

From the Canadian Experiment of the 1990's: A New Consensus on Monetary Policy

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With the end of the Bretton Woods fixed exchange rate system and the increasing inflation and monetary problems after 1973, monetary policy became self-governing. Monetarist regulation was adopted in place of the Keynesian framework at a time when the only internal objective was the control of inflation. Floating exchange rates, however, stabilized neither the exchange rate nor the balance of payments. External constraints on monetary policy had always existed.

The globalization of trade led to the development of Optimal Currency Areas according to Mundell's definition. However, there was discord between dominating countries, who are free to choose internal objectives in monetary

Received October 2002; accepted June 2003.

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policy, and dominated countries, who are forced to seek external objectives. Strong regional economic integration like North American Free Trade Agreement (NAFTA) and the European Monetary Union made the choice of an exchange system even more difficult. The autonomy of national monetary policies was questioned under Mundell's triangle of incompatibility.

At the end of the 1980s, the instability of monetary aggregates and the rising importance of financial markets with recurring crises accompanied with a confident liberal ideology led to the gradual adoption of a "New Consensus" (NC) on monetary policy: the inflation targeting. Numerous countries adopted a unique and direct objective of inflation control and abandoned other intermediate targets such as monetary aggregates. New Zealand was the first country to do this in 1989 followed by Canada in 1991, the United Kingdom in 1992, Finland and Sweden in 1993 and Australia and Spain in 1994.

Consequently, since the early 1990s, monetary policy has changed extensively from money targeting to inflation targeting. Historical, institutional and theoretical reasons have justified these evolutions. Change was limited for countries that dominated a particular area of currency like the United States, Germany and Japan while these changes were much more widespread for dominated countries such as Mexico, Canada or France. While the new Classical and Keynesian theoretical approaches are well known, the evolution of the institutional frame is much less understood. An attempt to clarify the following questions will be made: What are the differences between the New Consensus and the Keynesian or Monetarist system that preceded it? What part do financial markets play in the determination of present monetary policy?

The Canadian experiment of the last ten years will be analyzed. This country was a precursor to the New Consensus in the 1990's and its close relationship with the dollar is particularly interesting to study. The conventions of the Central Bank of Canada (BofC) (response function, backgrounders and communications) will be examined in order to understand its behavior. The objective is not to judge the efficiency of its monetary policy but to clarify its definition, its foundations and its innovations.

Initially, there will be an examination of the Central Bank of Canada and its monetary policy. Subsequently, an attempt will be made to define the New Consensus by comparing it with those that preceded it.

CANADA IN THE 1990S: AN ATTEMPT AT AUTONOMY FOR MONETARY POLICY

In the 1990s, Canada and France were monetarily “dominated” countries in their regional area. But, contrary to France, who chose fixed exchange rates and the renunciation of autonomy in its monetary policy to allow for the construction of the Euro, Canada preferred floating exchange rates to maintain a relative autonomy in its monetary policy. This obliged its Central Bank to innovate after 1991.

Target, Strategy, Instrument and Transmission of Monetary Policy

With a very open economy (85% of its foreign trade being with the United States), Canada chose floating exchange rates¹ to preserve autonomy in its monetary policy. As Mundell showed, in a globalized economy where there is a free flow of capital, it is impossible to pursue an external, exchange rate objective along with the internal objectives of inflation control and economic growth. Presently, the only available instrument for central banks is the interest rate. The triangle of incompatibility is then strengthened.

The important difference in the production structure between Canada and the United States justifies floating exchange rates. This difference explains and requires separated evolutions for each currency. According to BofC, the monetary policy follows these seven stages:

¹ There is an existing tradition in Canada: only developed countries do not stay in the system of Bretton Woods' fixed exchange rate. According to Gordon Thiessen, BW's release in September 1950, is already partially inspired by the ideas of Milton Friedman. Only the period of the triumphant Keynesianism leads it to choose fixed exchange rates (1962-1970). On this subject, see Bernard Élie, 1993, pp. 49-66.

1. In 1991, Canada was one of the first countries², which adopted an *inflation-control target*. The target range currently extends from 1% to 3% (established for 5 years 2001-2006). The secondary objective is to minimize the output gap which is measured by the difference between the economy's actual output and the level of production it can achieve with existing labor, capital, and technology without putting sustained upward pressure on inflation. It is a hierarchical mandate. An inflation-control target aims at the *expected inflation* and attempts to influence the anticipations of economic agents.

At our fixed announcement dates, we are not trying to affect today's inflation. What we are aiming at is future inflation and acting preemptively to achieve a balance in supply and demand going forward. (Dodge, 2002.)

Inflation target is defined by the Central Bank. Measuring inflation allows for the efficiency of monetary policy to be calculated directly. The global Consumer Price Index (CPI) serves as a benchmark for comparison. To assess the trend of inflation, the BofC uses the "core CPI", which excludes the eight most volatile components (fruit, vegetables, gasoline, fuel oil, natural gas, mortgage interest, intercity transportation, and tobacco products) as well as the effects of changes in indirect taxes on the remaining components.

2. The Central Bank anticipates the actual output and the potential output to measure the *expected output gap*, as in Taylor's policy rule. The output gap is then referred to as spare capacity or excess capacity. To determine the level of potential output, the function combines with the concept of Nairu and so accepts the Monetarist conception. However, both the level of potential output and the output gap are estimated numbers and, consequently, there is a major uncertainty in their calculation. As a result, the BofC now weights more heavily a range of indicators in order to assess the degree of pressure on the economy's production capacity (movements in inflation relative to expectations, the growth of money and credit, wage pressures, and evidence of supply bottlenecks). The Central

² In 1991, the target midpoint fixed by the Bank of Canada was 3% for the end of 1992, then 2% (target range from 1 to 3%) for the end of 1995, renewed twice for three years, before being fixed for five years, 2001-2006.

Bank claims to be equally concerned with both the negative and positive output gaps. It is a symmetric strategy.

3. The BofC calculates a path of inflation over two years for monetary conditions which are the combined effects of the level of short-term interest rates and the exchange rate for the Canadian dollar. To keep inflation within the range of 1%-3%, monetary policy needs to aim at the 2% target midpoint over the six to eight quarters that are required for monetary policy to have most of its effect. The *Monetary Conditions Index*³ (MCI) is at the center of the device and of the response-function of the Central Bank (diagram 1).⁴ The index, however, is built on nominal interest rates and has no theoretical meaning for the New Keynesians who use real interest rates. According to Marc Lavoie, the MCI is the residue of the previous periods when the Bank will have looked for simple alternatives in M1's growth rate.

The MCI is meant to provide a measure of the degree of ease or tightness in monetary conditions relative to a base period. The MCI captures the effect that monetary policy has on the economy both through interest rates and the exchange rate. Following empirical calculations, the interest rate receives a weight of 1, and the exchange rate receives a weight of 1/3. These represent the relative effect that changes in short-term interest rates and the exchange rate have on output.

The MCI formula is:

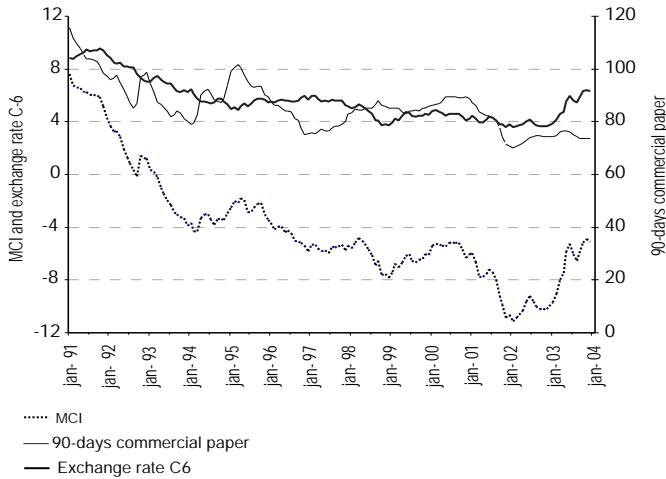
$$MCI = [(CP90 - 7.9) + (100/3)] [(\ln(C6) - \ln(91.33))]$$

With: CP90 = Canadian 90-day commercial paper rate; C6 = Canadian dollar index.

³ Pierre Duguay conceived the MCI. However, it is necessary to say that with the replacement of Gordon Thiessen by David Dodge in 2001, the importance given to the MCI is less, though it appears to us that its use is unquestioned. Gordon Thiessen was the governor of the Bank of Canada from 1994 till 2001. Prior to him, it was John Crow (1987-1994). If John Crow introduced the new consensus by inflation targeting, it was Gordon Thiessen who theorized and implemented it after 1995.

⁴ The author built all the diagrams from the data available on the BofC web site, managed by Eades, <webmaster@bank-banque-canada.ca> and the Bank of France web site.

DIAGRAM 1
Monetary Conditions Index
 (in January 1987, the MCI = 0)



It is an index of the trade-weighted exchange value of the Canadian dollar against six major foreign currencies (us\$, Euro, Yen, £, Swiss franc, Swedish krona) (1992 = 100).⁵ The weights are calculated using the trade flows between Canada and the countries in the index to measure the relative importance of their effects on global demand. The MCI is conventionally calculated to be equal to 0 in January 1987.

