Central Bank Communication and the New Consensus

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## TABLE OF CONTENTS

1. INTRODUCTION ......................................................................................................................... 3

2. THE CONFIDENCE THEORY OF COMMUNICATION .................................................................. 4
   2.1. TRANSMISSION CHANNEL THEORY .................................................................................. 4
      2.1.1. The new transmission channel: the expectations channel ........................................... 4
      2.1.2. The expectations channel and the question of monetary policy .................................. 5
      2.1.2.1. The instrument ........................................................................................................... 5
      2.1.2.2. The intermediary objective ....................................................................................... 5
      2.1.2.3. The question : the rates linkage .................................................................................. 5
      2.1.3. Central bank as a statue with feet of clays ................................................................. 5
      2.1.4. The confidence approach .............................................................................................. 6
   2.2. EXPECTATIONS THEORY .................................................................................................... 6
      2.2.1. The standard theory: from rational expectations to adaptive learning ...................... 6
      2.2.1.1. Pitfalls of rational expectations, limits to transparency ........................................... 6
      2.2.2. Limits to inflation targeting ............................................................................................ 6
      2.2.3. The confidence theory of expectations ......................................................................... 7
      2.2.3.1. The framework ............................................................................................................. 7
      2.2.3.2. Foundations of agents’ rationality .............................................................................. 7
      2.2.3.3. The duality of the formation and the coordination processes ...................................... 7
      2.2.3.4. Coordination and asymmetric information ................................................................. 8
   2.3. TERM STRUCTURE THEORY ............................................................................................... 8
      2.3.1. The standard theory: a critical appraisal ....................................................................... 8
      2.3.1.1. From the rational expectation hypothesis to the credibility hypothesis of the term structure ........................................................................................................................................ 8
      2.3.1.2. Limits to the standard expectations theories of the term structure ............................. 9
      2.3.1.3. The case against the case for transparency and predictability .................................. 10
      2.3.2. The confidence theory of the term structure ............................................................... 10
      2.3.2.1. Long term segments and long term inflation expectations ....................................... 10
      2.3.2.2. Policy instrument implications: communication as a policy instrument per se ........ 11
      2.3.2.3. Communication and the yield curve ......................................................................... 13
   2.4. THEORY OF COMMUNICATION ......................................................................................... 14
      2.4.1. The essence and content of communication .................................................................. 14
      2.4.1.1. Communication and commitment: unconditional versus conditional communication ........................................................................................................................................ 15
      2.4.1.2. Characteristics of central bank communication .......................................................... 15
      2.4.2. The problems of publics ................................................................................................. 16
      2.4.3. The bi-dimensional theory of communication: the economics and politics of communication ........................................................................................................................................ 16
      2.4.3.1. The economics of communication or the communication strategy ............................ 16
      2.4.3.2. The politics of communication .................................................................................... 18

3. THE CONFIDENCE THEORY OF COMMUNICATION: THE 3C STRATEGY ........................... 19
   3.1. COMMUNICATION: A STRATEGIC, NOT INSTRUMENTAL LEVERAGE ON THE LONG RUN RATE ........................................................................................................................................ 19
   3.2. THE RATES LINKAGE AS AN ENDOGENOUS PROCESS .................................................... 19
   3.3. THE COMMON UNDERSTANDING ....................................................................................... 19
      3.3.1. Common knowledge vs. common understanding .......................................................... 19
   3.4. “BORING” VERSUS “COMMUNICATIVE” CENTRAL BANK ............................................. 20
      3.4.1. The case against a “boring” central banker ................................................................... 20
      3.4.2. The case for a communicative central banker ............................................................... 20
   3.5. WHAT IS NOT THE 3C STRATEGY: INFERENCE, SURPRISE AND SIGNAL ....................... 21
      3.5.1. The anticipated action puzzle and the inference process .......................................... 21
      3.5.2. The surprise school revisited ......................................................................................... 22
      3.5.3. Limits to signalling policy ............................................................................................... 22

4. THE FRAMEWORK: COMMUNICATION IN PRACTICE ......................................................... 23
   4.1. COMMUNICATION FRAMEWORK, REGIME, AND COMMITTEE ...................................... 23
   4.2. CALENDAR, CONCENTRATION AND COORDINATION .................................................... 23
   4.3. COMMUNICATION: TIMING AND FREQUENCY ................................................................... 24
      4.3.1. Date, day and scheduled ............................................................................................... 24
   4.4. TYPE OF COMMUNICATION AND SEGMENTS OF THE YIELD CURVE .......................... 25

5. CONCLUSION ............................................................................................................................... 25

BIBLIOGRAPHICAL REFERENCES ................................................................................................... 27
1. INTRODUCTION

We assist to a communication revolution. Communication is now presented as a cornerstone of central banking. It is a revolution on both empirical and theoretical ground. Before, the traditional practical wisdom in central banking was constructive ambiguity, mystique or secrecy: “never explain, never excuse”

The credibility theory or the rejection of communication

In theory, there was previously a credibility problem of monetary policy announcement. In the standard theory of monetary policy, the credibility literature (Carré & Le Heron, 2005), communication was counterproductive. The credibility literature (CL) goes from Kydland & Prescott (1977) to Woodford (2003). Seminal articles belong to the CL: Barro & Gordon (1983a-b), Rogoff (1985), Walsh (1995), Svensson (1997), etc…
There is a credibility problem because of time inconsistency: agents in rational expectations realise that central bank announcements are a fooling game that generates surprise inflation and an inflation bias. In this game-theoretic approach, the solution is a commitment to the “true natural” model of the economy. To oversimplify, the credibility scheme is RCC: Rule – Commitment – Credibility. Generally, the CL is associated with monetary targeting and monetary transmission mechanisms. Agents’ coordination means expectations anchorage on a rule-based monetary policy strategy. A maxima, communication is a “hidden pillar” (Issing, 1999b: 2)

The evolution of the credibility literature: the inflation targeting regime.

Monetary policy has evolved with inflation targeting and the New Keynesians. Communication becomes the second pillar of the regime. It is supported by the new expectations channel, the revival of the interest rate instrument, and by learning instead of rational expectations. The key issue is the linkage between the policy interest rate and the market interest rates. The solution is transparency, i.e. predictability. Communication transmits to markets the predictable path of the policy rate. Communication only supplements interest rate actions. The underlying theory of it is the rational expectations or pure hypothesis of the term structure. The underlying precondition is long term expectations anchorage with the inflation target. It is an old lady in new dresses: communication operates the expectations management in the favour of a rule-like monetary policy (King, 2000:6). In last analysis, it is a credibility theory of the term structure because long term expectations derive from the credibility of the central bank. It looks like an ad hoc solution. As soon as agents’ expectations are based on central bank’s interest rate expectations, the rates link is quasi automatic.

The confidence approach and communication

Confidence differs from credibility since there is no rule or time inconsistency in a radical uncertainty environment. The main question remains the rates linkage with the expectations channel. The strategy consists in achieving the consistency of both the central bank’s and the agents’ expectations. It is not easy because expectations that determine the long segment of the yield curve, the long term inflation expectations, are not under the control of the central bank. With the expectations channel, central bank is a “statue with feet of clays” (Le Heron, 2004) that needs public support to regulate the economy.
Since the interest rate instrument is not enough, another instrument is necessary to influence expectations. Communication is an instrument per se. Because agents need to understand, and not to know, communication intents to create a common understanding between the central bank and the agents. When the common understanding is established, agents can accept or not the co-ordination standard proposed by the central bank. Confidence is “…the co-ordination of markets participants on the representation of the future proposed by the central bank” (Aglietta, 2005:110). This strategy is the 3C: Communication – Common understanding – Confidence.
Purpose and plan of the paper

Despite communication now being a commonplace, we still need a general theory of central bank communication. This is a difficult task because different monetary policy regimes call for different communication strategies (Ehrmann & Fratzscher, 2004). That is why most of the literature remains empirical: it studies communications strategy.

