

Special study: Economic history of Quebec over the past six decades

The purpose of this study is to draw a picture of the Quebec's economic history since the end of the 1940s. In the past, a few papers have been published by various authors to determine the economic cycles of certain major periods. This time, the analysis is more detailed thanks to a quarterly estimate of real GDP that goes back further in time. Periods of recession and of recovery have been established more precisely over more than sixty years. This original approach makes it possible to identify the events that have shaped Quebec's economic cycles over the decades, making this paper a valuable tool that increases our understanding of the province's economic issues since the end of World War II. This project was carried out by a team from the Department of Economics at Université de Sherbrooke, in collaboration with Desjardins Economic Studies.

PREVIOUS STUDIES: QUEBEC'S ECONOMIC CYCLES PRIOR TO 1980

The research studies carried out over the years have presented several ideas about the major events that have marked the province's economic history. Therefore, the starting point of this analysis was to bring together the various explanations of Quebec's economic cycles. The summary of the literature review (table 1 on page 2) identifies the main socio-economic phenomena that affected Quebec between the 1940s and the end of the 1980s.

The summary of previous studies shows that, during the period from 1945 to 1960, the province specialized in the consumer goods industries. During that same period, investments in Quebec's natural resources made a large contribution to economic growth. The majority of those investments came from foreign sources, in particular from the United States (Linteau et al., 1989). The period from 1960 to 1980 was characterized by greater involvement of the public sector in economic activity, through the creation of government corporations (Linteau et al., 1989). During those twenty years, massive public investments were made in infrastructure, housing and social services.

Despite the quality of these papers, some of which date back as far as the early 1960s, the dating of certain events such as recessions, economic slowdowns and periods of growth, and the factors underlying those phenomena, tend to diverge from one study to another. Our analysis aims to shed new light on those factors, since some variables that were not available at the time and which are available today help to better explain the economic cycles prior to 1981. Consequently, estimates of quarterly GDP since the end of the 1940s, taken together with new statistics, give us a better idea of economic trends and the factors that precipitate these swings in economic activity.

The years after 1980 presented less of a challenge, because the official data were already available on a quarterly basis, and the analysis of cycles had already been documented, in particular through the last update of the Desjardins Leading Indicator¹. The dating of the turning points in Quebec's economy was analyzed and the underlying factors were identified.

¹ http://www.desjardins.com/en/a_propos/etudes_economiques/actualites/point_vue_economique/pv011613a.pdf

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Table 1 – Summary: Review of the literature on Quebec’s economic cycles

<i>Author</i>	<i>Conclusions</i>
Raynault (1961)	<ul style="list-style-type: none"> - Shorter periods of economic recession in Quebec compared with other Canadian provinces between 1945 and 1960. - Quebec specializes in industrial goods with low income elasticity.
Vallières (1973)	<ul style="list-style-type: none"> - Strong price growth from post-World War II to the beginning of the 1950s. - High level of output in Quebec during the 1952–1953 period.
Fortin (1980)	<ul style="list-style-type: none"> - Unemployment is a major problem in Canada up until 1966.
Hébert (1989)	<ul style="list-style-type: none"> - Between 1940 and 1960: Quebec’s economy is highly sensitive to military conflicts (World War II and Korean War). - Decline in per capita GDP, with recessions developing in Quebec in 1949 and in 1957–1958. - A long period of economic expansion in Quebec between 1961 and 1974.
Linteau et al. (1989)	<ul style="list-style-type: none"> - Strong investment in the development of natural resources and in transportation infrastructures in Quebec after 1945, and up until 1953. - Strong economic growth in Quebec between 1962 and 1967. - Strong price growth (strong inflation) from 1971 to 1980.
Dauphin (2007)	<ul style="list-style-type: none"> - Quebec’s economic growth between 1945 and 1952 is due to the strong increase in real personal income. - Strong involvement of government in economic activity from the 1960s onwards.

Source: Department of Economics, Université de Sherbrooke

BUILDING A QUARTERLY HISTORY OF QUEBEC’S REAL GDP: A PREREQUISITE FOR IDENTIFYING ECONOMIC CYCLES

The desire to ward off the deleterious effects of recessions has incited many economists to analyze the causes of previous episodes. Their work generally starts with establishing reliable quarterly economic data, one of the most important of which is quarterly real GDP. This was done by the Bureau of Economic Analysis (BEA) in the United States, when it determined quarterly real GDP from 1947 to the present day. As for the National Bureau of Economic Research (NBER),² it defines a recession as a significant decline in economic activity. This decline extends throughout the economy for a period of several months. The decline is measured using several statistics other than the real GDP of the United States, i.e. real income, employment, industrial output, retail sales and wholesale trade.

Quarterly data on Canada’s GDP and the components thereof have been produced since 1961. However, there are no quarterly GDP data dating back that far for the provinces. Only the annual provincial data, starting in 1981, are disseminated by Statistics Canada. To make up for the lack of historical quarterly data for the majority

of the provinces, some reconstruction studies have been carried out, including a study by the Department of Finance Canada.³ It covers the period from 1980 to 1990. Quebec and Ontario stand apart, in that quarterly data have been produced since 1981 by the Institut de la statistique du Québec (ISQ) and by the Ontario Ministry of Finance. As part of the research project assigned to the Université de Sherbrooke, a set of quarterly real GDP data for the years before that was compiled, in order to supplement the existing set of data for Quebec since 1981, going further back in time. The details of the calculation methods used are presented further on (box 1 on page 3).

