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Hydro-Quebec's Financing

In the Context of a Crowding Out Effect

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Foreword

This study analyzes the conditions of the Canadian bond market for the period of 1985 – 1995. This period was characterized by a crowding out phenomenon. First, we will consider macroeconomic factors that resulted in this situation. Secondly, we will examine the strategy of Hydro-Quebec's financing during that period. More precisely, we will elaborate on the assumption of Hydro-Quebec distinct financings for Trans-energy (HQT) as well as Hydro-Quebec Distribution (HQD), with and without a guarantee by the government of Quebec.

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If we want to understand the evolution of the financing operations of provinces and companies, we must tackle this question in a more global context. The framework of analysis must include all the financing requirements of the various interveners in the Canadian economy. These financing requirements are compared with the capacity at which the domestic economy can generate a flow of savings. When the demand for capital exceeds the domestic supply of available funds, economic agents have to turn to international financing.

L'Épargne et L' Investissement

En % du PIB nominal

Année	Investissements bruts*	Épargne brute intérieure				Épargne étrangère
		Particuliers	Entreprises	Adm. publiques	Totale	
1981	25.7%	14.6%	7.6%	0.9%	23.0%	2.7%
82	19.7%	17.1%	5.8%	-2.8%	20.0%	-0.4%
83	19.3%	14.3%	9.1%	-3.9%	19.5%	-0.2%
84	20.2%	14.1%	10.1%	-3.8%	20.4%	-0.2%
85	21.0%	13.4%	10.9%	-4.3%	20.0%	1.0%
86	20.9%	11.8%	9.9%	-3.4%	18.4%	2.5%
87	21.6%	10.6%	10.9%	-2.0%	19.5%	2.1%
88	23.4%	10.8%	10.9%	-0.9%	20.8%	2.6%
89	23.4%	11.4%	9.6%	-1.3%	19.8%	3.6%
1990	20.9%	11.7%	8.0%	-2.3%	17.3%	3.6%
91	18.8%	12.3%	7.4%	-5.0%	14.7%	4.1%
92	17.4%	12.1%	7.1%	-6.0%	13.2%	4.2%
93	17.3%	11.3%	8.4%	-5.9%	13.7%	3.6%
94	18.6%	9.3%	10.7%	-3.9%	16.1%	2.5%
95	18.6%	9.0%	11.8%	-2.6%	18.2%	0.4%
96	18.0%	7.5%	11.6%	-0.4%	18.6%	-0.7%
97	20.7%	6.0%	11.4%	2.2%	19.6%	1.1%
98	20.3%	6.1%	10.9%	2.1%	19.1%	1.2%
99	20.3%	5.3%	11.7%	3.6%	20.7%	-0.4%
2000	20.5%	5.5%	13.1%	5.2%	23.8%	-3.3%
01	19.2%	5.6%	13.1%	3.6%	22.4%	-3.2%
02	19.8%	5.4%	13.3%	3.2%	21.9%	-2.1%

* Investissements résidentiels, en construction non résidentielle, en machinerie et équipements et en stocks, moins divergence statistique entre épargne et investissements.

Source: Statistique Canada

Within the framework of the national accounts, this recourse to external lending is captured by the deficit of the balance of the current account [(1)]. The table presents a synopsis of the various elements of the national accounts that are relevant to the establishment of the background which will enable us to understand the environment in which economic agents had to make their choices during the period which interests us.

[(1)] *The trade balance is the balance of the transactions of goods, whereas the invisible balance is made up of services, revenues from investments and transfers. Thus, the balance of the current account is the sum of both balances.*

In order to understand the table, close attention should be paid to the period covering the years from 1981 to 1983. With the recession of 1981-1982, the Canadian economy saw a decline in investing activities. They went from 25,7% of the GDP in 1981 to 19,3% of the GDP in 1983. During this recession, the fall in government revenues coupled with the rise in social assistance expenditures resulted in a deterioration of public finances. This explains why public administrations, which generated savings at the beginning of the period, found themselves in deficit. As for companies, they saw their profits fall in 1982. Naturally this situation was reflected on their savings. Finally, the savings of the households, as anticipated in a period of recession, increased between 1981 and 1982. In general, one can note that the domestic savings expressed as a percentage of GDP declined by 3,5 points from 23% of the GDP in 1981 to 19,5% of the GDP in 1983. This fall was, nevertheless, of a smaller amplitude than that recorded for investments, which was of 6,4 percentage points.

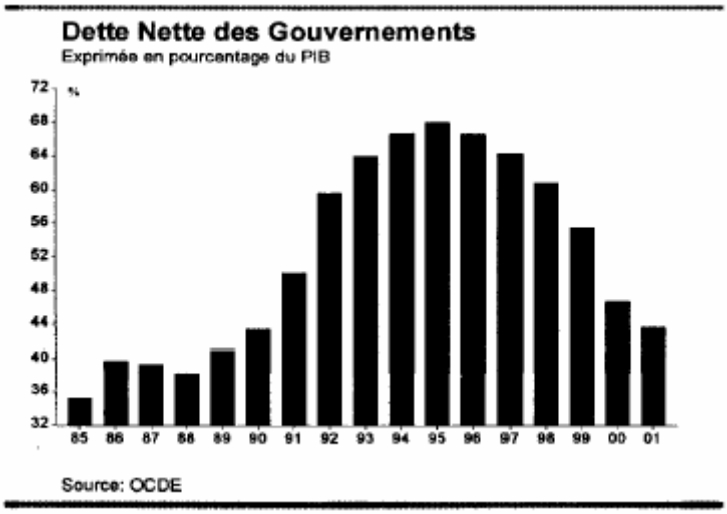
In 1983, investment accounted for 19,3% of the GDP relative to 19,5% of GDP for savings. In other terms, national savings were sufficient to fulfill domestic needs. Thus Canada was a net source of capital on the international markets. This reality was reflected by a negative entry in the column of foreign savings.

However, our objective is not to prepare a review of the last few years' economic situation, but to bring out the constraints borrowers had to face during the period under consideration. We will limit ourselves to saying that with the economic revival that started with the end of the recession, investments had a growth rate higher than that of savings. Between 1984 and 1990, investments represented on average 21,6% of GDP, while total savings were at 19,45% on average. A fall in the savings rate of individuals and the continuance of deficits in the public sector contributed to this situation. During the second half of the 80s, the Canadian economy therefore had to turn to international savings.

With the recession at the beginning of the 1990s, the situation worsened. The share of domestic savings required by governments passed from 1,3% of the GDP in 1989 to 6,0% of GDP in 1992.