Evidently, the compounding of the monetary conditions is not mastered by the Central Bank and some combinations are preferable to others. It's better to have low interest rates and a high exchange rate than the inverse.

This allows for the Central Bank of Canada to have an autonomous monetary policy thanks to floating exchange rates while integrating the exchange rate channel of transmission. This is important for such an open country because the value of the us dollar strongly influences the demand of goods and services.

⁵ $C6=100[1/((us^{**0.8584}) (Japan^{**0.0527}) (UK^{**0.0217}) (Sweden^{**0.0035}) (Switzerland^{**0.0043}) (EMU^{**0.0594}))]/1.046294$; ** means exponent.

4. The Bank of Canada determines the *Target for the Overnight Rate*⁶ i_j (the BofC's official rate or key policy rate). There are only eight specified dates during the year when the bank may announce a change to the bank rate. Monetary policy is implemented in a regime with zero reserve requirements.⁷ The reserve requirements are replaced by financial penalties when the amount of the bank's reserves moves away from zero.

In a floating exchange system, policy transmission is shaped by the medium and long-term interest rates channel [i_{MT} , i_{LT}] and the exchange rate channel e which are in the MCI formula. The more that the increase of the short rate seems established, the more it echoes in the long rates. The changes in the long rates are a function of the evolution foreseen in the real rates, risk premium and the anticipated inflation rate. The changes in the exchange rate depend on the expectations of the market concerning national policies and on external effects such as American policies as well as the evolution of prices on raw materials or the relative cyclical position. Interest rate changes can take from 18 to 24 months to work their way through the economy and have a significant effect on inflation. A dynamic process of adjustment takes place in the economy in the following stages:

$$\Delta i_j \Rightarrow \Delta i_{MT}, i_{LT} \text{ and } e \Rightarrow \Delta \text{MCI} \Rightarrow \Delta \text{Spending and Sales} \Rightarrow \Delta \text{Production, Employment} \Rightarrow \Delta \text{Price}$$

⁶ The Target for the Overnight Rate is the midpoint of the Bank's operating band for overnight financing. The official rate was formerly the bank rate, which is the upper limit of the operating band.

The Bank of Canada operates a system to make sure trading in the overnight market stays within its 'operating band.' This band, which is one-half of a percentage point wide, always has the Overnight Rate Target at its centre. For example, if the operating band is 4.25 to 4.75 per cent, the Overnight Rate Target would be 4.50 per cent.

Since the institutions know that the Bank of Canada will always lend money at a rate equal to the top of the band, and pay interest on deposits at the bottom, it makes no sense for the institutions to trade overnight funds at rates outside the band. The Bank of Canada can also intervene in the overnight market at the target rate, if the market rate is moving away from the Overnight Rate Target. (Bank of Canada, July 2001.)

⁷ On this subject, see (Clinton, 1997). Clinton and Howard examine the effect of eliminating reserve requirements on the linkages between the one-day interest rate, over which the bank has the most influence, and other rates of interest.

Evidently, the Central Bank does not try to react to the daily variations of the exchange rate. To determine the right moment for its intervention, the Central Bank should take into account the situation of financial markets. It should distrust extrapolative anticipations on the exchange market and thus, eliminate the necessity of systematically explaining the current situation and monetary policy. The bank's actions should not be misinterpreted.

Because of the lag, monetary policy must focus on the future, rather than the present. By always acting in a forward-looking manner, the Bank of Canada aims to forestall future inflation and keep it within its inflation-control target range. (BoC, 2001.)

5. It supposes that there are no supplementary shocks. The trajectory corresponds to that projected for the given monetary conditions.
6. Other scenarios, including risk scenarios, are modeled to see how the Monetary Conditions would react.

I would note that we are very aware of the uncertainty surrounding both the projection and the transmission mechanism that links our actions to demand and inflation. (Thiessen, 1998, p. 33.)

7. Monetary conditions must be constantly re-evaluated and adjusted to respond to shocks of one sort or another ensuring that the economy remains on track for the inflation-control objective.

Stages [2] to [7] form an iterative process.

Uncertainty, Transparency and Accountability: General Philosophy of the Canadian Monetary Policy

By referring to Nairu, Canadian monetary policy remains inspired by Monetarism. Nonetheless, in practice it is now radically removed from it. At the start of the 1980's, the instability of the relationship between money supply and inflation led to the abandoning of this simplistic quantitative correlation. As a BoC director remarked at the time: "We did not abandon M1, it is M1 who abandoned us". Consequently, the fundamental concepts of the new monetary policy became the importance of a non-probabilistic uncertainty, the complexity of anticipations, transparency, communication and credibility and games theory. *Uncertainty* was the major obstacle put

forward by the directors of the BofC for the definition and conduction of its monetary policy. The optimism of Monetarism for inflation control disappeared completely. As David Laidler (2001, p.ii) asserts:

The academic economist can very easily, and very often does, neglect such uncertainty, but the economist in a Central Bank does not have that luxury.

Two kinds of uncertainty can be seen. The first kind includes unexpected events, external and internal shocks and errors in forecasting which can set monetary policy off in a bad trajectory. The second kind arises when the private sector does not clearly understand the long-term objectives of monetary policy. Gordon Thiessen warns that these two uncertainties can combine when markets do not know how to interpret the reaction of monetary authorities to a shock. *A different perception of the situation between the Central Bank and markets creates problems and increases the uncertainty.* When markets are “nervous and volatile”, the Bank of Canada prefers to stabilize them by targeting exchange rate stabilization before returning towards the internal objectives of inflation and growth.

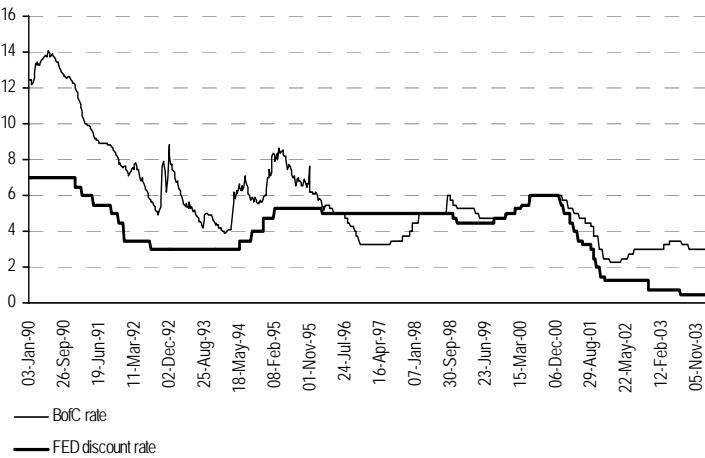
The Central Bank can take action concerning uncertainty. According to Thiessen (1995, 2001b), the Central Bank essentially has transparency, information and credibility. To reduce uncertainty, Thiessen gives six suggestions:

1. Keeping inflation low and stable is the best way to keep the economy on the smoothest possible track for long lasting growth and job creation⁸
2. An explicit inflation-control target should be declared because it gradually influences the anticipations of economic agents
3. In the case of Canada, with a floating exchange rate, it is necessary to define an intermediate objective such as the MCI, which takes into account the exchange rate. Thiessen insists on the fact that to change the discount rate is not to change monetary policy, but rather an adaptation to current and anticipated monetary conditions and adds to the credibility of the action

⁸ On the price stability as guarantee of the productivity, see, for a critical point of view (Lavoie and Seccareccia, 1996).

4. To provide more transparency in its actions, there has been a target range of 50 basis points for the one-day rate. The BofC has intervened actively through its operations in the money market to hold the one-day rate within that range and make the limits of that range clear to the market
5. This can reduce the uncertainty of the public and financial markets by clarifying the longer-term goals of monetary policy, the shorter-term operational targets at which it is aiming its policy actions and its own interpretation of economic developments. The Central Bank should openly reveal all this information
6. Contrary to Monetarism, surprises in monetary policy should be eliminated. Thus, the high short-term volatility of the discount rate, essential in the monetarist method, would also disappear. To lessen speculation, bank rates are maintained at the required level for as long as possible. The graph of the discount rate takes a characteristic stairway pattern. Canadian discount rates show this pattern after March of 1996, long after the United States (diagram 2)

DIAGRAM 2
Discount Rates of the Fed and of the Bank of Canada



For this purpose, the BofC introduced in 2000 a system of eight “fixed” or pre-specified dates each year for announcing any changes to the official

interest rate it uses to implement monetary policy. In introducing the new approach, the BofC joined many other central banks, including the Fed, the Reserve Bank of New Zealand (also 8 specified announcement dates each year) or the Bank of England (12 fixed dates a year). The key advantages and benefits of the new approach include:

- ◆ It reduces uncertainty in financial markets. With announcement dates specified in advance, and with a press release, fixed dates allow market participants to plan and operate more efficiently
- ◆ It enhances focus on the Canadian context. Since the BofC's schedule of fixed announcement dates is different from the fixed-date schedule of the Fed, it allows more attention to be focused on Canadian economic circumstances
- ◆ Emphasis on medium-term policy (18 to 24 months) is greater
- ◆ It enhances transparency, accountability and communication with the public

Regularly explaining the reasons for either changing or not changing interest rates will enhance the transparency of monetary policy and should help financial markets to better understand and anticipate the bank's actions. The eight new occasions to communicate will also reinforce the bank's accountability by further enabling it to link the conduct of monetary policy with the achievement of the inflation-control target. (Bank of Canada, October 2000.)