One practical definition of an economic recession that is commonly used in Canada is to consider it as a decline in real gross domestic product lasting two consecutive quarters or more (Bégin, 2008). She (2008) goes further, distinguishing a classical recession from a technical recession. A technical recession is small in scope and is characterized by far less deterioration of the labour market. Therefore, quarterly GDP for Quebec since the end of the 1940s was needed in order to more precisely identify the turning points of economic cycles, the scope of recessions and their duration in terms of quarters.

² The NBER’s Business Cycle Dating Committee, whose role is to keep a chronology of economic cycles in the United States.

³ See Lamy and Sabourin (2001).

BOX 1: METHODOLOGY FOR CALCULATING HISTORICAL REAL GDP

The work was carried out in two steps. First, an estimate of the province's quarterly real GDP had to be established for the years from 1948 to 1980. During that period, no quarterly real GDP data existed from which Quebec's business cycles might be precisely determined. Therefore, a set of data was built based on several statistics, and a modified Ginsburgh technique⁴ was used to compile a quarterly estimate of real GDP. In a second step, the quarterly real GDP for the period 1948 to 1980 was integrated with that produced by the ISQ, which begins in 1981.

Given the scarcity of quarterly statistics available for calculating real GDP for the period prior to 1981 using the national accounts matrix, a technique was used to convert Quebec's annual real GDP into quarterly numbers. Since Quebec's annual real GDP prior to 1981, and a few quarterly variables (covering the same periods as the annual real GDP) were available, we adopted the same process that the ISQ had used: that of using a modified Ginsburgh method. This method was developed by ISQ researchers⁵ and is currently used to produce certain special variables that are needed for the quarterly economic accounts.

The scarcity of quarterly statistics with which to build the series of Quebec real GDP data prior to 1981 created a significant challenge for the analysis. The statistics that were chosen were: the industrial employment index (graph A), the real value of retail sales (graph B) and housing starts in Quebec, as well as the real GDP of the United States.

In order to calculate the real value of retail sales, the Quebec GDP and the U.S. GDP, it was necessary to use certain price indexes, i.e. the quarterly index of retail prices in Quebec, the Quebec annual GDP deflator and the quarterly GDP deflator of the United States. For the period from 1948 to 1980, some price indexes were not yet being produced for Quebec, so those available for Canada were used.

MODIFIED GINSBURGH METHOD

Let's suppose that an annual statistic is available and that a quarterly estimate is required for analysis purposes. In our case, it is the annual real GDP. Let's further suppose that quarterly statistics exist which, in theory, correlate strongly with the quarterly variable to be determined. The quarterly statistics are then aggregated into annual variables in order to determine an annual relationship which is as follows:

$$Y = X\beta + \mu.$$

Using X, the quarterly variables aggregated into annual variables, Y, the annual variable to be converted into quarterly terms and μ , the annual residue, a series of quarterly residues $\hat{\mu}$ can be determined from the annual residues.

Finally, all that is needed is to perform the aggregation to determine the quarterly variable in question as follows:

$$\hat{Y} = X\hat{\beta} + \hat{\mu}$$

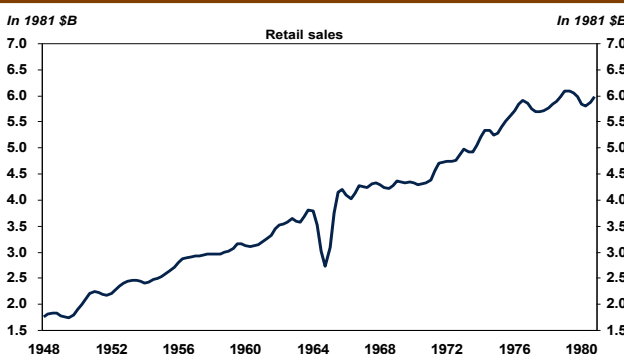
with X being the explanatory quarterly variables, $\hat{\beta}$ the estimators before each explanatory variable and $\hat{\mu}$ the quarterly residue.

Graph A – Industrial employment accounts in part for the economic cycles in Quebec prior to 1980



Sources: Statistics Canada and Department of Economics, Université de Sherbrooke

Graph B – Retail sales trends in Quebec have repercussions on real GDP

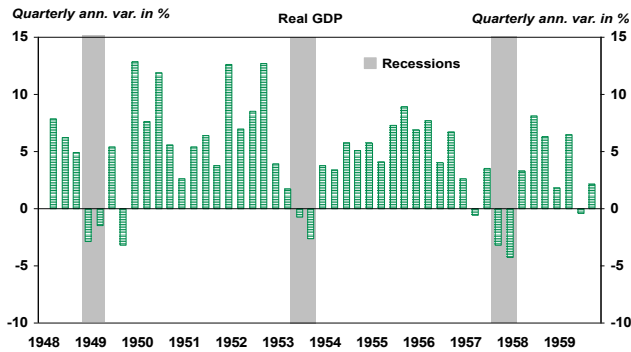


Sources: Statistics Canada and Department of Economics, Université de Sherbrooke

⁴ Fortin, M., M. Joanis, P. Kabore and L. Savard (forthcoming), Détermination du PIB réel trimestriel du Québec et analyse du cycle économique, 1948-1980, Cahier de recherche du GREDI, Université de Sherbrooke.