Public administrations, as a whole, only started to contribute positively to gross savings in 1997. The table clearly illustrates that from 1984 until 1995, the Canadian economy had to rely substantially on international savings in order to fill in the gap between domestic investments and savings. When public administrations accumulate deficits, they capture a single form of saving, i.e. fixed revenues. Thus, the data which appear in the Table "Savings and Investments" underestimate the real impact on the domestic bond market, since private companies have an access to another form of savings, that is to say equity.

The crowding out effect and the costs of financing



In the case of public administrations, the accumulated deficits increased from 1983 to 1996. One of the consequences of the buildup of these deficits was the accumulation of government debt expressed as a percentage GDP. According to the OECD, in 1985 this percentage was 35.3%. In 1995 it reached 68.0%. Thus it recorded a rise of 32.7 points of percentage. In a study of Canada's indebtedness and its effects on long-term real interest rates, Jean-François Filion (working paper 96-14, Bank of Canada) suggested that each rise of a percentage point in the debt ratio of the public sector relative to GDP increased the Canadian long-term real interest rates [(1)] from 3.01 to 5.0 centesimal points. Therefore, the deterioration of public finances led to a rise from 100 to 163.5 centesimal points in the Canadian long-term rates between 1983 and 1996.

[(1)] *def: % real rate: nominal interest rate minus rate of inflation.*

Thus it is obvious that at the beginning of the 1990s, Canadian borrowers had to face a relative lack of domestic capitals compared to their needs. Moreover the cost of these funds in real term was also relatively high.

In this context, the crowding out effect was so significant that institutional borrowers had to turn to external financing.

During 1980s, the Eurodollar market became a significant source of capital. The markets globalization was intensified by the arrival of the global issue in 1989. Essentially, the introduction of a global bond is a transaction which is launched simultaneously in various jurisdictions, in only one currency (particularly C$) and for which the settlement can be realized using different compensation systems (CDS, DTC, Euroclear etc). The advantage to the borrowers is an access to capital through only one transaction. This reduces the overall transaction expenses (fees) and makes it possible for the borrower to obtain capital without paying really higher interest. From the point of view of the investors, they benefited from the economies of scale sought so much by them. In Canada, such transactions were carried out at the beginning of the 90s. The Canadian dollar was in demand on foreign exchange market, thanks in particular to the Bank of Canada's very restrictive monetary policy to counter the inflationary pressure generated by real estate speculation in Ontario. These issues were placed simultaneously on Asian, European, and North American markets. This development made it possible for the issuers to reach the market with larger emissions and, more importantly, ensured a better liquidity for the investors.

The provinces seized the opportunity represented by these developments within financial markets to meet their financing requirements. However, in spite of this exceptional supply of funds, provincial borrowers had to resort to savings available in American dollars in order to fulfill theirs needs. Moreover, this advantage was reserved to governmental entities and almost completely excluded the operations of corporations.

Financing operations of the provinces and corporations

"Banking and Financial Statistics", a publication of the Bank of Canada, presents in Table F4 the net volumes of the issues placed in Canada and abroad.

We gathered the data on provincial and municipal issues, presented in Table F4, under the same heading. We will use the term "provincial issues" regardless of whether we refer to provincial or municipal issues, to lighten the text.

One can note that from 1961 to 1982, the volumes of federal and provincial issues followed a similar growth rate. However, the period from 1975 to 1978 was an exception. During those 3 years, the provinces saw their level of issues grow faster than that of the federal government.

During the 1980s, the volume of the federal net issues was maintained at higher levels than that of the provinces.

The recession of 1990-1991 was devastating to the provinces' budgets. In 1991, the provinces and the municipalities placed net issues of $31,784 million compared to $30,642 million for the federal government. It was the first time since 1981 that provincial issues were larger in volume than those placed on the markets by the federal government.

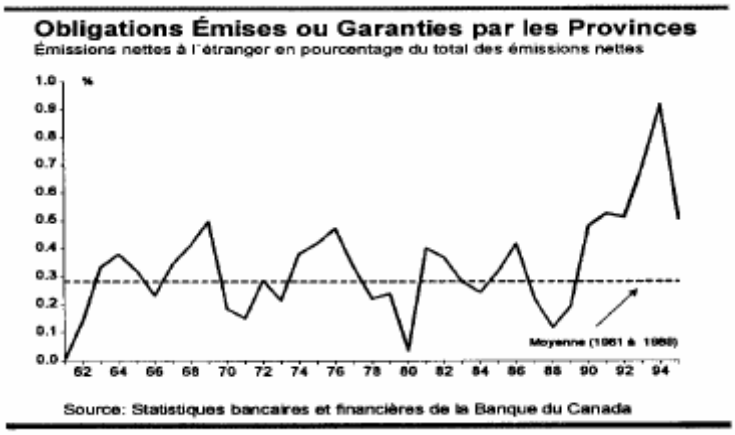
The graph also highlights the increase in the issue volume. For example, the provinces placed issues on the markets totaling $2,298 million in 1970, compared to $31,784 million in 1991.

In current dollar, this represents an increase of 1283% during the period reviewed. As for the federal government, its volume of issues increased by 1561% during the same period. It is obvious that the inflationary push of the 70s explains some of the increase in these statistics. If the volumes of issue are expressed in real terms, the rises do seem less significant. Still, they reach 239% for the provinces and municipalities, compared to 307% for the federal government.

As we have already mentioned, in 1995, the net Government debt totaled 68% of GDP. Among the principal members of the OECD, only Italy and Belgium had debt/GDP ratio higher than that of Canada. This fact made investors and rating agencies somewhat colder with Canadian issuers. Provinces as well as corporations therefore had to display opportunism and find financing wherever it was possible.

From this point of view, it is interesting to have a glance at the percentages of the issues that were placed in Canada and abroad. Table F7, from the Bank of Canada Review, provides statistics in this respect and this, for the overall volume of bonds issued or guaranteed by the provinces.

The graph presents the ratio of bond issued by provinces and placed abroad, expressed as a percentage of the net issues. The difference between the years 1990 to 1995 and what seemed to be the standard in the previous decades, is striking. On average for the period from 1961 to 1989, the provinces placed 28.14% of their bond issues abroad. For the period from1990 to 1995, this percentage was 63.08%.



With regard to Canadian corporations, they also felt the impact of the deficits of the public administrations on their financing strategy. Thus for the period 1985-95, the annual net bond issues of Canadian corporations in Canada reached 4,314$ billion, while foreign transactions totaled on average $4,593. So we can say that the Canadian market filled up 50% of the corporations' financial requirement. The data are available in Table F9 of the Bank of Canada Review.

Conclusion

Between the second half of the 80s and the first half of the 90s, Canada found itself in the situation where it had to attract international savings to fill in the difference between the demand for capital and that supplied by national savings. In large part, this demand came from the public administrations due to accumulating governments' deficits.