The purpose of this paper is to propose a theory of monetary policy communication; not an overview of the literature on central bank communication.

The paper is organised as follows. Section 1 is dedicated to the theoretical foundations of the communication strategy. We develop three theoretical pillars: transmission channel theory, expectations formation process theory, term structure of interest rate theory. They lead to the proposal of a communication theory.

Section 2, on the basis of the first part, investigates the confidence theory: the 3C. It is a bi-dimensional theory because agents are heterogeneous. Different types of agents call for different types of communication. The first element, the economics of communication, or communication strategy, concerns financial markets participants. The second component, the politics of communication, or communication policy, is oriented towards the different audiences: entrepreneurs, the general public and its elected representatives.

Finally, section 3 analyses the theory in practice. In practice, the communication strategy and policy are associated in a communication framework. We present the procedures, types and contents of communication that concretely affect expectations and beyond the yield curve.

2. THE CONFIDENCE THEORY OF COMMUNICATION

2.1. TRANSMISSION CHANNEL THEORY

2.1.1. The new transmission channel: the expectations channel

Until recently, the main transmission channels were:

i) The Monetarist Friedmanian transmission mechanisms, i.e. monetary transmission mechanisms with long and variables lags.

ii) The Keynesian interest rate transmission channel. In its modern version it includes the “credit view” with the bank lending channel and the balance-sheet channel (Bernanke & Gertler, 1995). In the Keynesian Synthesis, the link between the central bank’s short-term and the market long-term rate is a non-issue. Based on the expectations theory of the term structure, this theory states that the interest rate instrument and channel is enough: monetary policymakers affect long-term rates only by changing current and expected future short-term rates.

In both theories, academics often allude to the expectations channel, but its analysis is eluded. It remains a “black box”. What regards central bankers, they claim that the expectations are the main transmission channel of monetary policy, while using an interest rate instrument. It illustrates that an interest policy does not necessarily mean an interest rate channel.

The expectations channel means that “markets do the job” (Blinder, 2004) for monetary policy. Monetary policy efficiency reaches its maximum if there is consistency between central bank’s expectations and agents’ expectations. The corollary is that the central bank is a “statue with feet of clays”. If there is inconsistency between both expectations, monetary policy efficiency is dramatically reduced. In contrast with the Keynesian’s transmission mechanism theory, the link between the official short-term rate and long rates matters.

In the standard theory, the exploitation of the expectations channel simply supposes that monetary policy can be expected by agents (transparency, predictability). From the confidence theory point of view, it appears to be a simplification or even a misconception of how expectations are formed and of how monetary policy affects the economy. As a result, there is a strong debate about what is exactly the expectations channel? How does it work? We need to go inside the black box.
2.1.2. The expectations channel and the question of monetary policy.

2.1.2.1. The instrument

In the literature, there is not a debate: monetary policy has moved from monetary targeting to interest rate policy. The main instrument is the official short term rate.

2.1.2.2. The intermediary objective

The market long run interest rate is the intermediary objective because it is the rate that matters. It is not the official rate that regulates the economy but the market rate. The latter is the most relevant for households’ decisions of spending and entrepreneurs’ decisions of investing: “central banks generally control only the overnight interest rate, an interest rate that is relevant to virtually no economically interesting transactions. Monetary policy has important macroeconomic effects only to the extent that it moves financial market prices that really matter – like long-term interest rates, stock market values and exchange rates” (Blinder, 1999:70).

Monetary policy efficiency for regulating the economy depends crucially on the hitting of this long rate: “The effectiveness of changes in central-bank targets for overnight rates in affecting spending decisions is wholly dependent upon the impact of such actions upon other financial-market prices, such as the longer-term interest rates…” (Woodford, 2005:2)

2.1.2.3. The question : the rates linkage

Monetary policy cannot be defined as interest rate targeting: the central bank does not perfectly control the long run market interest rate, but only the short run official rate. That is why expectations are crucial. They are the transmission channel from the instrument (short term rate) to the intermediary objective (the long term rate): “The links from the direct lever of monetary policy (the overnight rate) to the prices that matter depend almost entirely upon market expectations” (Amato, Morris & Shin, 2002:2). The realistic terminology is interest rate policy, not interest rate targeting.

The problem arises of the fact that the central bank does not perfectly control expectations and beyond the long rate. It raises the main topic of monetary policy: the linkage between the short rate and the long rate. With the expectations channel the connection is not mechanical. It is a “crucial linkage” (Bernanke, 2004c:4) but a “critical connection” (Bernanke, 2004b:2).

2.1.3. Central bank as a statue with feet of clays

The central bank leads an indirect (via expectations), not a direct regulation of the economy: “Monetary policy works largely through indirect channel – in particular, by influencing private-sector expectations and thus long-term interest rates” (Bernanke, 2004e:8). The long rate is not an official rate but a market rate. The central bank needs markets support to efficiently regulate the economy: “Financial markets are the channel through which our policy affects the economy…” (Kohn, 2005:1)

They are partner in policymaking. The central bank affects the economy only to the extent that it influences expectations. Indeed, most central bankers (Greenspan, 2005:2) and academics admit that private sector inflation expectations play a central role in the determination of the long rate, and so in the rates linkage: “…the modern view of the transmission mechanism of monetary policy emphasises that monetary policy actions have effects on the economy and the central bank’s target variables almost exclusively through the private sector expectations of the future path of inflation…” (Svensson, 2005:2).

The central bank has not an instrumental power on the economy since it does not directly regulate it with its instrument. It has a strategic power that depends on its ability to shape markets participants’ expectations.
2.1.4. The confidence approach

A strategic power means that policy efficiency depends on its interaction with markets. We consider that there is efficiency of monetary policy as soon as there is a state of confidence between the central bank and the agents. By confidence, we mean consistency between the expectations of both policymakers and agents. This expectations alignment makes the rates linkage possible. Confidence is characterised by a common understanding of the economy and the monetary policy regime/strategy between the central bank and agents. Confidence is “…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 other participants” (Le Heron, 2004:37).

2.2. EXPECTATIONS THEORY

2.2.1. The standard theory: from rational expectations to adaptive learning

2.2.1.1. Pitfalls of rational expectations, limits to transparency

Rational expectations is the standard theory of the expectations formation process. It is now well established that they suffer from multiple equilibria. The rational learning approach has been developed as a solution to this problem. It permits a selection of a unique equilibrium.

An obvious question is how the learning can happen? Most academics and central bankers recognise that agents cannot learn from the central bank via rule of thumb, reputation, commitment or enforcement because they do not exist. There is no optimal incentive compatible technology to realise the expectations anchorage.

The response of the standard approach is to implement a “systematic” and “rule like” behaviour of the central bank. Communication consists in the transparency on this reaction function. In the game theoretic approach of the CL, transparency works because agents cannot agree to disagree. They interpret the same way the same information because they are in rational expectations and form their expectations with the same natural model in mind. Transparency is efficient due to the efficient markets hypothesis. Transparency enhances the efficiency of the economy since it restores the perfect information environment that was destroyed by central bank private information. This standard theory of efficient financial markets is not robust (Shiller, 2003; Malkiel 2003).

2.2.2. Limits to inflation targeting

Inflation targeting promoters associate three elements:
- Adaptive learning
- Imperfect knowledge
- The inflation targeting regime: 1) policy framework; 2) communications strategy.