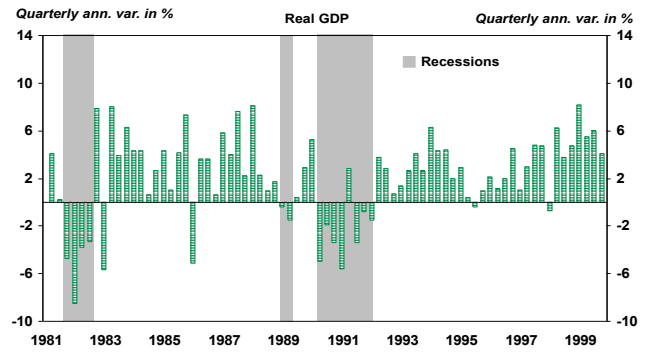
⁵ Carufel and Lizotte (1982).

Graph 1 – Economic cycles in Quebec: Late 1940s and 1950s



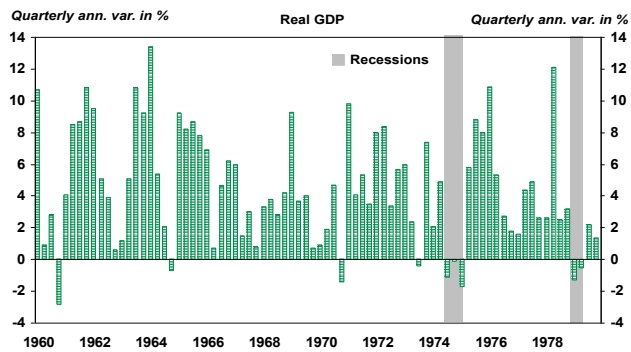
Sources: Institut de la statistique du Québec and Department of Economics, Université de Sherbrooke

Graph 3 – Economic cycles in Quebec: 1980s and 1990s



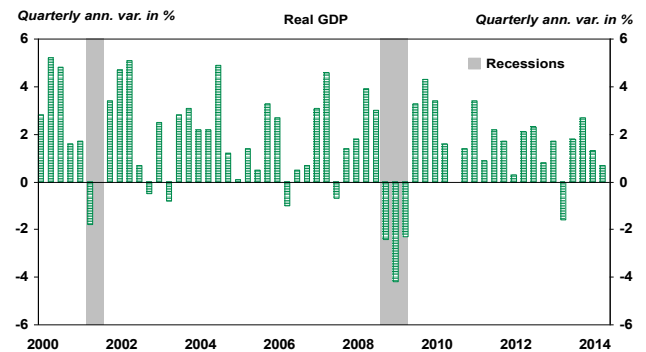
Sources: Institut de la statistique du Québec and Department of Economics, Université de Sherbrooke

Graph 2 – Economic cycles in Quebec: 1960s and 1970s



Sources: Institut de la statistique du Québec and Department of Economics, Université de Sherbrooke

Graph 4 – Economic cycles in Quebec: 2000s and 2010s



Sources: Institut de la statistique du Québec and Department of Economics, Université de Sherbrooke

NEW DATING OF ECONOMIC CYCLES

The historical quarterly real GDP data since 1948 enable us to analyze economic cycles in greater depth, by identifying the periods of recession and recovery that marked each decade in Quebec (graphs 1 to 4). Several periods of contraction in economic activity have occurred since the end of the 1940s, for a total of ten recession phases, six of them “classic” and four, “technical.” The classical recessions are those of 1949, 1953–1954, 1957–1958, 1974–1975, 1981–1982 and 1990–1992. As for the technical recessions, we have those of 1979, 1989, 2001 and 2008-2009. These are detailed further on. Keep in mind that a recession is described as “technical” if it has limited impact on other economic indicators such as employment, unemployment insurance claims, trade or construction.

The comments made in the previous studies by Raynauld (1961) and Vallières (1973) all bear relevance to the surge in activity and the short-lived economic crises between 1948 and 1980. The years 1950, 1964 and 1978 clearly show this dynamic, as they are marked by very strong real

GDP growth with an annualized quarterly rate of growth between 12.4% and 14.1%. All the recessions observed up until 1980 share the characteristic of being of short duration, with a maximum of three consecutive quarters of decline in quarterly real GDP. The periods of contraction in Quebec real GDP were also of short duration up until 1980. That reality no longer holds true for the subsequent economic cycles, where we see periods of recession extending up to six consecutive quarters of decline in quarterly real GDP, such as the recession of 1990–1992 for example.

The difference in the nature of economic growth or recession before and after 1980 may be due to the change in Quebec’s economic structure. In particular, the tertiary sector expanded significantly, outstripping the secondary sector (manufacturing and other sectors) and the primary sector (agriculture and others). In fact, the income elasticity would be higher for the tertiary sector than for the secondary sector. This implies that in the event of an economic crisis, a drop in income would generate a more significant reduction in demand from the tertiary sector than that from the secondary or primary sectors.

END OF THE 1940S: A PERIOD TIED TO THE U.S. CYCLE

The first economic recession during the period of 1948-1980 occurred in the first and second quarters of 1949, with annualized quarterly growth rates of -2.9% and -1.5%, respectively. This recession caused a decline in per capita income in Quebec. It was moderate, however, given the slight decline in industrial production. In addition, it was followed by a significant recovery in the subsequent quarters: real GDP posted annualized growth rates of over 13% in the first quarter of 1950 and 8.4%, on average, between the first quarter of 1950 and the fourth quarter of 1952.