This situation generated a crowding out effect. The real cost of available capital was pushed up.

In this context, the provinces and corporations had to enter the foreign markets for financing at a larger extent between the years 1990 and 1995, relative to what had been the standard during the former decades.

Thus Hydro-Quebec was forced, like the majority of the borrowers in the implementation of its financing strategies, to turn to the different markets where capital was available, while the domestic costs of loans were high, in particular in real terms, as indicated in the study undertaken by the Bank of Canada. In addition, Hydro-Quebec targeted the markets that were able to provide long-term capital.

II COMPARISON OF THE PUBLIC FINANCING ALTERNATIVES OF HYDRO-QUEBEC. AMERICAN MARKET VS DOMESTIC MARKETS

Period 1985-1988

During this period, Hydro-Quebec carried out five public issues on the American market. In all cases, except for one exception, the size of these financing transactions was US$250M. Moreover, the average US$/CAN rate of exchange was 1.346.

These international transactions represented in Canadian dollars, transactions of the order of $335M. These sums were much higher than the size of the domestic transactions observed during this period, which varied from C$100M to C$125M. Moreover, the required rate of return on the loans made in Canadian dollar was approximately 125 basis points higher than that made on the American market.

In addition, a borrower who would have made the decision to increase the frequency and the volume of its domestic loans, would have caused a significant rise of the rate of return required by investors of 10 to 15 basic points. This valuation rests on return differentials observed among certain borrowers, in particular the Government of Canada. In effect, substantial differences existed between two issues comprising similar characteristics, except for its value (Appendix – 1). Moreover, the behavior of return variations was more volatile during this period compared to the current financial environment (Appendix – 2). In spite of this required increase in interest rate, it is not assured that the borrower would have achieved his financing goals. Some financing transactions fell through and although the initial return was improved substantially, the investors sometimes expressed little interest.

Period 1989 – 1993

Hydro-Quebec entered the American market 9 times during this period. The size of the issues quickly increased from US$250M to US$500M, and finally to US$1000M. The US/CAN average rate of exchange observed for this period was 1.19.

This period was characterized by a very aggressive monetary policy on the part of the Bank of Canada in its search to reduce the inflationary pressures caused by the rise in the prices of the real estate sector in Ontario.

The Canadian dollar performed well, however the variation of return between the two countries increased substantially. Indeed, the opportunity cost for Hydro-Quebec on the domestic market was approximately 177 basic points over the observed period. We compared the loan parameters of Hydro-Quebec with the conditions of the domestic market that prevailed at the time of the financing based on our data banks, updated on a daily basis. However, starting from the end of the 80s, and until 1994, the Caisse de Dépôt et Placement du Quebec participated in all financing of Quebec and Hydro-Quebec on the level of the primary market. Without this contribution, the size of public issues would have been C$200M, instead of C$300M, and would have even forced Hydro-Quebec get more financing on the American market. Not only the domestic transactions required a direct contribution of the Caisse de Depot et Placement du Quebec, but an attempt to increase the size of the issues would have ended up once more in a rise of the required return. It goes without saying that only the domestic loans of the government of Quebec and Hydro-Quebec profited from the support of Caisse de Dépôt et Placement du Quebec. No other borrower benefited from such a contribution.

Primarily, we must conclude that given the loan program of Hydro-Quebec during this period, this entity had to enter the foreign market in order to fulfill its financial needs, which was a strategy used by the vast majority of issuers.

FINANCIÈRE BANQUE NATIONALE

EMPRUNTS PUBLICS D'HYDRO-QUÉBEC MARCHÉ US

Date émission	US$	Taux	Échéance	Taux de change	Montant équivalent	Conditions domestiques CS		Montant
01/02/85	200MM	11.75%	01-Feb-12	1.326	265MM	10 ans	11.80%	100MM-125MM
						20 ans	12.25%	
13/03/86	250MM	8.75%	01-Mar-26	1.397	349MM	10 ans	9.60%	
						20 ans	9.98%	
30/04/86	250MM	8.25%	15-Apr-26	1.392	348MM	10 ans	9.35%	100MM-125MM
						20 ans	9.60%	
29/01/87	250MM	8.25%	15-Jan-26	1.338	335MM	10 ans	8.89%	
						20 ans	9.35%	125MM
26/01/88	250MM	9.75%	15-Jan-18	1.279	320MM	10 ans	9.93%	125MM
						20 ans	10.48%	
22/06/89	250MM	8.63%	15-Jun-29	1.203	301MM	10 ans	10.09%	125-150MM
						20 ans	10.15%	
07/12/89	500MM	8.50%	01-Dec-29	1.163	582MM	10 ans	10.32%	300MM-public 150MM-privé
						20 ans	10.22%	
16/04/90	500MM	9.38%	15-Apr-30	1.163	582MM	10 ans	12.67%	300MM-150MM
						20 ans	12.48%	
20/11/90	500MM	9.50%	15-Nov-30	1.159	580MM	10 ans	11.30%	300MM-150MM
						30 ans	11.34%	
12/02/91	900MM	9.40%	01-Feb-21	1.152	1037MM	10 ans	10.70%	300MM-150MM
						30 ans	11.00%	
30/01/92	1000MM	8.40%	15-Jan-22	1.174	1174MM	10 ans	9.42%	300MM
						30 ans	10.01%	
15/04/92	100MM	8.35%	15-Nov-01	1.18	118MM	10 ans	9.87%	300MM
						30 ans	10.39%	
03/02/93	1000MM	8.10%	01-Feb-13	1.26	1260MM	10 ans	9.00%	350MM
						30 ans	9.63%	
03/02/93	500MM	7.38%	01-Feb-03	1.26	630MM	10 ans	9.00%	350MM
						30 ans	9.63%	
07/07/94	1000MM	8.05%	07-Jul			10 ans	10.14%	350MM
		Option sur titre				30 ans	10.33%	
01/04/96	400MM	7.50%	01-Apr-16	1.3578	454MM	10 ans	8.09%	350MM
						20 ans	8.60%	

III ANALYSIS OF THE OPPORTUNITY COSTS OF HYDRO-QUEBEC FINANCING IN AMERICAN DOLLARS IN THE CONTEXT OF AN UNSOLICITED OFFER (REVERSE INQUIRY)

Within the framework of a transaction negotiated on the basis of an unsolicited offer, the size of a transaction is generally not a significant criterion because it is similar to the negotiated transaction of a private contract with one investor (or a very restricted number of them). Thus it is the economic aspect that becomes the key factor of a transaction.

We notice from the following table that the financial transactions executed on the basis of a private negotiated transaction, were finalized with more advantageous parameters compared to the conditions offered on the domestic market.