The underlying reasoning is that learning takes place via the two pillars 1) and 2). Institutional design and communications permit the learning of the agents. Said in a different way, these two components allow the central bank to influence expectations. They explicitly admit that communication shape expectations. They define it as “expectations management”.

Most inflation targeting theoreticians present this regime as a framework to facilitate the understanding between the central bank and agents. The underlying foundations are the same for both rational learning and adaptive learning: the “true” model of the economy.

Rational expectations and both types of learning are built as if there was no repeated game, no frequent relation between the central bank and the agents, whereas it is the case. It looks like as if agents and the central bank have no history together, like in a one shot game. Whereas in reality learning is only possible if there is a repeated, long history that produces a network between the central bank and the agents.
2.2.3. The confidence theory of expectations

2.2.3.1. The framework

The relation between the central bank and the agents does not evolve in a vacuum (Trichet, 2005c:2). It looks like as if there was a community of common interest between them. This sort of network could have been clustered by repeated interactions. It is an interactional learning. Contrary to the game-theoretic approach and the prisoner dilemma, they can talk. Communication, i.e. language, can be the basis for learning, and beyond expectations formation.

2.2.3.2. Foundations of agents’ rationality

The basic elements of rationality that determine the expectations formation process can be:
- Critical interpretation abilities
- Heterogeneous agents
- Bounded or limited rationality (Kahneman, 2003)
- Limited information treatment abilities or “rational inattention” (Sims, 2002)
- Radical uncertainty environment

Interactional learning is not a question of predictability, which is impossible in a radical uncertainty environment. It depends on explanations. But agents do possess critical interpretation abilities. They can reject a monetary policy if it is unconvincing, they can disagree. Their expectations are consistent with the central bank only if they are convinced of the argumentation: “If the central bank is able to convince economic agents and market participants of its analysis and assessment of the outlook, and about the policy measures it is going to take in response to it, this mechanism of anticipation will act in a self-equilibrating manner” (Trichet, 2005c:2). It is not expectations anchorage or management, but expectations conviction. Monetary policy is a deliberative process between the central bank and the agents, not a game. This deliberative process is a requisite for the central bank as a statue with feet of clays that impact the economy indirectly via market expectations. The central bank cannot play against it; it has to play with agents and try to win their confidence. It is noteworthy to see that this conceptualisation of expectations formation is opposed to the famous expression of Kydland & Prescott (1977:473): “…Economic planning is not a game against nature but, rather, a game against rational economic agents”.

The expectations conviction process is not easy. In addition to critical interpretation abilities, agents are also heterogeneous. They can interpret differently the same explanation: “The root cause of all this is that individual financial market participants fail to agree among themselves when interpreting the central bank signals” (Blinder et al., 2001:15). There are risks of disagreement and misunderstanding between the central bank and the agents.

The coordination of agents’ expectations with the central bank is an hazardous task that has to be analysed.

2.2.3.3. The duality of the formation and the coordination processes

Beyond the general characteristics of heterogeneous agents, it is necessary to precise the different types of agents with their different and specific expectations formation processes. In its communication, the central bank has to face several different publics. We address this question of the heterogeneity of audiences by distinguishing two types of expectations formation and coordination processes. They correspond to two types of agents:

a) Financial markets and Self-fulfilling expectations. Financial markets are in radical uncertainty about the future. They reduce uncertainty by what Keynes called the “beauty contest”, “mimetism” (Orléan, 2002), or by following “noise traders”. Financial markets possess their own beliefs formation process based on animal spirits. This particular form of rationality could explain what Shiller (2000) labels “irrational exuberance”. We leave rational expectations for self-fulfilling prophecies.
Communication consists of the polarisation of the beauty contest on monetary policy. The latter acts as a focal point for expectations. It is not a question of deliberation, but a question of salience. It is aimed at creating a salient standard of co-ordination for financial markets in uncertainty, or if you prefer a convention for market opinions. The general problematic is to make the signal a standard for co-ordination.

b) General public and Deliberative expectations. The public at large and its representatives do possess interpretation abilities with an argumentative rationality. It leads to an understanding and acceptation problem. If central bank explanation is unclear and not persuasive, its decision remains a simple information: agents stay heterogeneous. Agents need to be convinced, through arguments, of the relevance of monetary policy. Monetary policy decisions and objectives appear to be political compromise. Communication contributes to reduce the risk of misinterpretation. Furthermore, it permits a deliberation between the central bank and the agents that is the basis for the expectations conviction process. Communication matters because it is the way by which the central bank is building the consensus for its policy. This consensus makes monetary policy a common good or a social norm that is used by agents for their expectations production, and therefore also for their coordination.

2.2.3.4. Coordination and asymmetric information

The central bank possesses asymmetric information towards the agents. It could be defined as “private information” (Romer & Romer, 2000) since the central bank has more accurate and important forecasts of macroeconomics variables than most private agents. Central bank owns private information due to its institutional position and its ability to collect and centralise more information (externalities) than decentralised agents. The quality of public information is superior to private information.

Asymmetric information between the central bank and the agents is not a problem, but rather part of the solution. Its asymmetric position offers the central bank the ability to produce and to propose a common standard. Agents coordinate with the central bank’s communication because they prefer valuable public standard to private speculation. They prefer coordination with public common goods to private higher order beliefs coming from beauty contest. It is logical when we postulate that a common standard reduces the cost of information quest for agents. Another possible interpretation of the efficiency of communication is that agents consider that salience is a more efficient coordination process than speculation. Agents act as if the expectations formation process was less costly with a public focal point than with market opinion.

An obvious conclusion is that market participants are not supposed to follow central bank’s view. There are many reasons for agents’ expectations to diverge from central bank’s expectations. Long term inflation expectations can be independent from the central bank’s rate path. So that the monetary policy instrument of interest rates does not seem take a sufficient tool for shaping the expectations that determine the long segments of the yield curve.

2.3. TERM STRUCTURE THEORY

2.3.1. The standard theory: a critical appraisal

2.3.1.1. From the rational expectation hypothesis to the credibility hypothesis of the term structure

The mainstream is the expectations hypothesis of the term structure. This approach is complex because it can include rational expectations and a risk premium. So that in fact there are three components in the standard theory: i) the rational expectations theory of the term structure; ii) the expectations theory plus a risk premium based on the credibility theory; iii) the expectations theory of the term structure based on the given policy path and on the given inflation target.

\[^2\] Metha et al. (1994)
The rational expectations hypothesis of the term structure (i) alleges that the risk premium is equal to zero. To oversimplify, this theory can be briefly presented as follows:

**i) The pure rational expectations theory of the term structure**

\[ i_{LT}^e = \frac{1}{n} \sum \hat{i}_{ST}^e \]

- \( i_{LT}^e \): expected long-term market interest rate
- \( \hat{i}_{ST}^e \): expected short-term interest rate; central bank’s rate path formed by agents with rational expectations

Efficient markets have rational expectations. They can infer future short-term interest rate decisions of the central bank and deduce long-term rates. This is the basis for the rational expectations theory of the term structure.

This theory is frequently rejected by econometric tests, especially for long segments of the yield curve. That is why theorists focus their attention to long maturities and the risk premium, not to the rational expectations anticipated official rates. It is alleged that the risk premium is mainly driven by long-term inflation expectations. The latter can come from the credibility of the central bank (ii) or from the given inflation target that serves as a nominal anchor for long-term inflation expectations (iii). Before analysing these theories, we add a risk premium to the previous formula.