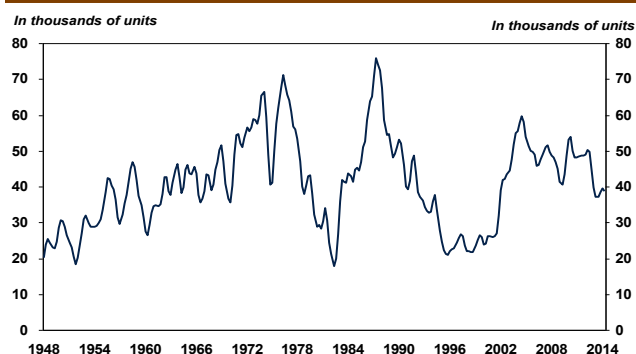
The recession of 1949 was caused by various factors (table 2 on page 6). One of these is the decline in housing starts. The Canada Mortgage and Housing Corporation (CMHC) estimated in 2010 that housing-related spending accounted for approximately one fifth of Canada's GDP.⁶ Housing expenditures have probably played a similar role in the Quebec economy. All of the province's classical recessions were preceded by a significant drop in housing starts (graph 5), with the exception of the recession of 1957-1958. The sharp declines that were observed in the first quarter of 1980 and the fourth quarter of 1981 were due to unfavourable macroeconomic conditions in Canada and in Quebec. These included strong inflation and very high interest rates. As for the sharp growth in housing starts in 1982, it was attributable to exceptional measures that were taken by the governments, in particular the Corvée-Habitation program, which made it possible to grant mortgage loans at reduced rates.

The recession of 1949 also coincides with the U.S. economy running out of steam. This began with a deceleration of growth in the United States at the beginning of 1948, with annualized quarterly growth in the neighbourhood of 2.3% and 0.4% in the third and fourth quarters of 1948 respectively. Subsequently, the first and second quarters of 1949 were marked by contractions. Given the close economic ties between Quebec and the United States, the negative effects of this U.S. recession made themselves felt in the province. As an example of this strong economic integration, Canada's exports to and imports from the United States accounted for 65.1% and 66.9%, respectively, of Canada's total exports and imports in 1950 (Linteau et al., 1989, table 1, page 230).

The periods of economic recession and expansion in the United States correspond quite closely with those of Quebec (graph 6). Only the Quebec recessions of 1979 and 1989 were not linked to a recession south of the border, although U.S. growth during those periods was very sluggish. Due to its economic weight and the close integration of the U.S. and Canadian markets, any monetary and economic policy in the United States tends to generate repercussions in Canada, and therefore in Quebec.

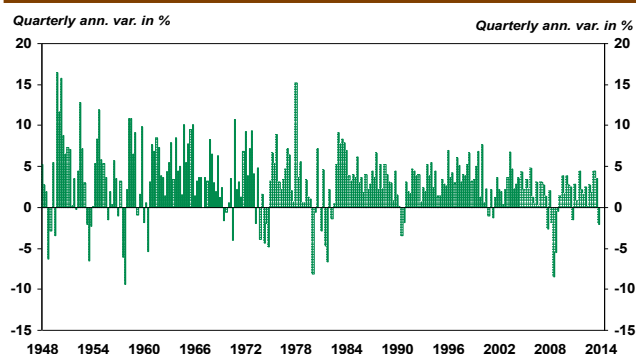
Schembri (2008) attributed the economic prosperity that followed the recession of 1949 to the adoption of a flexible exchange rate in Canada. He argued that that policy led to improvement in the terms of trade and in the entry of capital into Canada. Similarly, Quebec's share of Canada's total investment followed an upwards trend between 1951 and 1959 (Dauphin, 2007).

Graph 5 – Housing starts in Quebec



Sources: Canada Mortgage and Housing Corporation and Department of Economics, Université de Sherbrooke

Graph 6 – Economic cycles in the United States



Sources: Bureau Economic Analysis BEA and Department of Economics, Université de Sherbrooke.

⁶ <http://www.cmhc-schl.gc.ca/odpub/pdf/67065.pdf?lang=en>

Table 2 – Economic cycles of Quebec from 1948 to 1980

<i>Period of time</i>		<i>Underlying factors</i>
Recession	Q1 to Q2 1949	<ul style="list-style-type: none"> - Decline in investments through a drop in housing starts - Lower demand for consumer goods - Economic activity in the United States runs out of steam - Generalized increase in consumer prices
Recovery	From Q1 1950 onwards	<ul style="list-style-type: none"> - Adoption of a flexible exchange rate in Canada in 1949 - Upswing in goods and services production in Quebec due to the Korean War in 1950 - Economic dynamics in the United States
Recession	Q3 to Q4 1953	<ul style="list-style-type: none"> - Drop in business orders for raw materials and semi-finished products - Decline in homebuilding
Recovery	From Q3 1954 onwards	<ul style="list-style-type: none"> - Massive investment in the natural resources sector - Investment in road and railway infrastructures
Recession	Q4 1957 to Q1 1958	<ul style="list-style-type: none"> - Economic recession in the United States - End of major construction projects - Slowdown in industrial production - Rising interest rates - Deterioration in the terms of trade for Canadian products versus U.S. products
Recovery	From Q2 1958 onwards	<ul style="list-style-type: none"> - Monetary stimulation by the Bank of Canada - Expansionist budget policies in Quebec and Canada - Expansion of the tertiary sector (education, healthcare, financial sector, public administration, etc.)
Recession	Q3 1974 to Q1 1975	<ul style="list-style-type: none"> - Spike in the price of oil - Sustained inflationary pressure - Economic recession in the United States
Recovery	From Q2 1975 onwards	<ul style="list-style-type: none"> - Adoption of the two-price policy for oil by the federal government - Indexation of tax rates and personal exemptions - Massive public investments in construction - Subsidized housing programs
Recession	Q1 to Q2 1979	<ul style="list-style-type: none"> - Economic recession in the United States - Spike in interest rates between 1979 and 1980 - Strong inflation between 1975 and 1980 - Decline in homebuilding in Quebec and in Canada
Recovery	From Q3 1979 onwards	<ul style="list-style-type: none"> - Growth in business investment - Increase in consumer spending - Increase in exports of Quebec products due to the end of the strike in the iron ore mines - Acceleration in public works - Quebec injects \$750 million worth of tax cuts into the economy between 1978 and 1979 - Devaluation of the Canadian dollar boosts exports of newsprint, lumber and aluminum from Quebec

