR	t-test
-10	-0.94	-0.47	0.26	0.12	-0.44	-0.2	-0.03	-0
-9	0.55	0.28	-2.10	-1	-2.50	-1.13	-0.89	-0.3
-8	-2.08	-1.04	-1.01	-0.5	-1.68	-0.77	2.57	0.95
-7	9.39	4.69	0.98	0.45	3.92	1.78	-0.67	-0.2
-6	7.76	3.88	2.48	1.13	1.31	0.6	-3.74	-1.4
-5	-1.61	-0.8	-2.51	-1.1	-0.35	-0.16	-3.44	-1.3
-4	-4.01	-2	1.86	0.85	-0.22	-0.1	-2.30	-0.9
-3	0.34	0.17	-1.59	-0.7	0.55	0.25	-0.93	-0.3
-2	5.97	2.99	0.44	0.2	-0.55	-0.25	1.79	0.66
-1	2.76	1.38	4.05	1.84	-0.63	-0.29	0.07	0.03
0	2.21	1.1	2.15	1	-1.09	-0.5	0.34	0.1
1	4.37	2.19	-3.11	-1.4	-10.70	-4.9	-1.33	-0.5
2	-0.32	-0.16	1.17	0.53	4.06	1.85	2.73	1.01
3	-0.67	-0.33	-0.40	-0.2	-2.26	-1.03	-1.21	-0.4
4	-1.95	-0.98	-2.45	-1.1	1.98	0.9	-2.22	-0.8
5	0.54	0.27	-1.64	-0.7	4.90	2.23	-0.91	-0.3
6	-0.26	-0.13	3.97	1.81	0.57	0.26	-1.02	-0.4
7	1.12	0.56	1.35	0.61	-1.34	-0.61	0.34	0.13
8	-0.19	-0.09	-0.32	-0.1	-2.04	-0.93	-1.44	-0.5
9	-1.99	-1	-0.17	-0.1	-3.24	-1.47	1.51	0.56
10	0.52	0.26	0.60	0.27	-0.46	-0.21	-4.06	-1.5
CAAR(-1, 0)	4.97	1.76	6.21	2	-1.72	-0.55	0.41	0.11
CAAR(-1, 1)	9.34	2.7	3.10	0.81	-12.42	-3.3	-0.92	-0.2
CAAR(0, 2)	6.26	1.81	0.22	0.06	-7.72	-2	1.75	0.37
CAAR(-2, +2)	14.99	3.35	4.71	0.96	-8.90	-1.81	3.61	0.6
CAAR(-5, 0)	5.66	1.16	4.40	0.82	-2.29	-0.42	-4.46	-0.7
CAR(-5, +5)	7.64	1.15	-2.02	-0.3	-4.30	-0.59	-7.40	-0.8
CAAR(-10, 0)	20.35	3.07	5.01	0.69	-1.67	-0.23	-7.23	-0.8
CAAR(-10, +10)	21.53	2.35	4.02	0.4	-10.19	-1.01	-14.83	-1.2

Table 9. Abnormal returns to rivals airline

	Offer Bid From Onex		Counteroffer From Air Canada		Onex's withdrawal		Competition Bureau Approves Merger	
	AAR	t-test	AAR	t-test	AAR	t-test	AAR	t-test
-10	-1.96	-0.83	2.66	1.21	1.78	0.86	2.91	1.39
-9	-1.94	-0.82	0.63	0.29	1.00	0.48	-1.13	-0.5
-8	2.84	1.2	1.36	0.62	-0.93	-0.45	-2.14	-1
-7	-1.22	-0.52	1.17	0.53	4.03	1.95	2.80	1.33
-6	0.86	0.36	-3.31	-1.5	0.57	0.28	2.73	1.3
-5	-1.82	-0.77	-0.78	-0.4	1.73	0.84	2.82	1.34
-4	0.56	0.24	1.01	0.46	-4.02	-1.94	-0.55	-0.3
-3	-0.25	-0.1	0.07	0.03	-0.67	-0.33	-0.80	-0.4
-2	-2.15	-0.91	-1.32	-0.6	1.64	0.79	0.74	0.35
-1	1.25	0.53	-0.57	-0.3	-0.79	-0.38	0.84	0.4
0	2.34	0.99	0.14	0.1	1.88	0.91	-1.04	-0.5
1	4.10	1.74	-2.05	-0.9	0.37	0.18	-0.20	-0.1
2	-3.02	-1.28	-1.14	-0.5	-2.69	-1.3	0.62	0.3
3	1.46	0.62	1.62	0.74	0.88	0.42	0.22	0.1
4	-0.49	-0.21	1.00	0.45	-0.35	-0.17	-0.36	-0.2
5	-1.28	-0.54	-0.91	-0.4	1.97	0.95	0.05	0.02
6	-2.04	-0.86	3.91	1.78	-1.85	-0.89	1.80	0.86
7	-0.01	-0.01	0.31	0.14	0.54	0.26	-0.78	-0.4
8	1.02	0.43	1.61	0.73	-3.06	-1.48	2.52	1.2
9	-3.00	-1.27	-4.03	-1.8	-1.63	-0.79	0.96	0.46
10	-3.12	-1.32	-0.69	-0.3	-1.55	-0.75	-2.21	-1.1
CAAR(-1, 0)	3.59	1.06	-0.43	-0.1	1.10	0.37	-0.20	-0.1
CAAR(-1, 1)	7.69	1.85	-2.48	-0.7	1.47	0.41	-0.40	-0.1
CAAR(0, 2)	3.42	0.82	-3.05	-0.8	-0.43	-0.12	-0.62	-0.2
CAAR(-2, +2)	2.52	0.47	-4.94	-1	0.42	0.09	0.97	0.21
CAAR(-5, 0)	-0.07	-0.01	-1.44	-0.3	-0.22	-0.04	2.01	0.39
CAR(-5, +5)	0.70	0.09	-2.92	-0.4	-0.04	-0.01	2.34	0.34
CAAR(-10, 0)	-1.50	-0.19	1.07	0.15	6.24	0.91	7.18	1.03
CAAR(-10, +10)	-7.88	-0.72	0.70	0.07	-1.13	-0.12	9.79	1.02