It is necessary to use the conventions of the market as much as possible; on one hand, by conditioning to its expectations and on the other by trying to respect them. Credibility gives some assurance when reacting to shocks because a high degree of transparency makes the monetary policy transmission easier:

As monetary policy has become more transparent, it has become evident that it works more effectively when financial markets and the public understand what the bank is doing and why. We no longer regard surprise as an important element in monetary policy actions. We prefer to see private agents anticipate, rather than respond to, monetary policy actions. (Thiessen, 2000b, p. 79.)

On the other hand, the aggregates of money and credits are not very important any more. These are only indicators. For a long time, credit was seen as determined by financing demand and financial institutions

were passively content to satisfy it. With Monetarism, the monetary authorities believed in a vertical curve of money supply. The control of the Central Bank's money was enough to control credit. Today, the Bank of Canada must ask itself two questions. First, does monetary policy implementation involve an automatic adjustment of credit? That is, does an increase in the short-term interest rate inevitably imply a fall in credit demand (as with the IS-LM model)? If the answer is no, the Central Bank should keep a sharp eye on credit. Second, are there any shocks that stem directly from the credit market such as in a "credit crunch"? For the Bank of Canada, however, this approach hardly explains global demand.

Obviously, the increased power obtained by independent central banks highlights the problem of their responsibility to the nation and that of their relationship to a democratically elected government.

I would argue that transparency and accountability give autonomous Central Banks legitimacy in a democratic society. (Thiessen, 1998, p. 39.)

Inflation targets have made these performance assessments more straightforward. Article 14 of the Bank of Canada Act represents not only the announced objective but also an accountability arrangement. This institutional design defines the nature of the bank's relationship to the Minister of Finance in the area of monetary policy.

The second part of the accountability arrangement for the Bank of Canada is the directive power given to the Minister of Finance under section 14 of the Bank of Canada Act. With the new practice of agreed targets between the Bank and the Minister, the directive power, which has never been used, now seems even less likely to be used. Nonetheless, if there were a fundamental disagreement on the targets when they came up for renewal, the Minister could impose his will via a directive. That would likely lead to the Governor's resignation and a new Governor, who was prepared to accept the desired targets, would have to be chosen. (Thiessen, 1998, p. 32.)

This is a power to be used only in extreme circumstances since the joint statements of the BofC and the government show the degree of collaboration

and agreement existing between both authorities and offer reassurance on the bank's commitments.

The Bank of Canada has three conclusions from its experiment in the 1990s. First, regarding the aspect of uncertainty, monetary policy can not be led in a mechanical way. An automatic approach as in Taylor's rule is not applicable. One needs a stable, medium-term target (inflation-control, MCI), that excludes the attempts at fine-tuning used for avoiding cyclical fluctuations. The commitment to respect the inflation target must be understood in the medium term (18 to 24 months) and not in the short term.

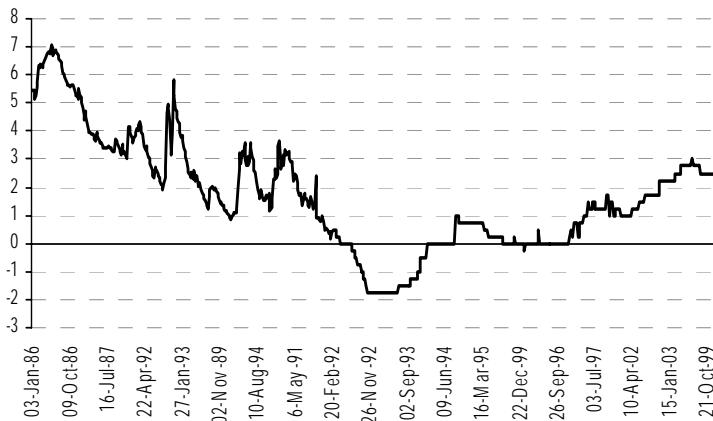
Second, both the importance of speculation in financial markets and the globalization of savings explain the high volatility of interest rates. It is impossible to control the whole range of rates. The main influence of the Central Bank on long-term rates proceeds according to the expectations of the market concerning inflation.

Third, the more uncertain, global, and opened markets are requires for greater transparency in the bank's objectives, especially in the implementation of monetary policy. An important feature of BofC's framework is a strong commitment to transparency and to the communication of monetary policy strategy to the public. The Central Bank must implement not only "open-market operations" but also "open-mouth operations". This information is useful only if it is credible, hence the importance of adhering to commitments. Because of Canada's unique institutional arrangements, the BofC has become more accountable to the public and the financial markets rather than directly to the government (Bernanke, 1999).

Canadian monetary policy could be summed up as follows: inflation target-commitment-transparency-accountability-credibility.

The Canadian results concerning inflation were very good, even better than in the United States at the end of decade. The interest rate remained high, notably in 1994-1995, but its progression was better afterwards (diagram 3). On the other hand, growth and unemployment remained very unsatisfactory; supported by declines in the exchange rate. However, this depreciation also exists for the European (Euro) and South American currencies. Therefore, a more financial explanation should be made:

DIAGRAM 3
Discount Rates Diferencial (BofC-FED)

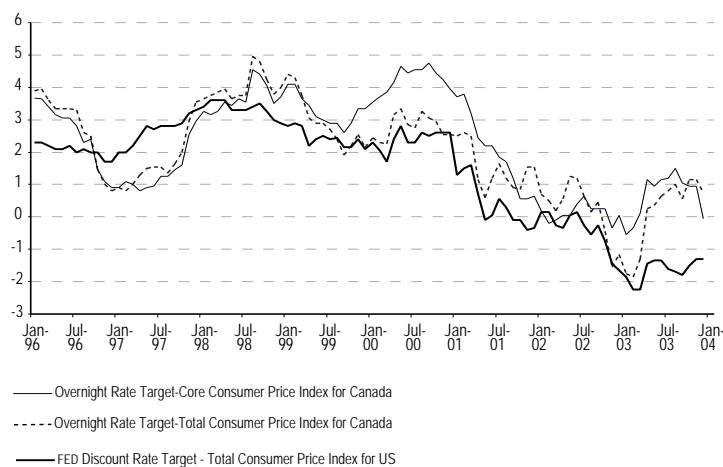


The prospects of a New Economy attracted “hot money” to the United States as well as the sense of a “flight to quality”. These, along with the fact that it was the world’s chosen currency, were the determining elements for the dollar increase in spite of a widely unfavorable balance of trade where an inflow of \$1.5 billion is necessary per day.

The autonomy of Canadian monetary policy, notably towards the United States, is evident from 1991-2003. The adoption of MCI gives the impression of a policy that alternates between fighting against inflation in a pure floating exchange rate system (internal objective) and defending the currency in flexible exchange rate system (external objective). With this, there may be reason to wonder about the autonomy of monetary policy towards financial markets which require a strong currency and weak inflation. Some affirm that Canadian monetary policy tries to copy that of the United States in terms of the “real” short-term interest rate. However, diagram 4 shows that this is not true; particularly if we take the relevant inflation rate for Canadian monetary policy: the “core consumer price index” (four quarters). The diagram 4 shows that the real discount rate of the US is close to 2% (Taylor’s rate) between 1995 and 2001. It rises in

1997-1998 to slow down the optimism of the financial markets and becomes negative thereafter to prevent a deeper financial crisis. The Canadian real short-term rate is much more volatile.

DIAGRAM 4
Real Discount Rates for Canada and the United States



An attempted judgment will not be made concerning the possible deflationary effect of Canadian policy⁹ which may lead to interest in the Central Bank's conventions and so in the development of a new monetary consensus. The Bank of Canada's speech and its numerous innovations suggest a new strategy in monetary policy, which will now be characterized.

A NEW CONSENSUS ON MONETARY POLICY

After WWII, the main social democrat project was in favor of a liberal policy in which man, through his statesman, was at the heart of the building

⁹See Pierre Fortin, 1996, *The Great Canadian Slump*, annual meeting of the Canadian Economic Association, June 1.

of institutions. If this policy criticizes the socialist utopia, it assumes that “reason” is necessary for the progress of democracies. At the start of the 1970’s, which mark the end of the Keynesian consensus, a radicalization of liberal policy started; first, *via* Milton Friedman and the Chicago School and then *via* the return of “New” Classical theses and Friedrich Hayek. The collapse of the socialist alternative also reinforced this process of radicalization. However, one notes that the new model of monetary policy has kept a liberal position that is mildly similar to Friedman’s and has rejected those of the ultra liberals and Hayek. Ultimately, New Keynesians rather than New Classical have influenced the views and behavior of modern central banks.

Thus, since the early 1960s, three systems¹⁰ of monetary policy have existed in succession: Keynesians until 1973-1974, Monetarist until of the end of the 1980s, and finally a New Consensus since the 1990’s. After a brief review of the first two systems, a clearer definition will be given of this New Consensus by relying mainly on Canada, which was one of the first countries to apply this system.