Source: Department of Economics, Université de Sherbrooke

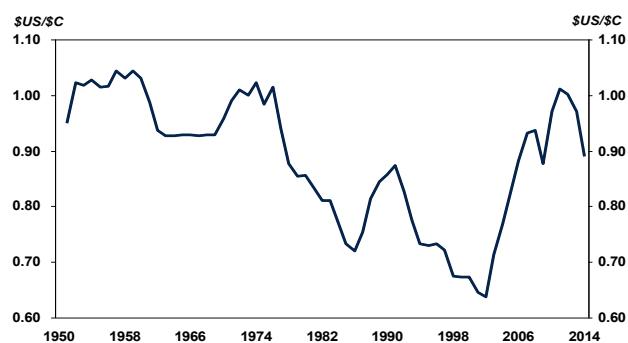
THE 1950S: THE POST-WAR DECLINE AND THE INVESTMENT RECOVERY

The economic dynamic that prevailed in 1950 was curbed by a recession that stretched throughout the third and fourth quarters of 1953, with respective annualized quarterly declines of **-0.7%** and **-2.6%**. Linteau et al. (1989), Hébert (1989) and Dauphin (2007) attributed this pullback to the substantial drop in orders from companies that supplied commodities and semi-finished goods to the

military sector as the Korean War ended. Hébert (1989) found that the end of the recession in 1953 was marked by massive investments in Quebec's natural resources sector—investments soared 23.7% in 1955 and 18.9% in 1956 (Hébert, 1989). He also cited massive investments to develop Quebec's economic infrastructure, such as the St. Lawrence Seaway and the Trans-Canada Highway. As a result, Quebec's annualized quarterly real GDP growth reached a peak of 9.2% in the 1954–1956 period.

As of the first quarter of 1957, the economic boom had run out of steam, with annualized quarterly growth of less than 3% recorded, resulting in an economic recession from the fourth quarter of 1957 to Q1 1958, with respective annualized quarterly declines of -3.1% and -4.3%. This recession was largely due to a slowdown in Quebec's industrial production and the end of major construction projects (Hébert, 1989). The economic downturn in the United States also had a negative impact on exports from Quebec's industries, in addition to the deterioration in the terms of trade (graph 7) for Canadian products vs. U.S. products (Schembri, 2008), with the Canadian dollar rising by 7% in 1955, ending 1956 at US\$1.04. Rising interest rates were another reason why this recession occurred. Schembri (2008) explained that the Bank of Canada tightened its monetary conditions until August 1957, boosting its key rate to 4.33%. This was one of the worst recessions Quebec has ever experienced.

Graph 7 – The value of the Canadian dollar has influenced the economic cycles in Quebec



Sources: Statistics Canada and Desjardins, Economic Studies

To contain this third recession in Canada and by extension, Quebec, the Bank of Canada adopted broad stimulus measures (Schembri, 2008). The end result: interest rates in Canada tumbled and the official discount rate fell from 3.92% at the end of 1957 to 1.91% in July 1958. Moreover, the federal and provincial administrations adopted expansionist fiscal measures to stem the negative effects of this recession and kick-start the economic recovery.

THE 1960S: LARGE-SCALE PROJECTS FUELLED THE ECONOMY

Quebec experienced a long period of economic expansion from 1961 to 1967. The reasons put forth by Hébert (1989) to explain Quebec's sustainable economic growth throughout this period were the devaluation in the Canadian dollar, which fell to US\$0.925 in 1962, Canada's reinstatement of a fixed exchange rate regime with OECD countries between 1962 and 1970, and contributions from the provincial

government to fund a host of big projects. These projects included the Montreal metro, from 1961 to 1966; Expo 67, from 1965 to 1967; hydroelectric development on the Côte-Nord, from 1962 to 1978; followed by the development of the James Bay watershed, from 1971 to 1980.

Linteau et al. (1989) also referred to the economic expansion between 1961 and 1967, highlighting the increase in public investments to fund the construction of government buildings and schools and to update the network of roadways to explain the reasons behind this expansion. Substantial investments in the manufacturing industry and residential construction also contributed to supporting Quebec's economic growth from 1961 to 1967.

The 1967–1970 period was marked by an economic slowdown; the same pullback was noted by Linteau et al. (1989) and Hébert (1989). According to Hébert, the economic downturn that began in the second quarter of 1967 was due to the end of major construction projects, such as Expo 67 and the Montreal metro. Hébert (1989) also pointed out that the Bank of Canada's policies to fight inflation in response to the anti-inflation measures put forth by the United States also set the stage for an economic slowdown in Canada and Quebec.