The expectations theory of the term structure augmented of a risk premium

\[ i_{LT}^e = (1/n) \sum \hat{i}_{ST}^e + l \]

- \( l \): Risk premium that may vary

In the credibility theory of the term structure (ii) the central bank keeps long-term inflation expectations and so the risk premium under control. They are supposed to be a function of the credibility of the central bank (Buttiglione et al., 1998). It can be presented as follows:

**ii) The credibility theory of the term structure augmented of a risk premium**

It analyses the risk premium as the sum of 2 components:

\[ l = \pi^* + \varepsilon \]

- \( \pi^* \): Inflation component of the risk premium, central bank credibility driven
- \( \varepsilon \): Non-inflation component of the risk premium that is not considered

\[ i_{LT}^e = (1/n) \sum \hat{i}_{ST}^e + \pi^* \]

The last component of the standard expectations theory of the term structure is (iii). This approach is not based on rational expectations. That is why the central bank has to give to the agents the future policy path. Inflation expectations are also given by the central bank inflation target that is supposed to give the expected inflation rate in the long-run. This term structure theory is compatible with the inflation targeting regime. The latter defines credibility as “the degree of proximity between private-sector inflation expectations and the inflation target” (Svensson, 2002:9). The basic idea is that the inflation target serves as a nominal anchor for long-term inflation expectations that reduces the components, i.e. expected inflation and inflation risk premium. As a result, the rates link is quasi automatic. The interest rate transmission mechanism works.

**iii) The given policy path and target theory of the term structure augmented of a risk premium**

\[ i_{LT}^e = (1/n) \sum \hat{i}_{ST}^e + \overline{\pi} \]

- \( \hat{i}_{ST}^e \): Central bank’s interest path given by the central bank
- \( \overline{\pi} \): Central bank inflation target

#### 2.3.1.2. Limits to the standard expectations theories of the term structure

In the credibility theory of the term structure, both anticipated short-term rates and the risk premium are largely determined by central bank credibility, i.e. by “the monetary policy anti-inflationary commitment” (Buttiglione et al., 1998:148). It reveals that this theory rests upon the credibility literature and the related rational expectations hypothesis. In particular, long-term
inflation expectations are in fact rational expectations \( (\pi^*) \). Therefore the credibility theory of the term structure is very similar to the pure rational expectations theory of the term structure, and has to face similar criticisms.

Concerning the “given path” theory of the term structure (iii), it is more compatible with the interest rate channel of transmission than with the expectations channel. The explanation goes as follows. The connection between the term structure theory and the transmission channel theory is realised via the given predictable path of future central bank’s rate. Put differently, the long term rate is a deduction from predictable, because largely given, short-term rates. In last analysis, the term structure is mainly the production of central bank’s short-term rates, not of agents’ expectations. The conclusion is straightforward: it is more an interest rate channel, than an expectations channel. If it ever really were an expectations channel, there would be no automatic connections between the short-term rate and the long-term rate, between the given (central bank) and the observed (markets). The rationale for this deconnection is that market participants’ expectations have no particular reason to be automatically consistent with the short term central bank’s rate. Markets can produce their own private expectations of the long term rate, autonomous from the central bank’s rate projection.

As soon as you postulate that expectations are produced by the central bank, there is an automatic linkage between agents’ expectations and the central bank’s expectations. The central bank controls agents’ expectations perfectly. This automatic consistency of expectations of the central bank and the agents is the underlying hypothesis of the standard theory of the term structure. It supposes that agents’ expectations are:
- not autonomous from the central bank
- produced by the central bank
- mechanically consistent with the central bank
- focused on central bank policy and its instrument (interest rate), so they in fact are “policy expectations” not “private expectations”

Shortly, as soon as inflation expectations are anchored to the central bank (and its inflation target), the link between the short-term and long-term rates is solved.

### 2.3.1.3. The case against the case for transparency and predictability

With these hypotheses, the connection between the official short-term rate and the market rate is easy. The central bank perfectly controls the long term rate, so it perfectly regulates the economy. The only policy to implement is a transparency policy: make the future interest rate path perfectly predictable to agents. This is the meaning of communication in the standard perspective: transparency and predictability.

The problem arises as soon as you admit that no central bank practices this predictable policy path approach. No central bank publishes its future interest rate movements. The reason is easy to understand: it is unfeasible due to radical uncertainty and its unpredictable shocks.

The second criticism is of the credibility theory of long segments of the yield curve. According to this approach, long-term inflation expectations result from the reputation of the central, i.e. from its past performances in term of inflation. But there still is a risk of time inconsistency. In last analysis, credibility means credibility of the commitment to the true model and zero inflation (Buttiglione et al., 1998:148). Transparency consists of exhibiting the commitment.

### 2.3.2. The confidence theory of the term structure

#### 2.3.2.1. Long term segments and long term inflation expectations

Long-term rates do not seem to be a pure function of anticipated future short-term rates. There is a possibility that long-term rates are segmented from short-term rates. It looks as if there was a segmentation of the yield curve. Different horizons of the yield have different determinants. Basically, the short-term rates impact mainly short-term segments of the yield curve, while long-
term rates are primarily affected by long-run inflation expectations. We can represent the confidence theory as follows:

\[ i_{LT}^e = (1/n) \sum i_{ST}^e + \pi_{LT}^e \]

that we simplify: \( i_{LT}^e = f(\pi_{LT}^e) \)

\( \pi_{LT}^e \): Long-term inflation expectations

The component \( i_{ST}^e \) is not considered as the main determinant for long-term segments of the yield curve. Rational expectations and the central bank’s rates path are not the core of the theory. In the confidence theory of the term structure, long-term segments of the yield curve are mainly long-term inflation expectations \( \pi_{LT}^e \) driven. The link between the central bank’s short-term rate and the long-term market rate is hazardous because of the autonomy of market participants’ long-term inflation expectations.

The main difference between the different theories is about long-term inflation expectations (\( \pi \)). In the credibility theory, they are based on rational expectations (\( \pi^* \)). In the “given policy path” theory, they are anchored to the inflation target (\( \pi_t^* \)). Finally, in the confidence theory, long-term inflation expectations are neither the product of rational expectations, nor the creature of the central bank: they are primarily the product of entrepreneurs, of bankers and of market participants (\( \pi_{LT}^e \)).

2.3.2.2. Policy instrument implications: communication as a policy instrument per se

The short-term official rate does not strongly affect long term market rates. The interest rate instrument is an insufficient solution to the problematic of rates linkage.

It shows that the expectations channel should be taken seriously. The long term rate is the creature of the market. Market participants’ expectations are heterogeneous and basically autonomous from the central bank. The long term rate can diverge from the short term rate. The linkage between the two rates becomes the core of the problematic, and the reason for the crucial role of central bank communication.

To put it briefly, as soon as you admit the expectations channel, there is impotency of the interest rate instrument to operate the rates linkage. The interest rate is not enough. Monetary policy becomes ineffective to affect the economy. That is why we describe the central bank as a “statue with feet of clays”. In other words, the central bank needs another instrument specifically dedicated to expectations. Communication becomes a monetary policy instrument: communication can speak louder than action.

Regarding communication as a full instrument is a novelty in the literature. Before, communication was seen as consisting only of words, no of action. To oversimplify, the evolution consists in regarding communication from babbling to a full instrument of monetary policy. Nowadays, there is a consensus on the idea of communication effectiveness for influencing markets’ expectations and beyond the long maturities of the yield curve. The evolution of the analytical conception of communication is as follows:

- Communication as a peril: fooling announcement
- Communication as inefficient: babbling
- Communication as news: Peril because can lead to noise
- Communication as an empowerment of interest rate action: announcement effect: Communication is not an instrument by itself: action speaks louder than words, but action speak louder with words
- Communication as an instrument, but less efficient than action
- Communication is the necessary complementary of action: combination of action and communication
- Communication is a full instrument, but cannot substitute for action
- Communication is a full instrument and can substitute for action: communication becomes an action by itself.