A Short Review of the Different Consensus on Monetary Regime since 1960

The Keynesian Consensus

During the 1960’s, the Keynesian regime¹¹ was basically applied everywhere. The social democrat liberalism, politics, statesmen and therefore “reason”, were at the center of the economic views. The naturalist or “spontaneous” view of liberalism was rejected.

¹⁰ With M. Bordo and A. Schwartz, we can define a monetary system—or a monetary regime—as follows: “[...]a set of monetary arrangements and institutions accompanied by a set of expectations—expectations by the public with respect to policymakers’ actions and expectations by policymakers about the publics’ reaction about their action”.

¹¹ One can find it in the Porter Report for Canada, which is the equivalent of the Radcliff Report for the UK. The Porter Commission worked from October 1961 to

For Keynesians, the statesman is the only one that can think globally and hence must deal with macroeconomic problems. He is the only one that can make global anticipations and envision an optimal situation. Because of the anticipations of economic agents, particularly those of entrepreneurs that do not lead spontaneously to social optimal market equilibrium, the statesman must intervene in the market.

Monetary policy follows from this position since money is not neutral either in the short run or in the long run. Monetary policy is part of economic policy and depends on the government. The Central Bank is under political control and merely influences the decided policy. *The national dimension is privileged since it is the legitimate context of economy policy.* To deal with international monetary relations in terms of the Bretton Woods agreement, fixed exchange rates are preferable to the market mechanism. It is believed that sufficient quantities of reserves in foreign currencies and a reasonable exchange rate are enough to maintain the autonomy of monetary policy. International financial exchanges, however, are currently still low.

Monetary policy is part of the general framework of standard Keynesianism. If the Philips curve is accepted; it is necessary to choose between inflation and unemployment. The IS-LM model is also widely accepted, even with disagreements about the shape of the LM curve and the distinction between money and financial assets. Keynesian monetary policy follows four principles:

1. Monetary policy is an element of a macroeconomic policy trying to fulfill four objectives: the “magic square”. Monetary policy, fiscal policy, and the management of public debt must be coordinated to fulfill these objectives along with one that gives priority to employment and production. A lot of emphasis is placed on the short term. Internal and external objectives coexist

1964. By Keynesian, one means the Keynesian Synthesis represented by the IS-LM-BP model of Hicks-Hansen-Mundell-Flemming. This paper will not deal with the Post Keynesian model of Monetary Production Economy because it has never been implemented by developed economies.

2. Monetary policy is judged to be ineffective and complementary to fiscal policy. If credit conditions have a strong influence, monetary policy should be avoided because of its potential negative consequences such as the instability of monetary policy instruments, financial instability, volatility of money demand *via* the speculative motive, liquidity traps and impacts on the balance of payments
3. The instrument is the money supply or the amount of liquidity and the objective is the interest rate. Stabilizing the interest rate is preferable so that investment is not disturbed. The impact of monetary policy travels through the interest rate channel and the credit channel by changing the liquidity position of financial institutions. This impact, however, is judged weak and slow to manifest itself: “One cannot push a string” (Porter Commission, p. 496)
4. Official control of quantity is usually preferred to price control in the credit market (credit control) and the foreign exchange market. This is particularly true in case of difficult short periods. Moreover, selective policies are justified

The Phillips curve is completed awkwardly in the is-LM model and originally did not integrate a mechanism of price determination. Also, fixed exchange rates are not really justified from a theoretical point of view. Finally, the Horizontalist tradition, where demand completely determines the supply of money, cannot fully take into account the behavior of banks. Thus, Keynesianism was not able to give relevant answers to problems like inflation and floating exchange rates faced by developed countries in the early 1970's.

The Monetarist Consensus

The Monetarist model imposed itself progressively during the 1970s and signaled a renewal of a naturalist liberalism based on a modified quantitative theory of money. The general framework of natural laws leading a real economy to general market equilibrium was again accepted. However, following the dichotomous principle between monetary and real spheres and contrary to growth or unemployment level (refusal of the Phillips curve), money does not depend on natural laws. Money is credit money and thus, as

a creation of men, the market cannot manage it. Money is only neutral in the long run and, therefore, it is the role of monetary authorities to neutralize money in the short run. Inflation is only a monetary phenomenon.

Due to institutions like money, “reason” is useful to preserve natural equilibrium. However, it is the “reason” of an independent Central Bank that has the monopoly to issue high powered money. Since a statesman only has short-term objectives, he disturbs the market equilibrium. The use of money for short-term objectives must be completely avoided as it is unnecessary in the long run because of natural equilibrium and would disturb the economy by causing inflation. The national aspect should be given priority.

1. Since money should not be regulated by the government and cannot be managed by the market, an independent Central Bank and technicians of money are entrusted with the aim of neutralizing money *via* a simple quantitative rule. The money supply should grow at a rate equal to the natural growth rate of production which is dependent only on real factors
2. Monetary policy is effective and useful but only for one long-term internal objective: the control of inflation. Contrary to the discretionary policy of Keynesians, Monetarists want a strict monetary discipline *via* the respect of this rule
3. The instrument is the short-term interest rate and the objective is the stabilization of the money supply as measured by aggregates (monetary base or monetary aggregates). The rate of interest can be changed rapidly and abruptly. The surprise effect may work. The demand for money and the velocity of money are assumed stable in the long run. This stability is reinforced if the money supply is stabilized
4. One has to choose a flexible exchange rate system. The external stability of money (exchange rate) is the result of internal stability (no inflation)

This monetarist regime could be schematically summarized as RCC: Rule, Commitment, and Credibility. Svensson (1999, p. 636) calls this monetarist policy rule *monetary targeting or money-growth targeting*.

With the rational expectations revolution, the basic Friedmanian policy has evolved, but it remains in this RCC framework. Kydland and Prescott (1977) or Barro and Gordon (1983) provide new decisive arguments in

favour of Rule, and against Discretion. These are the famous *dynamic inconsistency, inflation bias, reputational equilibrium*. The rational expectations school also strengthens the binding commitments to the natural equilibrium.

In its pursuit to systematically take the opposite view of Keynesianism, Friedmanian Monetarism takes many characteristics from it, a little like Marx with Ricardo. Macroeconomic analysis gives priority to economic policy and through that: the national aspect, non-neutrality of money (in the short term), institutional and historical approaches to money, consumption function linked to permanent income, importance of the interest rate, etcetera.

If Monetarism was rapidly accepted, it was subsequently rapidly rejected also at least in its initial form. A strong instability between monetary aggregates and inflation was rapidly observed. These aggregates became impossible to define precisely. Financial innovation evolved to avoid rigorous monetary control. Moreover, flexible exchange rates did not lead to equilibrium prices. On the contrary, crises become more and more frequent. Regions under financial construction like in Europe cannot accept this state of affairs. In the 1980's, numerous research articles and essays were written on the subject. However, they were mostly unsatisfactory. It was not until the beginning of the 1990s that a new system in monetary policy began to appear. It was more pragmatic than Monetarism but kept the fundamental element of the latter.

Inflation Targeting: A New Consensus for Monetary Policy

The New Consensus moved away from both Monetarism and standard Keynesianism. However, it is an orthodox consensus that takes a lot from New Keynesians. It can be summarized by the following three points:

- ◆ Inflation targeting is the mainstream of the New Consensus. As Svensson (1999) summarizes it: inflation targeting is an explicit inflation target, a process of inflation forecast and a high level of accountability and transparency

- ◆ Inflation targeting must be implemented by an independent Central Bank
- ◆ All expansionary fiscal policies lead to a higher inflation rate and to a higher long-term interest rate. All restrictive monetary policies leads to a lower inflation rate without any effects on growth (otherwise positive) *in the long run* (Romer, 2000)

This New Consensus was more precisely characterized through the Canadian experience of the 1990's, which followed the in-depth transformation of the monetary and financial systems of the 1980's. The focus was mainly on the progressive realization that uncertainty matters for monetary policy. This uncertainty *pushed* the disillusionment of the newly independent Central Bank.

Uncertainty in Monetary Policy

The central problem of the new monetary policy is the incorporation of uncertainty, notably on markets and through them, the expectations of economic agents. The economy is much more internationalized since financial markets have developed and funds for speculation have grown. Thus, a national monetary policy cannot be implemented like it would have twenty or thirty years ago. As Greenspan (2003, p. 1) claims: "Uncertainty is not just an important feature of the monetary policy landscape, it is the defining characteristic of that landscape". Some of the consequences of this uncertainty are:

1. An efficient monetary policy must influence the long-term interest rate. These rates are the only ones that are really significant for growth and for the financing of growth through loans. The link between short-term rates and long-term rates is not unequivocal. Six expectations that have an important influence on long-term interest rates can be suggested: 1) the expectations concerning the long-term productivity of capital, economic growth and fiscal policy; 2) long-term expectations of inflation; 3) the current and expected level of the short-term interest rate ("expectation theory");¹²

¹² In this expectation theory (Artus, 1997) the long-term interest rate depends on future short-term rates of interest.