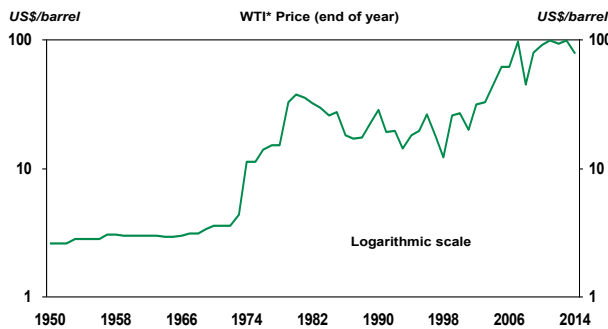
THE 1970S: THE IMPACTS OF THE OIL SHOCK

The period between the second quarter in 1973 and the first quarter in 1975 was marked by economic stagnation that prompted a recession between Q3 1974 and Q1 1975. The quarterly annualized rates were -1.1%, -0.1% and -1.7%, respectively. This recession period was also flagged in the studies authored by Linteau et al. (1989) and Hébert (1989).

Several reasons were cited to explain the recession recorded between 1974 and 1975. According to Hébert (1989), the overriding reason for this recession was the surge in oil prices (graph 8 on page 8), which quadrupled between June 1973 and January 1974. In fact, the benchmark price of crude oil rose by US\$2.89 to US\$11.56 per barrel (Hébert, 1989). Linteau et al. (1989) argued that this oil crisis drove many of Quebec's energy-intensive businesses to bankruptcy. The sharp upswing in prices can be attributed to global food shortages resulting from poor harvests in 1972 and the devaluation of both the Canadian and U.S. dollars vs. other currencies in 1973 (Fortin, 1980). The ongoing economic recession in the United States, one of the longest in U.S. history, is cited as another reason for the recession in 1974–1975.

The impact of the 1974–1975 crisis on Quebec's economy was limited. As an oil exporting country, Canada's federal

Graph 8 – Soaring international oil prices triggered a recession in Quebec in 1973

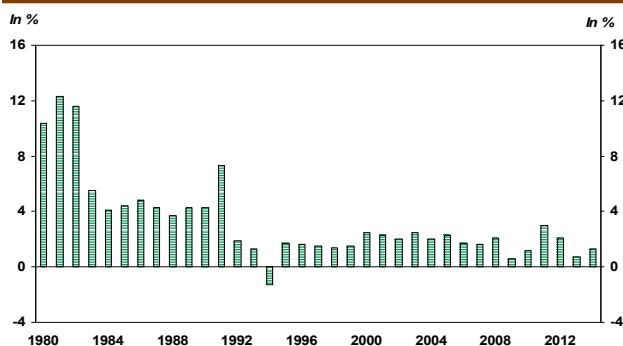


* Oil type : West Texas Intermediate.
Sources: Statistics Canada and Desjardins, Economic Studies

government adopted policies that doubled the price of oil (Hébert, 1989). On one hand, this policy consisted in selling crude oil exports at market prices and keeping prices within Canada’s borders at 50% below the international market price. Another federal-provincial policy targeted the indexing of tax tables and personal deductions (Hébert, 1989). The purpose of this policy was to protect the purchasing power of consumers in Quebec and elsewhere in Canada. Dickinson and Young (1992) cited another measure taken by the Quebec government to quell the crisis of 1974–1975—massive public investments in construction. The outcome: the Olympic venues, from 1973 to 1976, Mirabel Airport, from 1970 to 1975, and a project to fund the construction of 100,000 housing units in Montreal.

Despite these efforts to kick-start the economy, Quebec was once again mired in an economic recession in 1979. One cause that explains the economic contraction in Quebec in 1979–1980 was the sharp increase in interest rates initiated by the Bank of Canada (Hébert, 1989) to fight inflation (graph 9) and protect Canada’s currency against rising interest rates in the United States (Hébert, 1989). As such, the prime rate granted by chartered banks to their best clients rose from 12% in June 1979 to 16.7%

Graph 9 – The inflation rate has played an important role in the economic history of Quebec



Sources: Statistics Canada and Desjardins, Economic Studies

in April 1980 (Hébert, 1989). For Linteau et al. (1989), this economic contraction was explained by spiralling inflation that had Quebec in its grips from the mid-1970s until 1980. To illustrate their point, they tracked the CPI in Montreal: set at 100 in 1971, the CPI rose to 138 by 1975, to reach 208 by 1980.

THE 1980S: QUEBEC SUFFERS THE BACKLASH OF THE GLOBAL ECONOMY AND A RESTRICTIVE MONETARY POLICY

The short contraction in 1979 was followed by a deep recession in 1981–1982 (table 3 on page 10), beginning in the fourth quarter of 1981 and lasting until the third quarter of 1982, with sharp declines in annualized quarterly growth rates varying from -3.3% to -8.3%. Quebec was hard hit by this recession due to the global contraction in demand for commodities and the collapse of Canada’s economy, with domestic production plummeting by close to 4.8% in 1982.⁷

The economic slump in the United States, which stretched from the second quarter of 1981 to the third quarter of 1982, was also part of the backdrop affecting Canada. The U.S. recession slashed exports from Quebec companies and brought investment opportunities to a halt. Another reason for the 1981–1982 recession was the Bank of Canada’s doubly restrictive monetary policy, designed to support the value of Canada’s currency and capital inflows. Hébert (1989) affirmed that a slowdown in consumer spending on durable goods characterized the economic recession that plagued Quebec in 1981–1982. Residential and business investment slowed to a trickle. Housing starts also slowed to a crawl in 1980 and 1981. According to Linteau et al. (1989), the 1981–1982 recession triggered a crisis in public finances which prevented the Quebec government from implementing policies to jump-start the economy. Brutal budget cuts followed in 1982, with the unemployment rate close to 14% in 1982 and 1983 (Linteau et al., 1989). To illustrate, Hydro-Québec gradually started to curb its investments, which represented close to 30% of Quebec’s total productive investments.