FINANCIÈRE BANQUE NATIONALE

Hydro-Quebec - US$ Yankee Medium Term Notes

Issue Date	Coupon	Maturity	Series	Iss Amt	Cda
10-Dec-90	9.400	11-Dec-20	217	10,000	11.11
20-Aug-91	8.690	20-Aug-01	224	8,000	10.49
20-Aug-91	8.660	20-Aug-01	226	1,000	10.49
20-Aug-91	8.685	21-Aug-01	225	3,000	10.49
20-Aug-91	8.700	21-Aug-01	223	5,500	10.49
21-Aug-91	8.580	21-Aug-01	229	5,000	10.47
21-Aug-91	8.625	22-Aug-01	227	5,000	10.48
21-Aug-91	8.590	22-Aug-01	228	15,000	10.49
17-Sep-91	8.470	17-Sep-01	234	1,000	10.22
04-Dec-91	8.170	04-Dec-01	239	4,000	9.45
05-Dec-91	8.170	02-Jan-02	240	3,000	9.44
06-Dec-91	8.620	15-Dec-11	241	40,000	9.45
10-Dec-91	8.040	20-Jul-01	243	10,000	9.56
10-Dec-91	8.050	10-Dec-01	244	8,650	9.56
11-Dec-91	8.640	15-Dec-11	248	20,000	9.54
13-Dec-91	7.930	13-Dec-01	252	4,000	9.46
17-Dec-91	7.960	17-Dec-01	254	3,000	9.47
19-Dec-91	8.680	20-Dec-21	259	50,000	10.05
15-Feb-92	9.800	15-Feb-22	260	50,000	10.01
29-Apr-92	8.360	29-Apr-02	272	5,0000	9.97
30-Apr-92	9.750	10-May-22	277	20,000	10.52
30-Apr-92	9.500	30-Apr-27	275	20,000	10.54
17-Jul-92	7.520	17-Jul-03	279	7,000	8.67
17-Jul-92	7.550	17-Jul-03	280	5,000	8.66
17-Jul-92	7.560	17-Jul-03	281	6,660	8.67
20-Jul-92	7.630	21-Jul-03	282	10,000	8.65
20-Jul-92	7.630	21-Jul-03	283	10,000	8.50
21-Jul-92	7.610	21-Jul-03	284	4,000	8.53
24-Jul-92	7.540	24-Jul-03	285	7,000	8.52
24-Jul-92	7.540	24-Jul-03	286	2,000	8.53
29-Jul-92	7.500	30-Jul-03	287	5,000	8.51
29-Jul-92	7.490	30-Jul-03	288	20,000	8.50
25-Nov-92	7.580	25-Nov-02	304	7,000	9.03
27-Nov-92	7.570	27-Nov-02	305	5,0000	9.03
30-Nov-92	7.625	02-Dec-02	306	10,000	9.06
30-Nov-92	7.680	02-Dec-02	307	3,000	9.03
02-Dec-92	7.700	02-Dec-02	308	5,000	9.15
03-Dec-92	7.695	03-Dec-02	310	5,000	9.12
08-Dec-92	7.720	10-Dec-02	311	2,000	9.03
26-Feb-93	6.980	28-Feb-05	312	42,000	8.61
26-Feb-93	6.980	28-Feb-05	313	7,000	8.64
01-Mar-93	7.000	01-Mar-05	314	12,100	8.67
01-Mar-93	6.980	01-Mar-05	315	2,450	8.66
01-Mar-93	6.970	01-Mar-05	316	10,000	8.65
01-Mar-93	6.940	01-Mar-05	317	10,000	8.65
01-Mar-93	6.870	01-Mar-05	318	4,000	8.65
02-Mar-93	6.720	01-Mar-93	319	3,000	8.62
03-Mar-93	6.770	01-Mar-93	320	2,000	8.61
11-Mar-93	6.620	11-Mar-93	321	3,000	8.49
16-Mar-93	6.720	16-Mar-93	322	9,500	8.53
23-Mar-93	7.000	23-Mar-93	323	10,500	8.41
23-Mar-93	7.010	23-Mar-93	324	3,500	8.41
23-Mar-93	7.010	23-Mar-93	325	1,000	8.41
23-Mar-93	7.020	23-Mar-93	326	25,000	8.41
01-Apr-93	6.850	01-Apr-05	327	5,000	8.33
01-Apr-93	6.820	01-Apr-05	328	5,000	8.31
01-Apr-93	6.860	01-Apr-06	329	25,000	8.36
05-Apr-93	6.990	05-Apr-06	330	5,000	8.36
05-Apr-93	6.940	05-Apr-05	331	3,000	8.42
07-Apr-93	6.920	07-Apr-05	332	2,000	8.67
12-Apr-93	7.010	12-Apr-05	333	5,000	8.39
12-Apr-93	7.000	12-Apr-06	334	10,000	8.39
12-Apr-93	7.000	10-May-05	335	3,000	8.39
14-Jul-93	6.530	14-Jul-03	336	10,000	8.02
14-Jul-93	6.350	15-Jan-02	338	20,000	8.02
14-Jul-93	6.370	15-Jan-02	337	27,950	8.02
15-Jul-93	6.540	15-Jul-03	342	25,000	8.03
15-Jul-93	6.360	15-Jan-02	340	20,000	8.03
15-Jul-93	6.375	15-Jan-02	339	15,000	8.03
15-Jul-93	6.380	15-Jan-02	341	15,000	8.03
16-Jul-93	6.490	16-Jul-03	343	5,600	8.07
16-Jul-93	6.490	16-Jul-03	344	11,500	8.07
16-Jul-93	6.500	16-Jul-03	345	5,400	8.07
19-Jul-93	6.480	21-Jul-03	346	18,000	8.04
23-Feb-94	6.520	23-Feb-06	347	50,000	7.74
23-Feb-94	6.520	23-Feb-06	348	20,000	7.74
24-Feb-94	6.490	24-Feb-06	349	25,000	7.74
24-Feb-94	6.490	24-Feb-06	350	5,000	7.74
24-Feb-94	6.510	24-Feb-06	354	1,000	7.74
05-Oct-94	7.200	05-Oct-09	372	25,000	9.79
18-Nov-94	7.910	18-Nov-24	374	25,000	10.12
28-Mar-95	7.400	28-Mar-25	377	55,000	9.57
20-Apr-95	7.580	20-Apr-10	378	15,000	9.37
03-Jan-96	6.270	03-Jan-26	393	50,000	8.30
14-Feb-97	7.125	14-Feb-12	404	10,000	6.72
10-Jun-97	7.010	10-Jun-02	409	300,000	5.93
15-Oct-97	6.750	15-Oct-07	410	80,000	6.04
13-Jul-98	6.625	13-Jul-28	413	60,000	6.03

IV - (I) FINANCING EXPERIENCE OF CROWN CORPORATIONS IN THEIR PROPER NAME: THE CANADA HOUSING TRUST CASE

The Federal Government authorized the crown companies to get financing on the domestic market in their proper name starting at the end of 1993. At that time, the crowding out effect was starting to diminish on the one hand, and on the other hand, the profile of the financial requirements for these companies was different from that of the Federal Government.