TABLE 1
Some others Definitions of the New Monetary Policy
Framework Known as Inflation Targeting

Aglietta (2001)	Strategy/tactics. Institutional framework
Bernanke (2003)	Policy framework as a <i>constrained discretion</i> and the communications strategy Commitment to keeping inflation low and stable
Goodfriend (2003)	1. Announcement of an official target for the inflation rate 2. Acknowledgement that low inflation is a priority for monetary policy 3. Enhanced transparency of the procedures and objectives of monetary policy 4. Increased accountability of the Central Bank for attaining those objectives
Greenspan (2004)	Rule-like
Kohn (2003)	1. The announcement of an explicit, numerical inflation target 2. The priority for price stability in monetary policy
Meyer (2000)	1. Price stability as the primary objective, usually in the context of a hierarchical mandate 2. Set an explicit target for inflation (as a point or as a range) and set a period over which any deviation of inflation from its target is to be eliminated. The time period prescribed for return to the inflation target is generally 18 months to 2 years
Mishkin (1999)	1. Public announcement of medium-term numerical targets of inflation 2. An institutional commitment to price stability as the primary goal of monetary policy 3. An information strategy in which many variables are used for the setting of policy instruments 4. High transparency of the monetary-policy through communication with the public and the markets about the plans, objectives, and decisions of the monetary authorities 5. High accountability of the Central Bank for attaining its inflation objectives
NeumannVon Hagen (2002)	1. Inflation targeting served to structure internal monetary debates within the bank 2. Inflation targeting matters to structure policy debates both within the Central Bank and between the Central Bank and the public 3. Communication tools developed by inflation targeting central banks improve the public's understanding of Central Bank intentions and stabilize inflation expectations
Svensson (1999)	Inflation targeting as a monetary policy rule: 1. An explicit inflation target 2. A process of inflation forecast 3. A high degree of transparency and accountability
Taylor (1999)	Forward looking rules or forecasting rules

4) risk premium as a function of banks' liquidity preference; 5) the price of financial assets, and finally; 6) the current and future long-term foreign interest rates.

For example, if agents are confident¹³ that the Central Bank will decrease the short-term interest rate because of expectations in the future of higher growth and with that a lower risk premium, low future short-term interest rates and of no inflation then the long-term rates will also go down. On the contrary, if their confidence is low because of expectations of higher inflation rates, higher risk premiums and stronger liquidity preferences along with a high increase in short-term rate then long-term interest rates will go up. Various scenarios show different evolutions making the consequences of a monetary policy shock quite unclear.

2. The demand for money is very unstable¹⁴ (Goodhart, 1993). Thus, Monetarism loses one of its fundamental hypotheses.
3. The channels of transmission of monetary policy have become very complex and uncertain. It is very difficult for monetary policy to anticipate the most influential channel. The *monetary channel* is usually given priority. The impact of a variation in a short-term interest rate can affect the following: the cost of capital, expected inflation, the exchange rate, an income effect and a substitution effect. However, a variation of the interest rate also influences financial assets. The *channel of asset prices* can develop through a wealth effect, the Q-Tobin ratio or a real balance effect (Patinkin). Finally, most recently, the *balance-sheet channel* (Bernanke) tries to integrate the development of financial markets via the impact of a short-term interest rate variation on the balance-sheet structure of economic agents: the effect on net wealth, the value of collateral, financial charges, and the risk of liquidity and solvability crises for banks (Le Heron, 2002). The links between monetary policy and systemic financial crisis can be treated in the Minskian tradition (L.F. de Paula and A.J. Alves, 2000) or not (Mishkin, 1996). Of course, all these monetary policy channels lead to completely different conclusions.
4. Today, liquidity crises are usually market liquidity crises rather than banking liquidity crises. There is a liquidity crisis in the market when

¹³ One will see further why one talks about "confidence" rather than "credibility".

¹⁴ Keynes, Keynesians, and Post Keynesians have always put this instability forward. See Radcliff Report.

nobody is ready to bid. Prices go down dramatically and all liquidity from financial assets is withdrawn. Liquidity is defined as “the capacity to inverse a decision at any time and at the lower cost possible”¹⁵ (Bernstein, 1998). The rise in the amount of marketable assets in the balance sheets of banks makes the financial and banking system very sensitive to liquidity crises. These new crises are far more dangerous than classical banking liquidity crises. The impact of a monetary policy on asset prices (an increase of interest rate automatically decreases the value of financial assets) can itself generate a liquidity crisis on the market creating, *via* the fall in the value of assets, a solvability crisis of banks and insurance companies and a generalized financial crisis. The loss of confidence, along with a generalized preference for liquidity, explains the crisis of the productive sector (Japan).

*From the Rule versus Discretion Dilemma
to the Credibility versus Confidence Dilemma*

With the importance of expectations and the increasing role of financial markets at the global level, monetary policy has lost its certitudes. Rules have become irrelevant. The new credo is credibility. But the relation between financial market and monetary policy is very complex. Game theory can be used to understand the relationship. An important objective of monetary policy is to reduce uncertainty in the markets by trying to influence them or by using the expectations and conventions of the financial markets.

By uncertainty, one means a non-probabilistic, radical uncertainty, notably because it integrates the expectations of private agents who base

¹⁵ The banking liquidity crisis corresponds to the intermediation risk. The monetary liabilities of banks can go down rapidly while they are not able to sell assets at the same pace. A lack of reserves (banking liquidities) leads banks to bankruptcy. By being a lender-in-last-resort, the Central Bank can solve the crisis. On the contrary, in case of liquidity crisis in the market, the Central Bank or the Treasury must act a counterpart in last resort or a “market-maker-in-last-resort”. They can solve this second type of crisis by buying at “whatever price” the financial assets that have become illiquid. Then the risk of moral hazard is very high.

their decisions on unstable conventions. These conventions, however, are not only unstable but also unpredictable in terms of when they will change. This undetermined process explains the willingness of the Central Bank to try to influence them with the transparency of its objectives and actions and consequently the credibility of its monetary policy.¹⁶

Changes in this rate will be communicated to financial markets by a mixture of convention and arbitrage. Initially, the impact will be felt in short term money markets, becoming more remote as we move along the maturity spectrum and as expectations (*inter alia*) play a larger part. In most regimes, the impact at the short end will be very quick indeed. (Biefang-Frisancho Mariscal and Howells, 2002.)

Thus, in this paper, it is argued that it is necessary to distinguish between *credibility* and *confidence*. A Central Bank is “credible” when it “shows its determination to preserve the monetary system upon which it has engaged its credibility, in spite of deviations that it may consent to absorb economic shocks in the best possible conditions” (Aglietta, 2001, p. 89). In this way, a Central Bank is judged “credible” when economic agents think that the Central Bank will continue to follow the same policy framework, making its reaction function stable, despite the necessary adjustment to temporary economic conditions. That is why the monetarist consensus could be characterized as follows: unconditional Rule–Commitment–Credibility (RCC).

This refers to “confidence” when there is a mutual understanding between the Central Bank and the economic agents, *i.e.*, when *the convention and the strategy of the Central Bank are in accordance with those of the other*

¹⁶ For example, when the ECB increased its interest rates in 2000 while the Euro was in difficulty relative to the Dollar, the impact on the exchange rate was, contrary to theory, negative. Indeed, the conventions of the market analyzed the weakness of the Euro as a consequence of the negative growth differential of Europe *vis-à-vis* the United States. However, an increase in the interest rate on an economy with a low rate of growth, for which the market did not perceive any inflationary pressure contrary to the views of the ECB, led the market to penalize a policy that increased the problem instead of solving it.

participants (actors in financial markets, political power, and firms).¹⁷ Therefore, it is possible to have credibility without confidence and confidence may be limited. To over-simplify, one could say that the ECB implements a credibility policy (unfortunately in the opinion of some private agents), and the Fed and BofC apply a confidence policy. Alan Greenspan (2001, p. 2) defines the optimal level of inflation as the level at which agents stop to take inflation into account in their economic decisions. Statesman's "reason"—either the government (Keynesians) or the Central Bank (Monetarist)—cannot impose itself easily on financial markets. To be effective, the New Consensus prefers confidence over the traditional Monetarist credibility.¹⁸

In the New Consensus of inflation targeting, uncertainty is fundamental. Due to these unforeseen contingencies, there is no room for an unconditional rule: "[...]there is no such a thing in practice as an absolute rule for monetary policy" (Bernanke, 1999, p. 5). Abandoning the rule, the New Consensus is a real turning point in monetary policy. Yet, it does not reject the monetary discipline. The rupture with the unconditional rule allows for more flexibility to respond to unforeseen shocks, but it does mean full discretion. The New Consensus could be considered as a synthesis, a mix of rule and discretion. For Bernanke (2003, p. 2):

Constrained discretion attempts to strike a balance between the inflexibility of strict policy rules and the potential lack of discipline and structure inherent in unfitted policymaker decision.

This is the end of the Rule *versus* Discretion dilemma. This shift in monetary policy theory is clearly pointed out by Bernanke (1999, p. 6):

¹⁷ For (Aglietta, 2001, p. 109), "[...]confidence is nothing but coordinating the actors of the markets with the representation of the future proposed by the Central Bank".

¹⁸ This is all the more the case for the latter that credibility is founded on the respect of an underlying model, which is considered as relying on natural laws: the Walrasian general equilibrium and the NAIRU. Thus a Monetarist Central Bank thinks that it knows the "true real model".

By imposing a conceptual structure, and its inherent discipline on the Central Bank, but without eliminating all flexibility, inflation targeting combines some of the advantages traditionally ascribed to rules with those ascribed to discretion.