To resolve this economic crisis, the Quebec government put in place emergency measures to boost business investment, facilitate business financing and encourage technological development.⁸ Among these was the Corvée-Habitation program, which granted reduced-rate mortgage loans. The federal government and municipalities also made contributions to jump-start residential construction in Quebec.⁹

⁷⁻⁸⁻⁹ Ministère des Finances du Québec, speech in 1983.

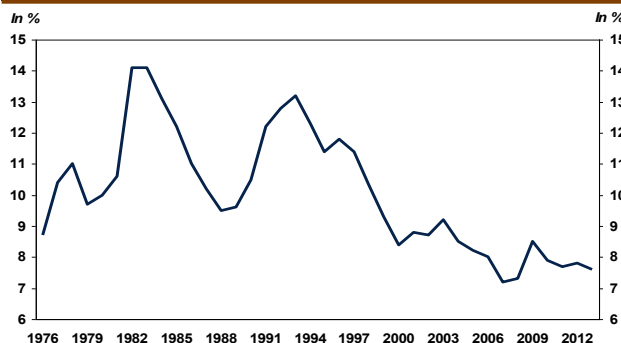
The renewed prosperity that reined in early 1983 gave way to an economic slowdown in 1988, which led to technical recession in 1989. This recession set in in the second quarter of 1989 with respective annualized quarterly rates of -0.4% and -1.5%. The tight monetary policy issued by the Bank of Canada was the main cause of this recession,¹⁰ followed by interest rate hikes and an overvalued Canadian dollar, which weakened the competitiveness of Quebec's businesses. Add to this softer domestic demand in the United States and steep increases in income taxes and other federal government taxes.¹¹ The layoffs quickly boosted the unemployment rate (graph 10).

To contain the crisis of 1989, the Quebec government introduced an expansionist budget policy, which translated to an investment of close to \$66 million in higher education and academic research.¹² Massive investments in public capital projects (buildings and roads) and new technologies were designed to stimulate Quebec's economic competitiveness.

THE 1990S: FIGHTING INFLATION AND RISING INTEREST RATES HURT THE ECONOMY

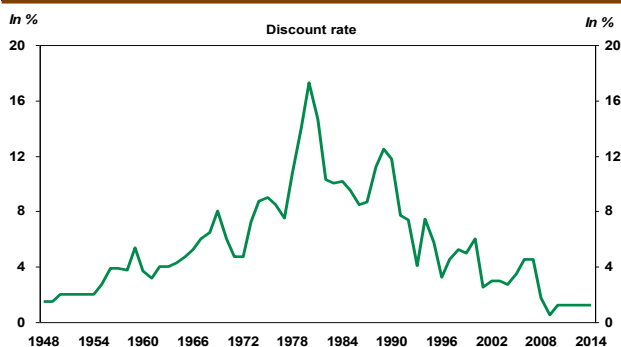
Not long after the 1989 recession, Quebec grappled with a more severe economic recession, which began in the second quarter of 1990 and persisted until the first quarter of 1992—the longest recession period in Quebec since 1948—with annualized quarterly growth rates varying between -0.8% and -5.5%. The length of this recession is largely explained by the very slow economic recovery in the United States and high levels of business and household debt, which spurred a contraction in investment expenditures and consumption. The sky-high interest rates in Canada at the time were also a factor (graph 11). This type of situation tends to rein in business investment in Quebec due to the high cost of borrowing. The economic recession in the United States also reduced the outlet opportunities for Quebec's products. Waning inflation pressures contributed to Quebec's economic recovery as of 1992. This resumption period coincided with steep interest rate cuts in Canada. Moreover, the decline in the Canadian dollar and upticks in U.S. economic growth were a boon to Quebec's exports.¹³ To capitalize on this favourable economic environment, the Quebec government committed to spending \$600 million to support the ramp-up in public spending.¹⁴ Other massive investments helped support Quebec's economic growth, such as the increase of almost 30% in capital spending at Hydro-Québec in 1991.

Graph 10 – The Quebec unemployment rate was high in the 1980s and 1990s



Sources : Statistics Canada and Desjardins, Economic Studies

Graph 11 – The Bank of Canada's monetary policy has shaped the economic cycles in Quebec



Sources : Statistics Canada and Desjardins, Economic Studies

THE 2000S: BURSTING OF THE TECHNOLOGY BUBBLE AND NORTH AMERICAN RECESSION

The economic growth that began in 1993 continued until 2001, at which point a technical recession was observed. The contraction persisted over the second and third quarters of 2001 with respective rates of -1.8 and -0.05% (annualized quarterly rate). This recession was partly the consequence of the recession in the United States that began in early 2001 and the events of September 11 then worsened the situation. This U.S. recession was caused mainly by the bursting of the technology bubble that started in the United States towards the end of 1999 and reached its zenith in March 2000, subsequently spreading to the rest of the North American economy. Québec's main export product at the time, telecommunications equipment, collapsed as a result. In parallel, the province experienced a drop in housing starts. These factors were at the root of this short, minor recession in Quebec while the rest of Canada experienced only a slowing of economic activity without recession.

¹⁰⁻¹¹ Ministère des Finances du Québec, speech in 1989.

¹² Ministère des Finances du Québec, speech in 1993.

¹³ Ministère des Finances du Québec, speech in 1992.

¹⁴ The government plan released in 2013 gave a total of \$43 billion in investments; this is the actual amount spent.