The bonds of the crown companies constitute an obligation of the Government of Canada and thus are "covered" by the consolidated revenue funds of Her Majesty. The nature of the quality of credit is different from that of an issuer whose debt is guaranteed irrevocably by the provincial state. Thus the debt of Hydro-Quebec is guaranteed by Quebec. As for the treatment of crown corporations, their bonds are of the same nature as the bonds of the Federal Government.

However, in spite of the very high quality of the credit, to this day all the financing of these companies has been carried out when they offered a return premium compared to the securities issued directly by the federal government. The scale effect and the perception of the liquidity explain this phenomenon. Indeed, the targeted level of outstanding securities of the Federal Government is established at around 10 billion. On the other hand, the outstanding level of the Crown's issues varies from 1 to 2 billion.

However, recently the company "Canada Housing Trust" substantially increased the size of its issues – from 2 billion to 5 billion. In spite of this remarkable evolution, the securities of this crown corporation always sell at a discount compared to the securities of the Federal Government. This phenomenon always remains present although the crown corporations borrow on relatively shorter terms, from 3 to 7 years.

From this point of view, debt securities issued by HQ TransÉnergie or HQ Distribution in their respective name, with the beneficiary guarantee of Quebec would certainly have been traded at returns higher than those of Hydro-Quebec. In addition, since the financings of HQT and

HQD required long-term capital, an even more generous premium would have been necessary.

IV – (II) FINANCING EXPERIENCE OF QUEBEC'S STATE CORPORATIONS IN THEIR PROPER NAME

These experiences were not successful has testifies their very limited number. The scale effect is very significant to the success of an issue because it ensures a perception of a greater liquidity by the investors. They paid and still pay a certain premium in order to acquire more liquid securities. This phenomenon has had effects on the way the Federal Government as well as the provinces operate on the primary market. Thus, in order to ensure greater liquidity, these borrowers chose to increase the existing issues instead of creating new securities. This practice has been applied from the middle of the 80s until now.

This complicated the task of certain provincial Governments, which aimed for a strategy allowing state corporations to have access to capital in their proper name.

Although investors enjoyed the same privileges comprised by the current provincial bonds (unconditional guarantee of the capital and interest), these issues by state corporations would not benefit from the scale effects. In this respect, there was only one attempt in Quebec (public market). Indeed, the Société Immobilière du Quebec (SIQ) completed a transaction on the primary market of C$150M in 1989, with a maturity of 25 years. This transaction was a disaster. The Caisse de Dépôt et Placement du Quebec as well as the Fond d'amortissement du Quebec had to intervene to support the issue. In spite of the initial allowance of a premium of 18 basic points compared to the securities of the Government of Quebec, the transaction was a failure, and no other issue was launched thereafter. Financing for HQD and HQT (autonomous, with or without guarantee) would without any doubt have the same fate for the same reasons. The concept of liquidity is fundamental in the investors' perspective.

In addition, the government of Quebec noting the inefficiency of this initiative, instituted the financing fund (fonds de financement) at the beginning of the 90s in order to offer a more appropriate source of financing to the various state corporations.

FINANCIÈRE BANQUE NATIONALE						
Société immobilière du Québec						
					Rendement Québe	**Écart**
16/06/89	10.50%	16-Jun-14	150MM	10 ans	10.24%	
				20 ans	10.32%	+.18
				30 ans	10.35%	
Les autres transactions des sociétés d'États ont été conclues de gré à gré et comportaient des caractéristiques particulières, notamment des options de rachat avant l'échéance.						

Note: The other transactions by State Corporations have been concluded by private negotiations and included particular characteristics, including repurchase agreements before maturity.

V ANALYSIS OF THE CORPORATE BOND MARKET IN CANADA.

During the period 85-95, net corporate issues reached an average of C$4,314 billions a year on the domestic market. These companies obtained a credit rating of A- to AAA. The corporations with a lower rating had only very rarely access to the public capital market. Indeed, at that time, the portfolio investment policy of the majority of institutional investors excluded the acquisition of securities with a credit rating lower than A -. The size of the issues varied from C$100M to C$200M.

We understand that the annual financial needs of HQT and HQD rose respectively to C$850 million and C$525 million. Taking into account the capacity of the Canadian bond market, TransÉnergie would not have been able to adequately fulfill its requirements. They accounted for 20% of the total domestic corporate market. Moreover, with a theoretical capitalization of 30% for HQT and 35% for HQD, the respective credit rating of HQT and HQD, would be, in the best of worlds, BBB+. Under these conditions, it is unthinkable to claim that HQT or HQD would have achieved their goals of financing in Canada, on their respective behalf and without the guarantee of the government of Quebec under normal conditions. In addition, taking into account the nature of the assets of HQT and HQD, the financial requirements of these companies mostly required long-term debts. Definitively, we believe that neither HQT, nor HQD would have achieved their respective goals by concentrating their financing activities solely on the domestic market.

Moreover, it should be added that HQT and HQD, on their respective behalf and without the explicit guarantee from the Government of Quebec, should have dealt with a more complex legal documentation and at the same time would have lost a certain flexibility in the implementation of their financial strategy.

VI – CASE STUDY: TRANS CANADA PIPELINES

The corporation Trans Canada Pipelines (TCP) was one of the companies which mobilized the most capital by the way of the bond market. Its credit rating evolved from A to A weak.

Indeed over the period 1990-1995, the company issued debt in the amount of 2 billion on the Canadian market. There were 37 financing transactions (average of C$53.8M). Moreover, approximately 40% of the amount issued by the company comprised securities with maturities longer than 20 years. However, during the same period, the company had to issue securities regularly on the American market. Indeed, the company borrowed US$1.650B through 8 issues (average of 206.25M). On the other hand, the corporation was able to obtain long-term financing (more than 20 years) for 60% of the prescribed sums.

The borrowing profile of TCP is compatible with all the data which we possess and confirm our opinion on the effect that the company could not avoid the American market not only because of the size of the borrowed capital but also the structure of the debts (the availability of the funds for the required maturities).

VII – CONCLUSION

We clearly showed that the significant deficits of public administrations had a significant effect on the financing strategies of Canadian borrowers during the observed period.