Reviewing the literature dealing with the term structure, we shed the light on the lack of robustness of the rational expectations theory of the term structure. The figure that follows presents a synthesis of the yield curve literature.
**Figure 1: Determinants of the segments of the yield curve**

**Factors explaining movements of the yield curve and references**

<table>
<thead>
<tr>
<th>Short-term segment</th>
<th>Medium-term segment</th>
<th>Long-term segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary policy factor, i.e. the expectations theory of the term structure. La Monetary policy affects the whole spectrum of the yield curve with its sole interest rate instrument.</td>
<td>Macroeconomic factors (productivity or inflation shocks)</td>
<td>Long-term inflation expectations</td>
</tr>
<tr>
<td>1) Monetary policy factor, monetary policy shock or agents’ rational expectations of future central bank’s rate</td>
<td>1) Inflation expectations factor</td>
<td>1) Long-term inflation expectations central bank credibility or its track record</td>
</tr>
<tr>
<td>Monetary policy affects the whole spectrum of the yield curve with its sole interest rate instrument</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Macroeconomic factors (productivity or inflation shocks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hordhal et al. (2003 :8)</td>
<td></td>
<td>Gurkaynak et al. (2003 :3) : non-anchored expectations</td>
</tr>
<tr>
<td>2) Macroeconomic factors (inflation, growth real interest rate)</td>
<td>Inflation expectations factor</td>
<td>Time-varying risk premium factor</td>
</tr>
<tr>
<td>Ang &amp; Piazzesi (2003 :748)</td>
<td>3) Macroeconomic announcements or news factor</td>
<td></td>
</tr>
<tr>
<td>3) Inflation expectations factor</td>
<td></td>
<td>Balduzzi, Elton &amp; Green (1997 :4)</td>
</tr>
<tr>
<td></td>
<td>Gurkaynak et al. (2003 :2)</td>
<td>Gurkaynak et al. (2003 :2)</td>
</tr>
<tr>
<td>4) No macroeconomic announcements factor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fleming &amp; Remolona (1999 :3)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Time and segments of the yield curve**

<table>
<thead>
<tr>
<th>Month</th>
<th>1 month</th>
<th>6 months</th>
<th>1 year</th>
<th>5 years</th>
<th>10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment</td>
<td>1) Monetary policy factor</td>
<td>2) Macroeconomic factors (productivity or inflation shocks)</td>
<td>3) Inflation expectations factor</td>
<td>4) No macroeconomic announcements factor</td>
<td>5) No monetary policy factor</td>
</tr>
</tbody>
</table>

12
2.3.2.3. Communication and the yield curve

The standard theory considers that the autonomy of the determinants of the long term segments of the yield curve is a non-issue. Long run inflation expectations are in function of reputation and of the credibility of the commitment via a rule. These expectations can be managed without communication. An instrument rule (Taylor rule) is enough, and so is the interest rate instrument.

The previous paragraphs on expectations theory have shown the limits to the standard approach of expectations. In contrast, the confidence theory analyses communication as the relevant instrument for influencing expectations. In brief, communication robustly affects long term maturities of the yield curve.

There is a consensus on the idea that communication is a robust determinant of long maturities of the yield curve. There is also a consensus on the hypothesis that communication can affect maturities without interest rate decision. It can be an autonomous instrument.

Figure 2: A review of the literature on the impact of communication on the term structure:

<table>
<thead>
<tr>
<th>Segments of the yield curve</th>
<th>Content or type of communication influencing the segment</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>d. Intentions of future expected interest rate decision</td>
<td>d. Andersson et al. (2001)</td>
</tr>
</tbody>
</table>

Source: author

The dissensus is about in which environment communication can be a full instrument. The first thesis is that communication is an instrument in abnormal conditions, i.e. when the interest rate is impotent. For instance, in zero lower bound, deflation, bubble or liquidity trap. In those cases, communication is a “monetary policy alternative” (Bernanke et al., 2004). We cannot disagree with the idea that, in such crisis conditions, expectations conviction is crucial and so is communication which becomes even more decisive.

The second thesis is that communication is an instrument also in normal conditions. Communication impacts longer maturities that interest rate actions (Andersson et al., 2001). It leads to the idea of a combination of communication and action to influence the whole yield curve: action impact short maturities, and communication long maturities. Communication and action are complementary, open mouth operations and open market operations work together.

It implies that communication is enough for long rates. For example the Humphrey-Hawkins testimony or Greenspan’s speeches can move long-term rates (Bernanke et al., 2004). Communications can replace interest rate decisions and saves interest rate. Communication offers room of manoeuvre for the interest rate. To sum up, communication is the equivalent to interest rate actions. It is clear in the case of the communication time since 2003. The terminology of “considerable period of time” and the ones that follow that permit the Fed not to move the fed funds: « …a statement that interest rates would be kept low for a longer period of time was able to substitute for an immediate cut in rates » (Woodford, 2005:23).
The main lesson from these developments is that communication is a more efficient instrument to shape long maturities of the yield curves. In the case of long rates formation, communication speaks louder than actions. It seems that expectations that shape the long term rate that matter are more influenced by what the central bank says than by it does.

### 2.4. THEORY OF COMMUNICATION

The problem with communication arises about the exact meaning of communication. There is a broad confusion between communication and a flurry of notions: transparency, signalling, disclosure, clarity, message, information… From previous paragraph we can deduce the answer to the question of what communication is in the context of monetary policy? We define communication as “a specific language used to explain to the public, on the basis of the strategy, the bank’s assessment of current and expected developments and the reasoning behind policy decisions” (Issing et al., 2001:45).

#### 2.4.1. The essence and content of communication

We define communication as explanations. Communication is more than just information. It is not limited to the revelation of private information. It is a justification for action, and even an action by itself. Communication is aimed at facilitating the deliberative process between the central bank and the agents. Deliberation supposes argumentation in order to persuade the receiver. Explanations pursue the goal of expectations conviction. The various forms of communication by central banks are dedicated to explain various elements:

- The policy regime and strategy
- The change or deviations in strategy, i.e. tactic
- Indication of the main prominent objective of the moment (growth or inflation)
- Indication of the future orientation of monetary policy
- The general economic environment of monetary policy (uncertainty…)
- The current economic environment, i.e. proposing a model and representation of the economy (structural changes, shocks…)
- Interpretation of change in the interest rate policy (change in direction or size)
- The current decisions concerning interest rates
- Etc…

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**Figure 3: Contents and types of communications influencing segments of the yield curve**

<table>
<thead>
<tr>
<th>CONTENTS and TYPES OF COMMUNICATIONS</th>
<th>INFLUENCING THE DIFFERENT SEGMENTS OF THE YIELD CURVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) <strong>Content of communication:</strong></td>
<td>1) <strong>Content of communication</strong></td>
</tr>
<tr>
<td>- Current monetary policy decision</td>
<td>- Future monetary policy</td>
</tr>
<tr>
<td>- Future interest rates</td>
<td>- Future interest rates</td>
</tr>
<tr>
<td>- Future monetary policy decisions</td>
<td>- Future monetary policy decisions</td>
</tr>
<tr>
<td>- (Monetary policy statement)</td>
<td>- Current and future states of the economy</td>
</tr>
<tr>
<td></td>
<td>- (Monetary policy inclination)</td>
</tr>
<tr>
<td>2) <strong>Types of communications:</strong></td>
<td>2) <strong>Types of communications</strong></td>
</tr>
<tr>
<td>- Press conference after the rate decision</td>
<td>- Inflation Report</td>
</tr>
<tr>
<td>- Statement about the decision</td>
<td>- Balance of risks</td>
</tr>
<tr>
<td></td>
<td>- Minutes</td>
</tr>
<tr>
<td><strong>SEGMENTS of the YIELD CURVE</strong></td>
<td><strong>SOURCE:</strong> author</td>
</tr>
</tbody>
</table>
2.4.1.1. Communication and commitment: unconditional versus conditional communication.