Chronology of Events

- Aug. 13: Ottawa suspends Competition Act to let the airlines legally talk about restructuring.
- Aug. 20: Air Canada proposes to buy Canadian Airlines' international routes. It's rejected.
- Aug. 24: Onex announces plan. It involves Onex, backed by American Airlines parent AMR Corp., paying $1.8 million and assuming $3.9 billion in debt. Canadian said it would recommend the offer to its shareholders.
- Aug. 31: Air Canada adopts a poison pill aimed at thwarting a takeover. It schedules a shareholders meeting for Jan. 7 to consider Onex's offer and others that might arise. Onex asks court to force Air Canada to hold shareholders meeting by Nov. 8, one day before its offer expires.
- Sept. 2: 18,500 airline employees say they'll strike Sept. 27 if the government doesn't guarantee there will be no forced job losses in airline restructuring.
- Sept. 13: Air Canada asks Federal Court to rule that Onex's bid isn't exempt from a review under *Competition Act*.
- Sept. 17: Air Canada reports early its strong financial results, to show shareholders before they make decisions on industry restructuring.
- Sept. 18: Schwartz accuses Air Canada of a smear campaign against his hostile bid for the carrier and calls on Ottawa to hold parliamentary hearings.
- Sept. 20: Air Canada board urges shareholders to reject Onex bid.
- Sept. 23: Airline machinists call off threatened strike.
- Sept. 24: Canadian Airlines CEO Kevin Benson says Air Canada and Canadian held merger talks earlier in the year, but Air Canada backed out.
- Sept. 28: Onex wins court battle on shareholder vote, calls meeting for Nov. 8.
- Oct. 8: Onex makes 'iron-clad' guarantees on jobs, regional service, fares.
- Oct. 19: Air Canada, backed by Lufthansa, United Airlines and CIBC, unveils a $930 million counterbid to the Onex offer. Air Canada offers $92 million for Canadian Airlines but says it would run its rival as separate company.
- Oct. 25: Canadian Airlines rejects the Air Canada counteroffer.
- Oct. 26: Onex CEO Gerry Schwartz denies American Airlines would dominate new merged airline.
- Oct. 28: Onex raises its offer for Air Canada to $13 a share.

- Nov. 1: Canadian Auto Workers union president Buzz Hargrove announces support for Onex bid after receiving job guarantees.
- Nov. 2: Air Canada raises the stakes, offering $16 a share to buy back 36.4 per cent of the airline.
- Nov. 4: Air Canada unions say they won't support Onex bid.
- Nov. 5: Onex raises its offer to $17.50 a share.
- Nov. 5: Quebec judge says Onex offer illegal, breaking law which limits single shareholder in Air Canada to 10 per cent.
- Nov. 5: Onex withdraws its offer, Air Canada says it will press ahead with bid to take over Canadian Airlines.
- Nov. 8: Transport Minister David Collenette says he expects Air Canada to take over Canadian Airlines.
- Nov. 9: Canadian Airlines says it has enough money to last at least another year after receiving assurances from AMR-- American Airlines parent-- that it can defer payments on fees owed to American.
- Nov. 15: Air Canada mails $92 million takeover bid to Canadian shareholders.
- Nov. 16: Robert Deluce and Regional Airlines Holdings Inc. proposes to buy and merge Canada's regional carriers: Air Ontario, Air Nova, Air B.C., and Canadian Regional Airlines.
- Nov. 22: Canadian CEO Kevin Benson meets privately with Oneworld alliance partners American Airlines, British Airways, Qantas and Cathay Pacific.
- Nov. 24: International Association of Machinists and Aerospace Workers signs deal with Air Canada to protect 6,000 Canadian employees from lay-offs and relocations if the deal goes through.
- Nov. 25: Canadian Airlines sends a circular to shareholders, telling them to hold on to their shares while it takes more time to consider Air Canada's bid.
- Nov. 27: InterCanadian, a regional partner of Canadian Airlines cancels all flights with no warning or explanation.
- Nov. 29: Board of Canadian Airlines responds to Air Canada bid, saying it is fair financially but because of certain conditions Canadian refrains from making a recommendation to shareholders.
- Dec. 4: Board of Canadian Airlines recommends Air Canada's $92 million bid to its shareholders, after failing to come up with a better alternative from its Oneworld partners.

- Dec. 7: The Air Canada offer expires at 5 p.m. ET. Air Canada extends the buyout until Dec. 23.
- Dec. 8: Air Canada takes control of Canadian Airlines with more than 50 per cent of Canadian shares tendered.

  AMR Corp. agrees to sell its convertible preferred shares in Canadian Airlines to Air Canada for between $55 to $60 million. The two also reach an agreement on American Airlines' relationship with Canadian: allowing codesharing between the two airlines and maintaining a joint frequent flyer program.
- Dec. 21: The Federal Competition Bureau says it will allow Air Canada's takeover of Canadian if the airline meets certain conditions. Air Canada agreed to surrender some peak-hour runway slots at Toronto's Pearson Airport, sell Canadian Regional Airlines and maintain service to all current domestic routes.
- Dec. 23: Air Canada officially wins its bid for Canadian, after receiving more than half of Canadian's shares and striking a deal with American Airlines for its 25 per cent stake in Canadian.

Source: http://cbc.ca

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