The availability of capital was insufficient to fill the financial requirements of Canadian issuers. These had to enter the international markets. In addition, this imbalance between supply and demand of funds resulted in a pressure that raised real interest rates.

In this context, and in the perspective of a series of debt issues for HQT and HQD, with the guarantee of Quebec, these companies would not have profited from the scale effect and consequently should have offered to their respective investors a return premium sufficient to satisfy them.

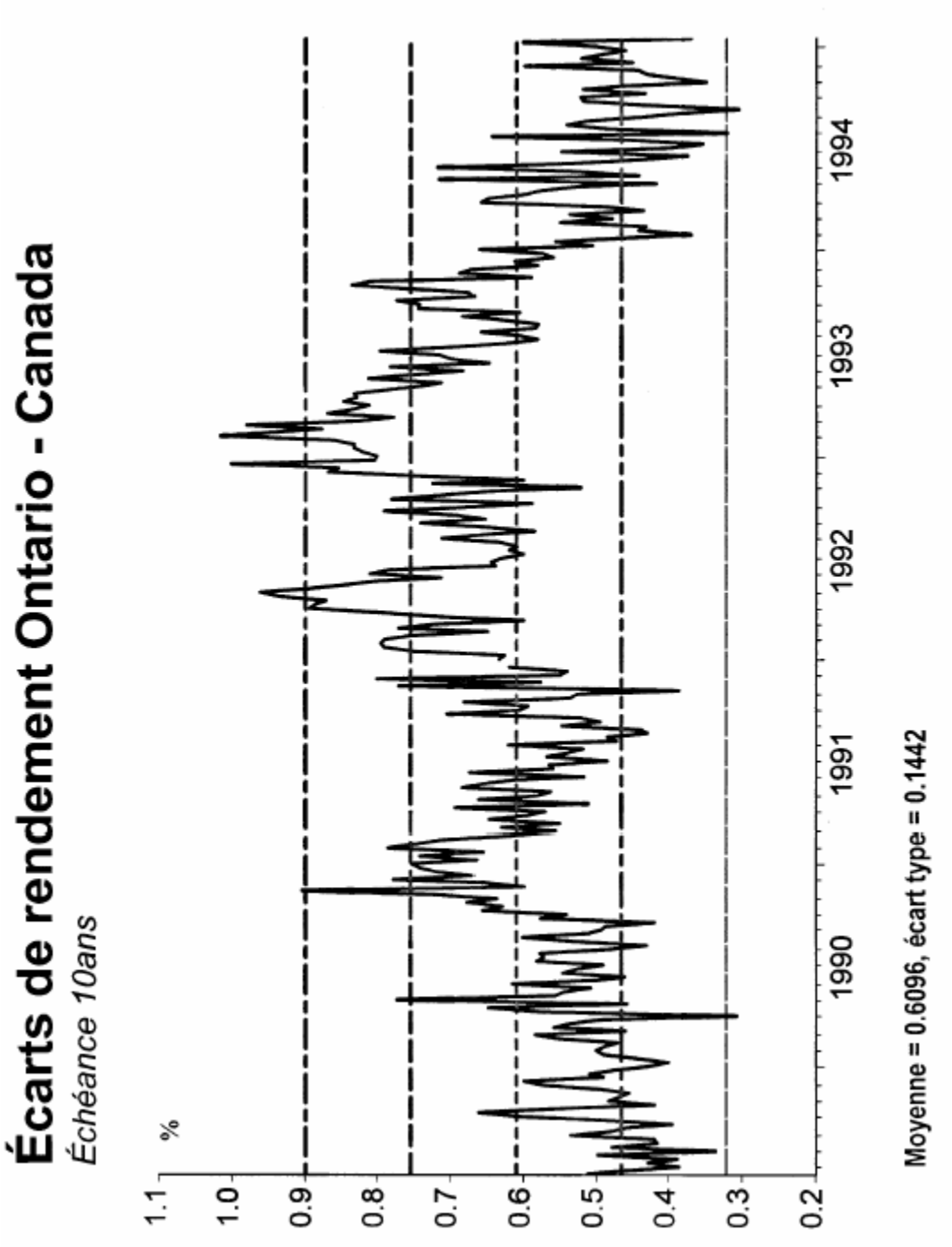
In addition, the financing strategies of HQT and HQD, without the Government guarantee, would have had an even more significant negative impact on theirs costs of financing. Thus, not only the rate of return required by the investors would have been higher, but each company would not have had the same flexibility with respect to laying out the issues' maturities. The access to world issues, even made out in Canadian dollar, would not have been a possible alternative, without leaving behind the matter of raised legal expenses.