In inflation targeting, communication is presented as a new version of commitment. This is a reminiscence of the credibility literature. The underlying idea is that predictability comes from a commitment to a particular model of behaviour, generally the true natural model of the economy. This approach can be summarised as follows: natural model – rule- commitment – transparency on the rule- credibility. As Woodford (2005:28-29) asserts: “a commitment to transparency of this sort helps to make policy more fully rule-based, as well as increasing the public’s understanding of the rule” There is a contradiction inside the inflation targeting regime because it is not supposed to be a rule, but a constrained discretion or a policy framework (Bernanke, 2003).

In this commitment approach, communication means that it is said once for all. There is a commitment, in the meaning that you have to do what you say, even in the case of an evolving economy. It is an unconditional communication (Issing, 2005:70). Communication is a constraint for monetary policy, and its flexibility to respond to unpredictable shocks. That is why the promoters of this commitment approach recommend not to communicate intensively because it is a commitment that reduces policy flexibility.

In the confidence theory, a commitment to a particular systematic behaviour is unfeasible due to uncertainty. It is the reason why communication exists: to explain change in the strategy. Communication’s content evolve with time: “indications about future decisions must always be seen as conditional commitment” (Issing, 2005:70)

Most inflation targeting advocates now admit that a rule-based or rule-like monetary policy is impossible in practice. That is why inflation targeting as evolved from strict inflation targeting to judgmental inflation targeting with the “use of considerable amount of judgement” (Svensson, 2005:1). With such discretionary monetary policy, a commitment is not possible. Communication is dedicated to give the rationale to this discretion and to frame the discussion on monetary policy between the central bank and agents. For all these reasons, most central bankers are against this conception of communication as a commitment. They consider that communication does not entail policy flexibility (Bernanke, 2004: 8)

2.4.1.2. Characteristics of central bank communication

Communications should contain relevant explanations, i.e. should make the central bank understandable for the general public. In order to facilitate the expectations conviction process of agents, the comprehensive explanations conveyed through communication could have the following characteristics:

i) Extensive explanations. The Fed is clear on that point: “we argue that more detailed statements have advantages over simple summary statements” (Kohn & Sack, 2003:29). And so is Blinder (1999:75): “Before I served on the Federal Reserve Board, I believed the Fed could and should offer much more by way of explanation. Now, having been there, I feel absolutely certain”. We move from “never explain, never excuse” to “explaining more it is understanding better”.

ii) Clear explanations. Clarity could be defined as follows: “The aspect of clarity suggests that information needs to be simplified, structured, and interpreted in order to be understood” (Winkler, 2002:422). The public should be able to understand the short-term tactical change of central bank’s strategy: “The rationale for policy actions cannot be fully understood unless the central bank is reasonably clear about its long-run objectives” (Ferguson, 2002:1) Communication has to convey clear explanations that make interpretation possible. The central bank “balance of risks” should be readily understood.

iii) Forward-looking Explanations. The central bank should propose its interpretation of current economic conditions, but also future conditions because financial markets are in uncertainty about the future of the economy. Many other arguments call for forward-looking explanations: transmission lags that justify the medium-term orientation; giving information about the future path

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3 See Bernanke (2004:1).
4 P. Ricoeur (1985:37)
5 Contrary to the credibility framework, the myopia comes rather from the financial participants than from the government.
of the interest rate to financial markets to shape the yield curve; focusing on the expectations that matter, i.e. medium-term inflation expectations.

iv) **Limited, scheduled and structured.** Extensive explanations do not mean an every day flow of information from the central bank. Communication should remain limited and rare. This limited frequency and number of communication imposes the scheduling of interventions and publications. The aim is to not surprise agents. For example, the number of interest rate decisions per year should be limited and organised in a published calendar.

2.4.2. The problems of publics

As soon as you consider agents to be heterogeneous, it implies a diversity of publics. It means different explanations, time horizons, depending on the targeted audience. Different agents call for different forms of communication. We distinguish two types of public that correspond to the two components of the expectations formation process:

1. Market participants: polarisation
2. Broad public and its elected political representatives: compromise

This dualism of agents leads to a communication problematic that is regularly pointed out by central bankers and academics: “An additional difficulty stems from the need to address various target groups, including academics, the markets, politicians, and the general public. Such a broad spectrum may require a variety of communication channels geared to different levels of complexity or different time horizons” (Issing, 2005:72). Blinder & Wyplosz (2004) label it the “two way street theory”.

Lohmann (2002) asserts that the “collection of audiences” is not a problem, but the solution to the credibility/flexibility dilemma. The monetary institution is a “flat institution” that works efficiently in the favour of the confidence of various audiences. According to an “audience cost theory”, the more there are audiences, the more there are rooms for credibility and flexibility.

2.4.3. The bi-dimensional theory of communication: the economics and politics of communication

In connection with the two-sided theory of expectations, we distinguish two dimensions of communication:

2.4.3.1. The economics of communication or the communication strategy

It is related to the expectations formation process of financial markets, polarisation. This component of communication is aimed at ensuring the efficiency of monetary policy, i.e. to maximise its effect on a long-term rate.

Communication and monetary policy regime

To oversimplify, in the credibility literature such explanation is unnecessary. The optimal communication is dedicated to impose a nominal anchor to expectations. Basically, communication consists in explaining what you are doing and why. At the more general level, you explain the monetary policy regime, not a true model or a rule that does not exist: “…monetary regimes are very powerful in shaping public expectations” (Trichet, 2005a:1) The central bank has to teach or educate the public about the monetary system that contains, in particular:

- The mandate and its final objectives
- Operational and intermediary objectives
- The strategy and the tactic (deviations from the strategy)
- The time horizons
- The transmission channel
- Etc...

It is crucial to communicate the strategy to the markets. Strategy indicates the near term or medium term pattern of monetary policy. The strategy’s horizon goes beyond the real-time horizon of the interest rate decision. Strategy is the most relevant for long run markets expectations that forge the
long term rate. There should be time adequation between the time horizon of expectations and the time horizon of communication.

The first step of communication is to present the strategy to the public in order to share it. The second step of communication is to convince the public of the consistency and relevancy of the whole strategy pursued by the central bank. Indeed, as soon as there is no true model of the economy there is no true strategy; therefore different strategies compete with each other. The representation of the economy is open to discussion. According to Issing (2005:71), “If a central bank pursues a consistent strategy and succeeds in communicating it convincingly, it will play an important role in successfully steering expectations”.

By strategy, we also mean how the central bank interprets and acts under its mandate. A clear example is the balance of risks of the Fed that is a re-visitation of its dual mandate.

Communication, strategy and shocks

It is clear that communication is even more valuable in unusual conditions. The regime also contains a strategy for stress conditions: “One element of such a strategy is to provide some (implicit) indication of how monetary policy is likely to deal with exogenous shocks to supply and demand” (Issing, 2005:71). Communication works even more in dynamic, than in static normal conditions. Communication should convey explanations about monetary policy analysis of new major macroeconomic news. More generally, communication should give the representation of the shock and the tactical short term change of the near term strategy that is implied. It means, in line with the dual mandate, to explain how new conditions modify the priority between different objectives. In dual mandate, communication is even more required because there is flexibility of objective, and not only of the interest rate. Those explanations also suppose that communication talks about the tradeoffs in the case of a shock.