Table 3 – Summary of Quebec’s economic cycles from 1981 to 2014, and background factors

<i>Periods</i>		<i>Explanation</i>
Recession	From Q4 1981 to Q3 1982	<ul style="list-style-type: none"> - Bank of Canada’s doubly restrictive monetary policy with the highest short-term interest rates in the industrial world - Economic recession in the United States - Contraction in global demand for commodities, e.g. wood, newsprint, iron ore, etc. - Sharp inflation in Canada compared to the United States - Tax increases in Quebec, between November 1981 and May 1982
Recovery	As of Q2 1983	<ul style="list-style-type: none"> - Reduction and stabilization of interest rates in Canada - “Corvée-Habitation” program introduced in 1982 to grant reduced-rate mortgage loans - “Plan Biron” to provide emergency support to businesses in 1982 - Injection of \$160 million in job creation programs
Recession	From Q1 to Q2 1989	<ul style="list-style-type: none"> - Bank of Canada increases interest rates - Economic slowdown in the United States - Federal government introduces restrictive macro-economic policy - Canada’s currency overvalued
Recovery	From Q3 1989 to Q1 1990	<ul style="list-style-type: none"> - Acceleration of investments in Quebec’s public sector - Five-year investment plan for Quebec’s roadways - \$45 million in funding to support business and business consolidations - Hydro-Québec increases its capital projects by more than \$1 billion
Recession	From Q2 1990 to Q1 1992	<ul style="list-style-type: none"> - Economic recession in the rest of Canada and in the United States - Bank of Canada sets high interest rate - Widespread slowdown in consumer spending and investment.
Recovery	As of Q2 1992	<ul style="list-style-type: none"> - \$279 million plan to ramp up investments in healthcare, education and cultural affairs as of 1991 - Restoration plan for local and province-wide roadways in late 1990 - Hydro-Québec ramps up capital projects in 1990 and 1991 - Quebec businesses offered tax relief as of 1991 - Quebec sets up a network of regional investment partnerships in 1992
Recession	From Q2 to Q3 2001	<ul style="list-style-type: none"> - Economic recession in the United States due to the technology bubble - Sharp economic downturn in the rest of Canada - Investment in new dwellings and existing building maintenance depressed
Recovery	As of Q4 2001	<ul style="list-style-type: none"> - Quebec government injects \$400 million to support consumers in late 2000 - Support measures for SMEs and private investment in Quebec - Acceleration plan sets aside \$3 billion* for public investment in Quebec - Expansive monetary policy and budget policy in the United States
Recession	From Q4 2008 to Q2 2009	<ul style="list-style-type: none"> - Financial crisis in the United States as of 2008 - Demand for Quebec exports in crisis - Price shock for commodities
Recovery	As of Q3 2009	<ul style="list-style-type: none"> - Quebec injects \$37 billion** to rehabilitate roads, hospitals, schools and municipal equipment as of 2007 - Quebec slashes more than \$1 billion in personal taxes for Quebec’s middle class in 2008 - The “Renfort” program implemented to finance Quebec’s businesses - Stimulus to boost public and private business investment - Federal government kick-starts the economic recovery - Relative stability of Canada’s financial system

* : According to the Secrétariat aux investissements publics, the investment initially provided for was \$3 billion in 2002.

** : This amount corresponds to the investment planned by the government in 2007.

The actual amount of investments carried out over the 2007–2012 period was \$43 billion.

Source: Department of Economics, Université de Sherbrooke



Subsequently, Quebec would experience another technical recession starting in the fourth quarter of 2008 and lasting until the second quarter of 2009, with respective annualized quarterly growth rates of -2.4%, -4.2% and -2.3%. This period of real GDP contraction was essentially the result of the financial crisis that began in the United States in early 2008. This recession was preceded by a fall in housing starts between the fourth quarter of 2007 and the second quarter of 2009, with lower growth rates (between -2.8 and -7.9%). The impact of this crisis was nevertheless relatively limited in Quebec. The main reason cited is massive public investment of \$43¹⁴ billion over five years launched in late 2007 by the Quebec government, via the Québec Infrastructure Plan (QIP), for the rebuilding of highways, hospitals, schools and municipal equipment.

CONCLUSION

This study by the Université de Sherbrooke Department of Economics consisted, initially, of determining a quarterly real GDP series based on the existing annual series for the period from 1948 to 1980. Subsequently, a complete analysis of the economic cycle from 1948 until the present day was conducted. We were able to estimate Quebec's quarterly real GDP for the 1948–1980 period thanks to the availability of quarterly statistics that were strongly correlated with Quebec's annual real GDP. The technique developed by ISQ (modified Ginsburgh method) was used to produce the estimates.

In considering the period from 1948–1980, the periods of recession and expansion in Quebec described in studies by Hébert (1989), Linteau et al. (1989), Raynauld (1961), and Vallières (1973) are represented in the estimated quarterly real GDP series. Like Raynauld (1961), we concluded that the economic structure of Québec was able to withstand economic shocks from the rest of Canada and the United States. This resulted in the short duration and low amplitude of the various recessions until 1960. The post-1961 period was marked by sustained economic growth in Quebec until 1973. This period was also characterized by the increased role of the Quebec government in all spheres of economic activity.

Numerous projects to create government corporations, coupled with massive investment in highway infrastructures and housing, and support for private enterprise, were launched. Post-1980, the recessions that occurred lasted longer (1981–1982 and 1990–1992). Canadian monetary policy was one of the main causes of the recessions that occurred during this period, which was characterized by very high inflation and interest rates. This study also confirms the strong influence exerted by the economic cycle of the United States on the Quebec economy. The U.S. recession of 2008–2009 had far-reaching effects in North America, and Quebec's imports are still recovering. The rest of the story is yet to come...

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