We should notice the New Consensus does not reject the all RCC monetarist regime. It keeps Commitment and Credibility. Indeed inflation targeting is generally identified as a “commitment to maintaining price stability” (Bernanke, 2003, p. 6). The problem is that inflation targeting is supposed to define price stability. Commitment means respecting the announced target, in order to preserve credibility. Once again, uncertainty makes these two conditions uneasy. Conserving commitment and credibility, the New Consensus does not avoid some problems of the previous Monetarist consensus: because of uncertainty, the Central Bank does not automatically meet the inflation target. A gap can appear between what Central Bank says (commitment to price stability) and what Central Bank does (short-term deviation or economic stabilization). Or as summarized by Blinder (2000, p. 1422):

A Central Bank is credible if people believe it will do what it says.

Moreover, commitment to price stability generates a *hierarchical mandate* (Meyer, 2001, p. 1), systematically preferring price stability to economic stabilization. This impossibility of a full dual mandate makes balance of risk unfeasible. As a consequence, monetary policy could be in disaccord with the preferences of the public and the financial markets, and even with what the economic environment requires. It reveals the credibility problematic of the New Consensus. A new dilemma appears credibility *versus* confidence.

Subsequent to this is that *there is a real dilemma for the Central Bank in its relation with markets*. This dilemma is the difficult choice to be made between credibility and confidence. The Central Bank has to convince the markets that its action is relevant so that it can use their power. In order to be credible, the Central Bank must show and respect a clear objective. Its strategy must be transparent, announced, and each modification of its instrument (short-term interest rate) must be explained along with its analysis of the economic situation. This effort of communication (open-mouth policy) aims at reducing not only uncertainty in relation to markets but also the

uncertainty that the markets have regarding inflation, interest rates, exchange rates, etcetera. The Central Bank has to reduce the risk of banking and financial crises by pretending to understand the markets, accepting their conventions, and be willing to help them if there is a problem (generalization of prudential rules, buyer in last resort and stabilization of financial asset prices). This is particularly true when financial markets experience a speculative bubble and when the economy is heavily indebted. This is also important for the influence of the short-term interest rate on the policy for the long-term interest rate. As Bernanke (2003, p. 4) so rightly says:

Most inflation-targeting Central Banks have found that effective communications policies are a useful way, in effect, to make the private sector a partner in the policymaking process.

The problem is that in order to have an effective and credible monetary policy, central banks cannot always follow the expectations of the markets because this generates a *high degree of moral hazard*. The history of monetary and financial crises in the last 30 years shows that, without doubt, a credit divisor system is at work.¹⁹ The Central Bank only implements a tight liquidity policy when it is sure it will not endanger the banking and financial system: *i.e.*, when its “aggressiveness” can be supported by the system. The Central Bank notably avoids endangering the most important banks (*too big to fail* principle²⁰). Several authors have stated that the rapid decrease in the Fed rates in 2001 was led by the desire not to “burst the bubble”. Indeed, a policy that tries to hold on to the basics is hopeless except when the convention changes, *i.e.*, when it is

¹⁹ The credit divisor system was developed in 1952 and 1962 by Jacques Le Bourva (Maurice Baslé, Marc Lavoie, 1996). The Mexican and Japanese crises as well as the Savings and Loans bailout in the US and the Crédit Lyonnais bailout in France, are good example of the existence of this system.

²⁰ It is indeed usually difficult for a Central Bank to make a distinction between liquidity crisis (that Central Bank has to manage) and a solvability crisis (that private bank should manage by itself).

too late. This is because if there is a disagreement between the Central Bank and the markets, the latter always impose their view. The recent example of the Euro and the NASDAQ is a good illustration of this state of affairs.

Together these two types of signals create a kind of biofeedback or grading system in which the markets first recommend or predict what the central bankers should or will do, and then reward them for doing it. While I never show a single case of central banker succumbing to the temptation that so worried Kydland and Prescott, I often witnessed central bankers sorely tempted to deliver the policy that markets expected or demanded. (Blinder, 1997, p.15.)

Thus independent central banks are like a statue with feet of clay. They cannot impose their view *via* their own rule; they have instead to use the expectations of the market as leverage to amplify the effect of their actions. In this way, the expectations of the markets must be similar to that of central banks. It is crucial to avoid bad interpretations. It leads to systematic pedagogical efforts. This educational role of the Central Bank rests on a large communication strategy.

Beyond such information, the inflation targeting Central Bank has a responsibility to educate the public about, for example, policy tradeoffs and what monetary policy can and cannot do. (Bernanke, 1999, p. 37.)

These are far more complex than the simplistic insurance problem and the surprise effect of the quantitative monetarist policy.

The bank tries to work with markets, rather than against them, to avoid surprising them with unexpected actions. Greater transparency facilitates the policy-transmission process by conditioning market expectations, and helps avoid unnecessary confusion about the reasons for our actions. [...] We no longer regard surprise as an important element in monetary policy actions. We prefer to see private agents anticipate, rather than respond to, monetary policy actions. (Thiessen, 2000b, p. 79.)

Some authors go further. Norman Cameron notes that:

The Central Bank should place more emphasis on private sector forecasts of inflation when deciding how to respond to a shock. If private sector forecasters

suggest that inflation is expected to rise above the target, the Central Bank should tighten monetary conditions, and when private sector forecasts predict that inflation will be below the target, monetary conditions should be relaxed. (Summing up of a conference of the Bank of Canada, the 3rd and 4th of May of 1997, p. 76.)

The objective is not to affect the real conditions of the economy but rather to directly shape the expectations of private agents which are judged self-fulfilling (Orléan, 2002). The Central Bank, by giving a signal that it has understood the market, anticipates a change of expectations and, accordingly, the behavior of economic agents. The Central Bank then creates a condition of high moral hazard. If it follows the main opinion in the market too closely (choice of confidence) then the expectations of the market might determine monetary policy and thus put into question its credibility. Indeed, if the Central Bank divulges its reasoning in the name of transparency, the forecasters of the private sector will be able to manipulate their expectations and make threats in order to get the monetary policy that they want. For example, they will insist on the necessity to decrease the interest rate and to inject liquidities ahead of the risk of a crash or a market liquidity crisis. Currently, there is a strong pressure on central banks to become not only lenders-in-last-resort but also “counterparts-of-last-resort”. To put it another way, there is pressure to ensure market liquidity when there are no institutional buyers and when financial asset prices collapse. By not following the view of markets in the name of credibility and moral hazard (refusal of confidence), the Central Bank takes the risk of a strong financial instability and a non-optimal economic situation (slow growth).

Therefore, we can see that the words, “transparency”, “communication”, and “credibility”, arise from the Central Bank’s willingness to “manipulate” the expectations of the private sector. In this game of cat and mouse the problem is knowing if this new consensus will be robust enough to fulfill the objectives. Far from seeing an exogenous monetary policy fixed by an independent Central Bank, one observes instead an endogenous monetary policy trying to maintain appearances. This is more the case if the country

is dominated monetarily. If the final objective is still a low level of inflation, the intermediary objectives can rapidly change to adapt to the most influential expectations in the markets. These intermediary objectives can be the expected price level (CPI*), the price of financial assets, or the exchange rate. Consequently, the management of the interest rate, which is the instrument of these different intermediary objectives, becomes very complex.

To sum up, this credibility *versus* confidence dilemma highlights limits in the theoretical foundations of the new consensus, based on a rule-like with a commitment to price stability to build credibility (RCC). Uncertainty, asymmetry of information and adaptive learning tend to call for a new paradigm, the 3C framework: Communication, Common understanding and Confidence (ccc).

The Institutional Framework of the New Consensus

While the new monetary policy owes a lot to the microeconomic studies of New Keynesians (asymmetry of information, moral hazard, adverse selection, etcetera.), it has taken very little from New Classical and ultra liberal views. Paul Dalziel (2002, p. 522) goes so far to say that “the core theory of monetarism —the quantity theory of money— is irrelevant for modern policy practice, which operates within a framework more closely related to chapter 21 of the general theory”.

We are far from a renewal of Hayekian liberalism for which reason (even that of an independent Central Bank) and instincts are the worst enemies of the liberal order. The theories concluding with the end of a Central Bank and the imposition of market law to money (free banking, Hayek) are not established. Moreover, the rational expectations, which have heavily influenced monetary theory for the previous twenty years, have not aided this pragmatic monetary policy. The switch from a personal element to an automatic monetary rule, like that proposed by Taylor in 1993, has actually not been implemented by any central banks; even if this rule influences the determination of the real interest rate as an intermediary

objective. I agree with (Bernanke, 2003, p. 6) that: “inflation targeting is a policy framework, not a rule”.

The Bank of Canada states, for example, that its Monetary Conditions Index should be used pragmatically and should take into account the state of opinion in the markets.

There are also times when markets become particularly nervous and volatile because of economic shocks or concerns about policies, and Central Bank actions have to be directed to coping with disorderliness in markets [...]. In such circumstances, the bank’s immediate task was to calm markets by helping them to find new trading ranges with which they were comfortable. (Thiessen, 1995, p. 9.)