Communication and flexibility

The commitment approach to communication is opposed to the confidence theory. In the commitment approach, communication is a constraint to flexibility, while in the confidence theory it is an enhancement of flexibility. Communication permits to earn margins of manœuvre to respond to shocks. It enhances monetary policy flexibility to respond to shocks because as soon as agents understand the tactic, their expectations move in line with the central bank. In brief, communication is a way to reduce the “inflation scares” generated by shocks.

Communication, uncertainty and discretion.

Radical uncertainty and discretion are now two founding principles of monetary policy. Our hypothesis is that discretion is the product of radical uncertainty. Radical uncertainty means unpredictable shocks, ever changing economy and even structural change in the economy. Unexpected shocks call for tactical deviations or changes from the announced strategy. Moreover, it induces that the policy strategy of tomorrow differs from the strategy of today. To sum up, uncertainty implies discretion, i.e. flexibility in strategy, objectives and response. That is why monetary policy cannot be encapsulated in a rule, because the rule should be so complex that it would be unfeasible and not understandable for the agents.

But at the same time those shifts to strategy should be communicated to the public for the validation of expectations. The transmission of discretionary policy to agents cannot be based on a rule, a commitment or a contract. That is why the interaction between the central bank and the agents is communication-based (Morris, 2001:245-246).

The basic problem is that the more there is uncertainty, the more there are potential changes in the strategy, so the more there is a need for discretionary policy. The straightforward conclusion is that the more there is uncertainty and discretion, the more there is a need for communication: “Strict adherence to rules solves the problem of communication and transparency...Conversely, the public’s need for information increases with the level of discretion exercised in the monetary policy decision” (Issing, 2005:69)
Communication is a way of reducing a source of uncertainty for the agents: uncertainty about monetary policy itself. But communication also diminishes other uncertainties: uncertainty about the evolution of the economy in general and of many variables in general. Agents focus on central bank communication because they are convinced that it is informative. The rationale for this coordination on central bank information and communication is the quality of central bank analyses as exposed previously.

2.4.3.2. The politics of communication

This aspect of communication is related to explaining monetary policy to the public and its elected representatives. This side of communication intents to convince agents in order to transform the policy decision into a consensus. In last analysis, this type of communication is a search for the legitimacy vis-à-vis of the agents. This component of communication is also necessary because the central bank is embedded in a democratic society. To be precise, the central bank is a part of democracy. In a representative democracy, in fine, the central bank is ultimately subservient to elected representatives. The latter vote the law and they mandate the central bank and can provoke its dissolution. The central bank is a creature of the Congress, not of the theory.

Communication and democracy

In the credibility approach, in the name of the dichotomy, monetary policy is a purely economic question, not a democratic one. Political relationships are supposed to be the peril that produces time inconsistency. Political isolation is recommended, and implemented via central bank independence. The central bank is not supposed to be accountable to elected representatives, but only to the general public directly.

In the eyes of the public, such a democratic deficit curtails central bank legitimacy. So this isolation from the political authorities is a fiction that does not exist in reality and is counterproductive for central bank legitimacy. Without legitimacy, the central bank loses a lever on expectations. Communication, in the meaning of the deliberation made by argumentation, is a founding principle of democracy. To make an analogy, monetary policy can be viewed as a deliberative process like the political process of decision in the Antic agora or in the modern Congress. Communication then is part of an argumentative rationality that explains the expectations formation process. The central bank gives arguments, and there is a deliberation with the public that leads to a consensus or not. Monetary policy is accepted or not. In this democratic perspective of a deliberative monetary policy, communication is made of a language that is to be understandable by the public at large.

The central bank is an institution embedded in a democratic society. As the monetary institution, it totalizes conflicts among agents, particularly concerning the distribution of wealth. The central bank has a democratic delegation to operate a compromise on redistributional considerations while respecting its mandate. Monetary policy objectives should be seen in a political approach, and not in a social welfare theory. Following this avenue of research, Cukierman (1986: 10-11) defines objectives as political compromises between conflicting groups and objectives. It leads to time-varying objectives with asymmetry of information since obviously the central bank is better informed about its choice than agents are. Communication becomes necessary in order to explain the objectives’ compromise and its change to agents.

Communication and accountability

Since the central bank is a creature of elected representatives, accountability directly to them is a democratic device. The central bank has the obligation to explain to elected representatives how it respects its democratic mandate. It is sometimes asserted that accountability is the corollary of independence. It is not totally exact. No central bank is totally “independent”. On the contrary, the relationship between the central bank and political authorities can be envisaged as a “delegation”. Elected representatives delegate the
tasks of monetary policy to an agency: the central bank. But the latter remains under the authority of the ones that create it: politicians. Accountability is the *quid pro quo* for delegation, not of independence. Independence potentially means absence of communication. Recent researches demonstrate that the communication of accountability has a robust impact on long rates. Bernanke et al. (2004) reveal that speeches from Greenspan in the Congress for the Humphrey Hawkins testimony have a significant effect on long maturities of the yield curves.

### 3. THE CONFIDENCE THEORY OF COMMUNICATION: THE 3C STRATEGY

#### 3.1. COMMUNICATION: A STRATEGIC, NOT INSTRUMENTAL LEVERAGE ON THE LONG RUN RATE.

On the basis of the previous theories, we construct a confidence strategy of communication. By strategy we mean a way to shape expectations. This influence on expectations is not instrumental. It is not a production of the sole instrument of interest rate; neither is it an interest rate transmission channel. With the expectations channel, monetary policy efficiency rests upon the alignment of its expectations with markets’ expectations. The expectations channel leads to a strategic leverage on the long run markets’ rate: the expectations consistency between both actors is determined by agents’ acceptation of monetary policy explanations.

#### 3.2. THE RATES LINKAGE AS AN ENDOGENOUS PROCESS

In the CL, there is an exogenous natural model of the economy; inflation is an exogenous variable, with an exogenous theory of money. In the confidence strategy, with the expectational theory, inflation becomes endogenous. There is an endogenous theory of money. Confidence means that monetary policy is endogenous, i.e. the production of the interaction between the central bank and the agents. Co-ordination on monetary policy is not given, it is a construction. Confidence is partly based on communication: “…*an increasing recognition of the broader importance of good communication for promoting confidence in the policy regime*” (Edey & Stone, 2004:73). Confidence is the will to build a consensus on monetary policy through a common understanding between the central bank and the agents: “*A clear understanding of the policy process builds confidence*” (Bell, 2005:5). It is the 3C strategy: Communication – Common understanding - Confidence

#### 3.3. THE COMMON UNDERSTANDING

Common understanding is defined as “*how much the strategy is interpreted and understood in the same way by the central bank and the public*” (Winkler, 2002:413). Another definition is proposed by Blinder & Wyplosz (2004:7): “the main purpose of central bank talk is to help markets to think like the central bank”.

3.3.1. Common knowledge vs. common understanding.

The common knowledge is synonymous with complete information. In game theory, agents do not talk since they are supposed to know enough to co-ordinate themselves: i) they know the “true” model of the economy and ii) they can anticipate central bank action (rational expectations). Transparency consists in public disclosure that increases the co-ordination power of the common knowledge. The combination of common knowledge and transparency generates a sort of perfect information situation. In this environment, uncertainty is reduced. There is no need for common
understanding because agents know all they have to know for their expectations formation. Coordination on central bank decisions is automatic since agents are homogeneous. Transparency neglects the communication issue, i.e. the relationship between the agents and the central bank.