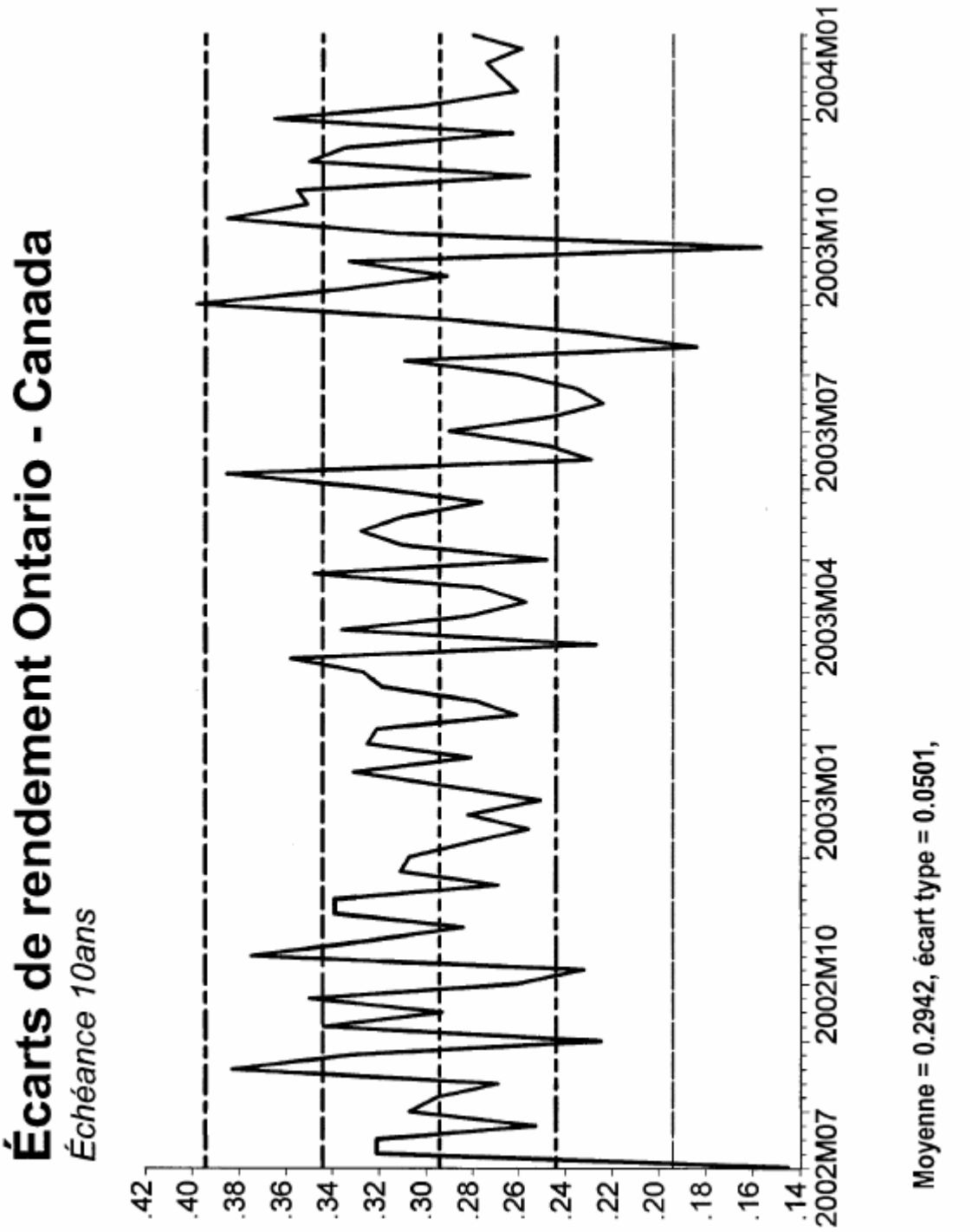
APPENDIX - 1

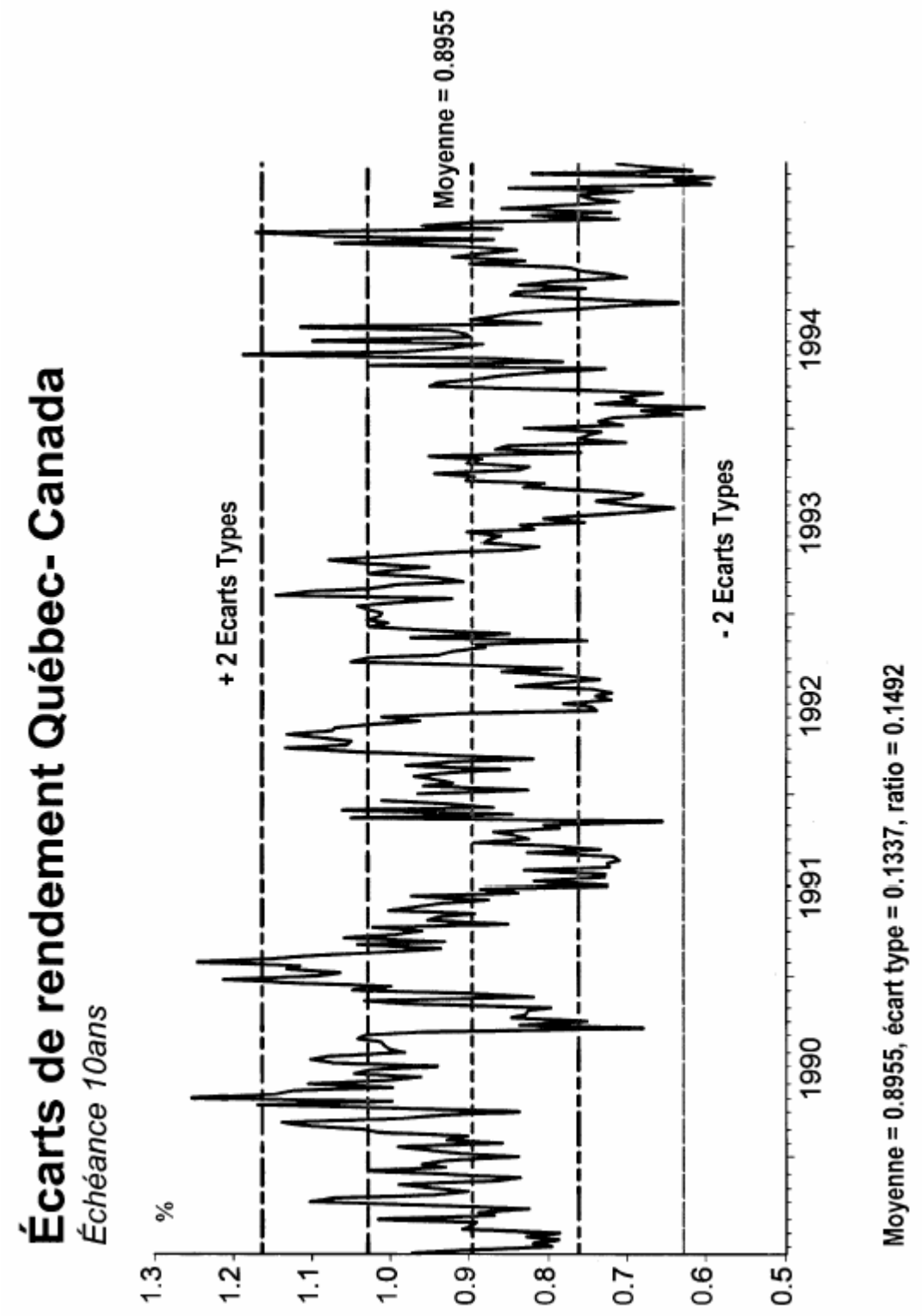
LÉVESQUE BEAUBIEN GEOFFRION INC.
CLOSING MONTRÉAL 3 P.M. CANADA DATE: 03-31-1992