Three elements characterize the institutional foundations of the New Consensus:

First, *the independence of the Central Bank is greatly emphasized* and usually justified by the anchorage of monetary policy in the long run. It means we move from a formal anchorage (rule) to an institutional anchorage (independence). From an operational point of view, this independence is absolute. A long mandate for governors confirms this pursuit for the long term (7 years in Canada). Thus, a government, democratically elected on a Keynesian agenda would not have the possibility of implementing it today.²¹ Indeed, the autonomy of the monetary policy is a tool used exclusively by the Central Bank and not by governments. This institutional change is not neutral because there is no symmetry. A government, democratically elected on a Monetarist agenda, could implement the change with or without an independent Central Bank (like in the UK in the 1980s).

Second, *independence implies greater transparency and accountability*. We could define transparency as Faust and Svensson (2000, p. 5): “Transparency is connected to how easily the public can deduce central-bank goals and intentions from observables”. The bank must also be

²¹ “Neither the ECB, nor any member of its executive organ, can solicit or accept instruction from institutions of the European Union, from governments of member States or from any other organism.” (Statute of the ECB.)

transparent about its objectives (explicit target of inflation), its methods to reach these objectives and its view on the economic situation. In order to maintain at least a flavor of democracy within central banks, their accountability must be increased. Ferguson (2002, p. 2) adds that:

Such democratic accountability is even more important for central bankers, because the voting populace does not directly elect them. In short, transparency is a quid pro quo for independence.

It suggests that balancing independence and accountability is the challenge of a Central Bank in a democratic society. Since central bankers are not elected, they must be accountable.

Thirdly, *independence, accountability and uncertainty force the Central Bank to communicate more broadly*. The announcement of the target of inflation is supposed to define price stability and to anchor expectations. Communication also matters for monetary policy effectiveness. Communication could help the Central Bank to achieve its objectives (Kohn and Sack, 2003), and to obtain better macroeconomic performances.

If effective communication can help financial markets develop more accurate expectations of the likely future course of the funds rate, policy will be more effective, and risk in financial markets should be reduced as well. (Bernanke, 2004, p. 2.)

Fixed dates of appointment, detailed regular reports, publication of the discussions of the monetary policy council and clear procedures of intervention are all part of this willingness to be transparent. However, this paper has shown that this diffusion of information must be limited to not going against the policy of the Central Bank. Playing with the market is a dangerous game. As Bernanke (2003, p. 8) says:

Although communication plays several important roles in inflation targeting, perhaps the most important is focusing and anchoring expectations.

That is why for many writers (Goodhart, 1998) the development of prudential regulation seems to be very fruitful. This is partly an admission

of failure. By not being able to resolve the new crises, the central bankers try to avoid them early on. However, no prudential rules will ever be sufficient to avoid these crises since they are endogenous (Minsky, 1975).

Even if the New Consensus borrows more from Monetarism than Keynesianism, it is deeply different from it, particularly in its implementation.

One can sum up in a table our definition and the differences between each system of monetary regulation.²²

CONCLUSION

Therefore, it can be seen that the New Consensus on monetary policy has been heavily influenced by the fundamental role played by uncertainty, expectations and credibility and more generally by the intellectual context of New Keynesian economics. Because of uncertainty, rules have been replaced by a combination of rules and discretion: *constrained discretion*. It means we leave the theoretical framework of the monetarist regime based upon *Rule-Commitment-Credibility* (RCC). But, the New Consensus still considers commitment and credibility as relevant conceptual tools. A credible Central Bank fulfills its objectives more easily and a credible Central Bank must be independent.

However, in addition to the restrictive bias —on which this paper will present no opinion— one can see that this consensus rests on weak democratic and economic foundations. Full independence of the Central

²² A monetary policy system is built out of the three levels of an Economic Policy System. Firstly, there is the *problematic*, which expresses the philosophical and moral options regarding the conception of man and society. It thus considers the finality and the nature of economics, by clarifying the questions judged to be the most relevant. Secondly, there is the *analysis*, which develops, *via* hypotheses, a system that can answer questions that are asked. This analysis explains the functioning of the economy by specifying the given facts, the variables, and the functional and causal relations. Thirdly, there is the *analytical superstructure* or *economy policy* that develops some means of action. It aims at making the world closer to how it should be.

Bank (and not limited to instrumental independence), could generate a lack of democratic accountability and economic growth. Indeed, in addition to the autonomy of the monetary policy, central banks meddle increasingly in fiscal policy (which they try to neutralize) and even in income policy (wage policy). Thus, economic policy is determined increasingly by central bankers who leave less and less space to democratically elected governments. For numerous countries (Mexico, Argentina), the role and action of the International Monetary Fund (IMF) (particularly with the “Second Washington Consensus”) accentuated this evolution.

Nonetheless, monetary policy seems more and more endogenous. Instead of credibility, we should refer to confidence and shared strategy. Several reasons call for this theoretical turning point.

Firstly, there is ambiguity concerning the real control of monetary power. The importance given to the increasingly powerful psychology of the markets could rapidly upset the fragile equilibrium of the banking and the financial systems in our countries. Here once again, now more than ever, there is uncertainty. Beyond, confidence appears as the challenge of Central Banking in a democratic society. It underlines the objectives hierarchy of monetary policy ultimately which refers to a democratic choice: it is a shared choice between the Central Bank and democratic authorities. In this perspective, democratic accountability is the corollary of independence. Communication is important but not sufficient. Confidence means balancing independence and accountability.

Secondly, confidence supposes the combination of monetary policy with other policies, *i.e.* a policy mix. Even Paul Volcker (1994, p. 345) emphasizes:

To put the point starkly, whatever the formal independence of a Central Bank, it is a broad mix of policies, ideally a suitable co-ordination of policy, that will count.

Thirdly, confidence emerges from the conjunction of democracy and economy, legitimacy and efficiency. Confidence needs a mutual understanding.

In short, the confidence paradigm could be schematically presented as the ccc framework: *Communication, Common understanding and Confidence*.

TABLE 2
Summing Up the Different Monetary Systems

<i>Monetary System</i>	<i>Keynesian Consensus</i>	<i>Monetarist Consensus</i>	<i>New Consensus</i>
Problems			
Type of liberalism	Social democracy, importance of “reason” and of normative choices of man. Discretionary action of the State	Naturalist liberalism, general equilibrium of market, rejection of the reason of statesman except for money	Liberalism, partial market equilibrium, asymmetry of information and of power of agents, the State interacts with markets
Approach, foundations	Macroeconomics	Macroeconomics	Microeconomics
Neutrality of money	No	No in the short term Yes in the long term	No, but it depends on expectations and information
Monetary and financial environment of the period	National. Strong intermediation, economy of indebtedness, banking specialization	Deregulation, disintermediation, capital market economy	Globalization, importance of financial flows and financial markets
Analysis			
Foundational theory	IS-LM-BP model, endogenous demand of money, exogenous supply of money	Quantitative equation, exogenous demand and supply of money, NAIRU	Game theory and theories of expectations
Type of expectations	Extrapolative	Adaptive	Self-fulfilling and others
Financial markets	Not important	Neutral	Very important
Financing of the State	Yes, budgetarism	Without any foundations because of the neutralization of public spending	Forbidden, but fiscal policy is possible in certain limits
Origin of inflation	Excess of demand and costs of production- Phillips curve	Excess of money	Expectations, excess of demand

TABLE 2, continuation

<i>Monetary System</i>	<i>Keynesian Consensus</i>	<i>Monetarist Consensus</i>	<i>New Consensus</i>
Exchange rate system	Fixed	Floating	Flexible
Demand for money	Unstable	Stable	Unstable
Central Bank	Depends on the government	Independent	Independent +accountable
		Policy	
Determination	Government	Central Bank	Central Bank
Effectiveness of monetary policy	Rather low	Strong on inflation	Strong if credible
Final objective	Magic square	Price stability	Price stability, nominal anchor
Policy targets	Interest rate and exchange rate	Monetary targeting, supply of money	Inflation targeting so, expected inflation, financial asset prices, output gap
Instrument	Adaptation of the supply to the money demand	Short term interest rate	Real interest rate, transparency, information
Time-scale of monetary policy	Short term	Long run	Medium and long run
Transmission channel of monetary policy	Interest rate r , loan (financing of the economy), exchange rate e	Quantitative theory, wealth effect	Multiple and complex (r , e , loans, financial asset prices, balance sheet, expectations, announcement effect)
Strategy	Discretionary and contra-cyclical	Rule, strict monetary discipline and surprise effect	Credibility and/or confidence, stabilization of expectations, transparency

REFERENCES

Aglietta, M., *Macroéconomie financière*, tome 2, Repères, La Découverte, 2001.

Akhtar, M., "Monetary Policy Effects on Long-term Interest Rate: A Critical Survey of the Empirical Literature", *Research paper of the FED of New York*, No. 9407, 1994.

Artus, Patrick, "La réaction des taux d'intérêt et de la structure des taux d'intérêt aux chocs inflationniste et à la crédibilité", *Working paper of the CDC*, No. 1997-02/FI, 1997.

Baslé, M. and M. Lavoie, "La pensée monétaire de Jacques Le Bourva, analyse et historique", *Revue, d'Economie Politique*, No. 1, 1996.

Bank of Canada, *Annual Reports*, Notes, Introduction to the Monetary Policy, refer to the web site.