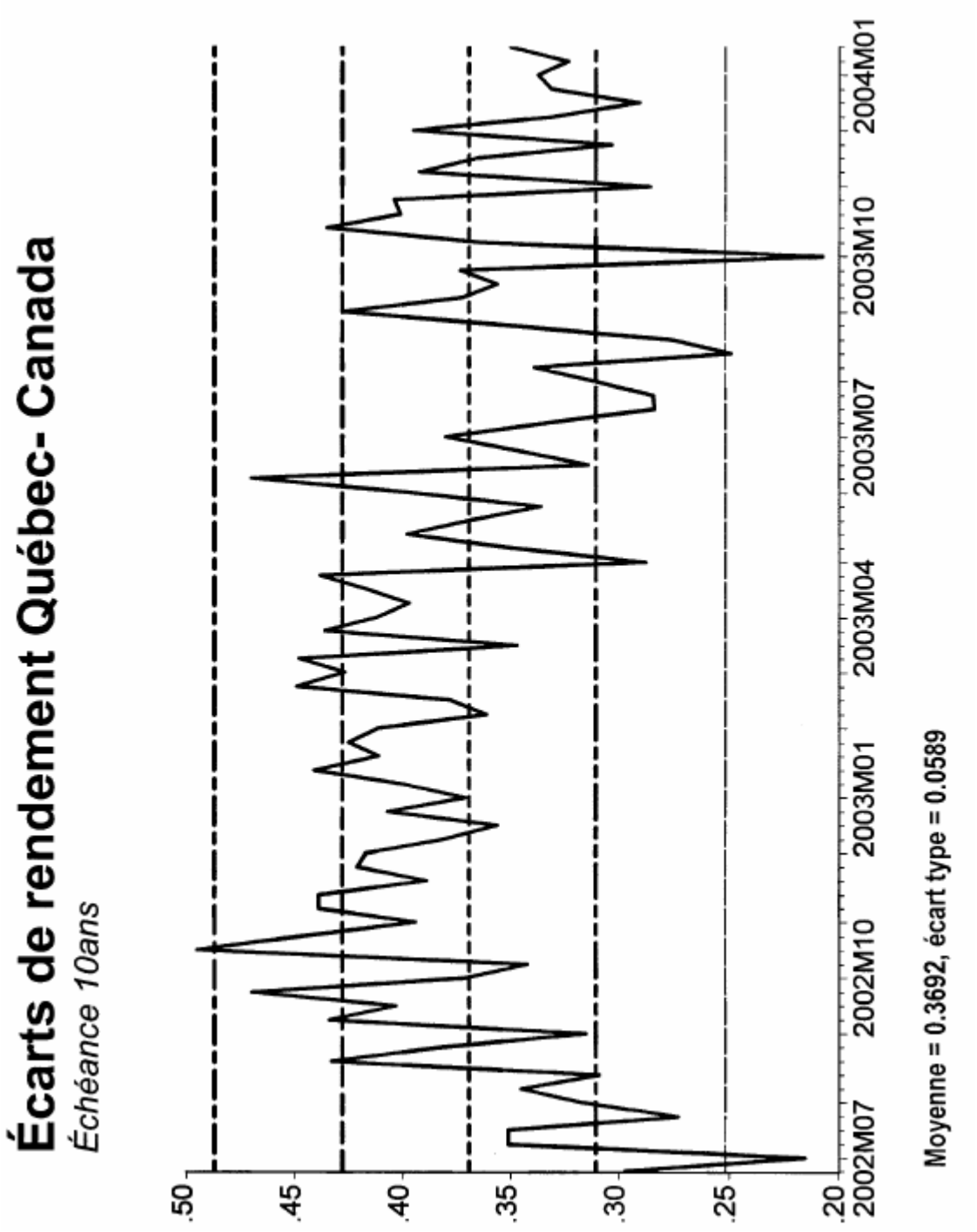
1850	CDA	11.250%	01FEB93	102.650	7.868	
1300	CDA	9.250%	05MAR93	101.250	7.808	
925	CDA	10.250%	01APR93	102.250	7.860	
1725	CDA	10.750%	01MAY93	102.850	7.930	
1300	CDA	9.000%	06JUN93	101.050	8.029	
1625	CDA	8.750%	01JUL93	100.800	8.045	
2450	CDA	9.500%	01SEP93	101.750	8.153	
1400	CDA	8.750%	06SEP93	100.750	8.174	
2125	CDA	11.750%	15OCT93	104.800	8.349	
1400	CDA	7.000%	06DEC93	98.250	8.126	
2275	CDA	10.250%	01FEB94	103.100	8.376	
800	CDA	8.250%	01MAR94	99.800	8.358	
1000	CDA	7.500%	06MAR94	98.950	8.094	
700	CDA	12.000%	01MAR94	106.000	8.524	
1025	CDA	13.000%	01APR94	107.950	8.584	
1200	CDA	13.750%	15MAY94	109.600	8.677	
676	CDA	9.500%	15JUN94	101.950	8.498	
400	CDA	7.750%	15JUL94	98.650	8.402	
2525	CDA	9.250%	01OCT94	101.850	8.413	
475	CDA	12.750%	01OCT94	108.850	8.729	
1700	CDA	9.250%	15DEC94	101.850	8.460	
2800	CDA	10.000%	01MAR95	103.500	8.610	•
925	CDA	11.750%	01MAR95	107.300	8.845	•
1350	CDA	11.250%	01APR95	106.350	8.783	
3100	CDA	10.500%	01JUN95	104.750	8.734	
3050	CDA	10.750%	15DEC95	105.950	8.817	
2600	CDA	10.250%	01MAR96	104.850	8.750	
3300	CDA	9.250%	01MAY96	101.950	8.667	
2175	CDA	8.750%	01JUN96	100.300	8.657	
2325	CDA	9.250%	01OCT96	102.100	8.674	
3400	CDA	8.250%	01MAR97	98.750	8.564	•
936	CDA	9.250%	15MAY97	102.250	8.691	•
1200	CDA	7.500%	01JUL97	95.750	8.519	•
2725	CDA	9.750%	01OCT97	104.250	8.757	
2225	CDA	10.750%	15MAR98	108.300	8.917	
3100	CDA	9.500%	01OCT98	103.350	8.810	
2275	CDA	10.250%	01DEC98	106.700	8.889	
2275	CDA	10.250%	01DEC98	106.700	8.889	
2275	CDA	10.250%	01DEC98	106.700	8.889	
2275	CDA	10.250%	01DEC98	106.700	8.889	

APPENDIX - 2


Écarts de rendement Ontario - Canada
Échéance 10ans
%
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
1990
1991
1992
1993
1994
Moyenne = 0.6096, écart type = 0.1442


Écarts de rendement Ontario - Canada
Échéance 10ans
.42
.40
.38
.36
.34
.32
.30
.28
.26
.24
.22
.20
.18
.16
.14
2002M07
2002M10
2003M01
2003M04
2003M07
2003M10
2004M01
Moyenne = 0.2942, écart type = 0.0501,


Écarts de rendement Québec- Canada
Échéance 10ans
%
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
1990
1991
1992
1993
1994
Moyenne = 0.8955
+ 2 Ecarts Types
- 2 Ecarts Types
Moyenne = 0.8955, écart type = 0.1337, ratio = 0.1492


Écarts de rendement Québec- Canada
Échéance 10ans
.50
.45
.40
.35
.30
.25
.20
2002M07
2002M10
2003M01
2003M04
2003M07
2003M10
2004M01
Moyenne = 0.3692, écart type = 0.0589