_____, "Reconduction de la cible de maîtrise de l'inflation", Note, May 2001.

Barro, R. and D. Gordon, "Rules, Discretion and Reputation in a Model of Monetary Policy", *Journal of Monetary Economics*, vol. 12, July 1983, pp. 101-121.

Bernanke, B., "A Perspective on Inflation Targeting", Remarks at the Annual Washington Policy Conference of the National Association of Business Economists, March 25, 2003.

Bernanke, B., T. Laubach, F. Mishkin and A. Posen, *Inflation Targeting: Lessons from the International Experience*, Princeton University Press, 1999.

Bernstein, Peter L., "Stock Market Risk in a Post-Keynesian World", *Journal of Post Keynesian Economics*, Fall, Vol 21-1, 1998.

Biefang-Frisancho Mariscal, I. and P. Howells, "Central Banks and Market Interest Rates", *Journal of Post Keynesian Economics*, summer, 24(4), 2002, pp. 571.

Blinder, A., "What Central Bankers Could Learn from Academics and Vice Versa", *Journal of Economic Perspectives*, 11(2), 1997, pp. 3-19.

_____, "Central Bank Credibility: Why do We Care? How do We Build it?", *American Economic Review*, 90(5), 2000, pp. 1421-1431.

Bordo, M. and A. Schwartz, "Monetary Policy Regimes and Economic Performance: The Historical Record", in J. Taylor and M. Woodford, *Handbook of Macroeconomics*, chapter 3, Elsevier, 1999, pp. 149-234.

Clinton, K., "Implementation of Monetary Policy in a Regime with Zero Reserve Requirements", *Working paper No. 97-8*, Bank of Canada, 1997.

Dalziel, P., "The Triumph of Keynes: What Now for Monetary Policy Research?", *JPKE*, summer, 24(4), 2002, pp. 511-527.

De Paula, Luiz and A.J Alves, "Banking Behavior and Margins of Safety in a Minskian Business Cycle", *CEMF-ADEK International Conference*, Dijon, France, November 2000.

Dodge, D., "La Banque du Canada et la politique monétaire: les grandes orientations", Remarks by David Dodge to the *Toronto Chamber of Commerce*, February 2001.

_____, "Promoting Canada's Economic and Financial Welfare", Remarks by David Dodge to the *Calgary Chamber of Commerce*, November 2002.

Elie, B., "Milton Friedman et les politiques économiques", in Marc Lavoie et Mario Seccareccia (ed.), *Milton Friedman et son oeuvre*, Montréal, Les Presses de l'Université de Montréal, 1993, pp. 49-66.

European Central Bank, *Annual Reports*, Notes, Presentation of the Monetary Policy, refer to the web site.

Faust, J. and L. Svensson, "Transparency and Credibility: Monetary Policy with Unobservable Goals", miméo, February 2000.

Fontana, G. and A. Palacio-Vera, "Monetary Policy Rules: What are We Learning?", *JPKE*, summer, 2002.

Freedman, C., "Le rôle des conditions monétaires et de l'indice des conditions monétaires dans la conduite de la politique", Remarks by the Deputy Governor of the Bank of Canada at the Toronto University conference *L'évolution internationale et les perspectives économiques pour le Canada*, June 1995.

Goodfriend, M., "Inflation Targeting in the United States", *NBER*, March 24, 2003.

Goodhart, C., *The evolution of Central Banks*, MIT Press, 1998.

Greenspan, A., "Transparency in Monetary Policy", Remarks by Chairman, *FED*, October 11, 2001.

_____, "Monetary Policy under Uncertainty", Remarks By Chairman A. Greenspan at a *Symposium Sponsored by the Federal Reserve Bank of Kansas City*, August 29, 2003.

_____, "Risk and Uncertainty in Monetary policy", *Remarks at the Meetings of the American Economic Association*, San Diego, January 3, 2004.

Kohn, D., “Comments on M. Goodfriend’s ‘*Inflation Targeting in the United States?* ”, *Remarks by Governor D. Kohn*, January 25, 2003.

Kohn, D. and P. Sack, “Central Bank Talk: Does it Matter and Why?”, *Board of Governors of the Federal Reserve System*, May 23, 2003.

Kydland, F. and E. Prescott, “Rules Rather than Discretion: The Inconsistency of Optimal Plan”, *Journal of Political Economy*, vol. 85, June 1977, pp. 473-492.

Laidler, D., “Foreword”, *The Thiessen Lectures*, edited by the Bank of Canada, 2001.

Lalonde, R., J. Page and P. St Amand, “Une nouvelle méthode d'estimation de l'écart de production et son application aux Etats-Unis, au Canada et à l'Allemagne”, *Working paper No. 98-2*, Bank of Canada, 1998.

Lavoie, M., “A post-Keynesian Alternative to the New Consensus on Monetary Policy”, *CEMF-ADEK International Conference*, Dijon, France, November, 2002.

Lavoie, M. and M. Seccareccia, “Central Bank Austerity Policy: Zero-inflation Targets and Goals of Monetary Policy”, *Journal of Economic Issues*, June, 1996, pp. 533-544.

Le Heron, E., “La préférence pour la liquidité des banques : une analyse post-keynésienne du comportement bancaire”, *Les Cahiers Lillois d'Économie et de Sociologie*, No. 38, 2002.

Macklem, T., “Résumé du colloque sur la stabilité des prix, les cibles en matière d'inflation et la politique monétaire”, and papers of the conference organized by the Bank of Canada: *Stabilité des prix, cibles en matière d'inflation et politique monétaire*, May 1997.

_____, “Contrainte de capacité, ajustement des prix et politique monétaire”, *La Revue de la Banque du Canada*, Spring 1997, pp. 39-56.

Meyer, L., “The Politics of Monetary Policy: Balancing Independence and Accountability”, *Remarks by Governor L. Meyer*, October 24, 2000.

_____, “Rules Versus Discretion”, *Remarks by Governor L. Meyer*, January 16, 2002.

Minsky, H., *John Maynard Keynes*, Macmillan, 1975.

Mishkin, F., “Les canaux de transmission monétaire: leçons pour la politique monétaire” *Bulletin de la Banque de France*, No. 27, March 1996.

_____, "International Experiences with Different Monetary Policy Regimes", *Journal of Monetary Economics*, 43(1), 1999, pp. 579-605.

Neumann, M. and J. Von Hagen, "Does Inflation Targeting Matter?", *ZEI Working paper*, B01, 2002.

Orl  an, A., "Le tournant cognitif en   conomie", *Revue d'Economie Politique*, 112(5), 2002.

Parent, N., "Transparence et r  action des taux d'int  r  t    la publication p  riodique des donn  es macro  conomiques", *La Revue de la Banque du Canada*, Winter 2002c, 2003.

Paulin, G., "La transformation du visage des banques centrales durant les ann  es 1990", *Bank of Canada Review*, Summer, 2000, pp. 3-15.

Peytrignet, M., "Politique mon  taire suisse en changes flexibles: la pratique des objectifs mon  taires", *Working paper*, Bank of Canada, 2000, pp. 223-265.

Romer, D., "Keynesian Macroeconomics without the LM Curve", *Journal of Economic Perspectives*, 14 (2), Spring 2000.

Seccareccia, M., "Is the Canadian Dollar Destined to Disappear? The Case Against Dollarization", *International Conference*, Michigan, Kalamazoo College, May 2001.

Svensson, L., "Inflation Targeting as a Monetary Policy Rule", *Journal of Monetary Economics*, 43(3), 1999, pp. 607-654.

Taylor, J.B., "The Robustness and Efficiency of Monetary Policy Rules as Guidelines for Interest Rate Setting by the European Central Bank", *Journal of Monetary Economics*, 43(3), 1999, pp. 655-679.

_____, "Teaching Modern Macroeconomics at the Principles Level", *American Economic Review*, 90 (2), May 2000.

Thiessen, G., "Uncertainty and the Transmission of Monetary Policy in Canada", *The Hermes-Glendon Lecture*, Toronto, delivered at York University, March 1995.

_____, "The Canadian Experience with Targets for Inflation Control", *The Gibson Lecture*, Kingston, delivered at Queen's University, October 1998.

_____, "L'av  nement de l'Euro: son incidence   conomique et les le  ons    tirer de cette exp  rience", Remarks to the Canadian Club of Ottawa, January 1999a.

_____, “Then and Now: The Change in Views on the Role of Monetary Policy since the Porter Commission”, *The Tony Hampson Memorial Lecture*, Toronto, C.D. Howe Institute, March 1999b.

_____, “La conduite de la politique monétaire dans un pays voisin d’une grande puissance économique”, Speech to the Canadian Society of New York, March 2000a.

_____, “Can a Bank Change? The Evolution of Monetary Policy at the Bank of Canada 1935-2000”, Lecture to the University of Western Ontario, October 2000b.

_____, “Pourquoi un régime de changes flottants est-il le meilleur choix pour le Canada?”, Remarks to the Chambre de commerce du Montréal métropolitain, December 2000c.

Volcker, P., “The Philosophy of Central Banking: A Panel Discussion”, in F. Capie, C. Goodhart, and *al.ii*, *The Future of Central Banking*, Cambridge University Press, 1994.

WEB, <www.banqueducanada.ca>, <www.banque-France.fr>, <www.ecb.int>.