In the confidence strategy, communication matters since there is an understanding and coordination problem. Monetary policy is embedded in a radical uncertainty environment. Private expectations formation relying on signals by the central bank signal is not automatic. The signal extraction comes from understanding (interpretation), not from knowledge (induction). To form their expectations, agents do not need to know, they need to understand. Agents can know without understanding monetary policy decisions. If they do not understand, it is unlikely that agents would form their expectations upon monetary policy. Transparency or common knowledge does not suppose central bank to be clear. Transparency is the contrary of secrecy, not of ambiguity. Because strong rationality assumptions are relaxed, what emerges is a coordination issue. The common understanding becomes crucial to reduce the coordination problem among agents.

The expectations formation is not a unilateral process coming from the central bank or a derivation from a unique model of the economy. It is rather a mutual scheme that supposes agents having the ability of interpretation. The common understanding is a mutual, a shared comprehension of the economic environment explaining central bank action. The coordination standard is an endogenous construction between the central bank and the agents. The central bank has to be open to discussion to convince agents. Monetary policy is the production of an interactional learning process\(^6\) between the central bank and the agents. Central banks are supposed to communicate and to explain in order to convince. That is why central banks act and “talk” to build the common understanding. Openness is based on language (Winkler, 2002:423). Once in common understanding, agents can interpret the central bank decisions. They can understand and validate (or not) short-term tactical deviations from the medium term strategy. In other words, common understanding makes the public a partner in monetary policy making and efficiency.

3.4. “BORING” VERSUS “COMMUNICATIVE” CENTRAL BANK.

3.4.1. The case against a “boring” central banker

In the predictable policy path theory of transparency, central bankers’ communication consists of saying what is already common knowledge. As King (2000:7) puts it, an optimal central banker is “boring”: “…transparency should lead to policy being predictable. Hence a successful central bank should be boring”.

We analyse this theory as a simplification, or even a simplistic view of monetary policy. The boring approach is valuable under normal conditions. In bad times, this approach becomes insufficient. In radical uncertainty, unpredictable shocks make decisions and also the path, unpredictable. Structural changes or shocks in the economy generate change in monetary policy strategy and path. In these critical moments, central bankers are nothing but boring: their communication explain a change, not the predictable path. Because of uncertainty and discretion, the central banker cannot be “boring” (Lambert, 2004:12-13).

3.4.2. The case for a communicative central banker

We call “communicational”\(^7\) or “communicative” (Blinder & Reis, 2004:34) a central bank that intents to build a common understanding of its action. Bernanke (2003a:4) describes this process as follows: “To the extent that it can explain its general approach, clarify its plan and objectives, and provide its assessment of the likely evolution of the economy, the central bank

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\(^6\) For the evolution from indeterminacy to learning, see Mc Callum (2003:30): “…learnability, not indeterminacy, should be viewed as the relevant issue for policy-oriented theoretical analysis of monetary policy”. For learning literature, see Evans and Honkapohja (1999, 2001).

\(^7\) It is related the communicational theory of J. Habermas (1987).
should be able to reduce uncertainty, focus and stabilise private sector expectations, and with intelligence, luck, and persistence- develop support for its approach in policy making”.

Tognato (2003:17) argues that communication is not a problem for central bank confidence and flexibility, but rather their basis. Communication permits various publics to become experts in monetary policy, in the meaning that they understand the strategy. With this understanding they can validate monetary policy or not: accountability becomes efficient. This “communication empowerment” of various audiences is the root cause of central bank efficiency and legitimacy: agents cannot accept if they do not understand. It sheds the light on “communicative preconditions” for understanding, and beyond confidence. They are achieved by a communicative central bank, i.e. a “multilingual institution capable of practising linguistic discrimination across its multiple communicatively heterogeneous audiences” (Tognato, 2003:11). A communicative central bank deals with the issue of the heterogeneity of agents and modes of understanding by using different languages.

3.5. WHAT IS NOT THE 3C STRATEGY: INFEERENCE, SURPRISE AND SIGNAL

3.5.1. The anticipated action puzzle and the inference process

A consequence of the predictable policy path theory is that interest rate decisions are anticipated by agents. Markets move before actions of the central bank on behalf of interest rate, and there are little responses from the markets the day the interest rate is changed (Cochrane & Piazzesi, 2003).

The question remains the same: how is this anticipation possible when the central bank does not publish its future interest path due to uncertainty? Put differently, what is the expectations formation process of agents’ expectations of future interest rate movements? The traditional answer is the inference approach. Agents infer central bank intentions of future rates from current interest rate actions. It is difficult to know if this inference can be assimilated to rational expectations. We can say with certainty that this inference process rests only on the disclosure of action. Transparency implies predictability of future action.

The confidence theory propose three arguments against this inference expectations formation process

a. **Limits to inference under radical uncertainty.** This inference process is valuable only in normal economic conditions. It supposes some persistence in the interest rate level, direction and amplitude. But in stress conditions, there are ruptures in the trend of the policy path. In brief, the future rate becomes unpredictable. In these crisis conditions, agents cannot refer to the path or to the boring communication. Under the absence of rule, they are condemned to listen to the informative communication of the central bank that gives the rationale for the sudden change in the economy and strategy. Under uncertainty, communication becomes a crucial reference point for markets’ expectations.

b. **The pitfalls of inference as guessing.** How does inference work? Our hypothesis is that inference is in fact guessing: “…financial markets are in the position of trying to guess the Federal Reserve’s outlook for the economy and how it is likely to adjust the funds rate target in light of this outlook” (Sellon, 2004:22). Markets “divine” the policy path (Bernanke et al., 2004:33). If it was in fact the expectations formation process, expectations consistency between the central bank and the agents would be very hard and not frequent. In reality there is often expectations coordination.

In the confidence theory, expectations alignment is possible because the expectations formation process is based on understanding, not guessing: “Because central banks do not generally provide detailed information about future policy actions, financial market participants must develop their own estimate of the policy path based on their understanding of central bank behavior” (Sellon, 2004:18). Agents realise their understanding not totally on interest action,
but rather on communication. For example, markets understand that the language of the Fed (August 2003) “considerable period of time” means that the official rate will stay at this level for a sufficient period of time.

c. Predictability: a consequence, not a cause. The implication of the previous argument is that inference is not the root cause of predictability. Predictability mainly emerges from the common understanding of monetary policy strategy changes. Put differently, communication is a major determinant of markets expectations, and beyond of the long rate.

3.5.2. The surprise school revisited

In the predictable policy path theory, the more the interest rate movements are predictable, the more it has an impact on the long run rates. Recent research (Kuttner, 2001; Bernanke & Kuttner, 2003) demonstrates the contrary. Markets react more to unexpected movements, define as “surprise”. There are two possible interpretations of this notion:

a. The traditional wisdom of central banking. It is a retrograde strategy of expectations manipulation because it is a return to the Lucas’ doctrine. Only the unanticipated component of policy is temporarily effective; a come back to time inconsistency and surprise inflation. It is an argument not pro boring central banker, but pro secretive or fooling central banker.

b. The unavoidable consequence of the radical uncertainty. Shocks and structural changes lead to changes in the strategy. “Surprises” are produced by uncertainty. It is an argument pro communicative central banker because the latter has to explain the tactical change, the deviations from the strategy.

The confidence theory favours the second analysis of “surprise”. The term “surprise” is not appropriate. Surprises are in fact radical shifts in the strategy. Since communication explains these changes in strategy, it is not surprise in the eyes of market participants. “Surprises” are analysed as part of the common understanding. Brutal change is a way for the central bank to quickly send a message to agents. It is a strategy of “speaking loudly” in order to inform more quickly the market of a change in the economy and/or in the strategy. Surprise is part of the deliberative process between the central bank and the agents.

It is difficult, in fine, to determine what make the yield curve moving. Is it the interest rate movements or the communication explaining the change in strategy? But the main lesson is that the change in the strategy is crucial, not the interest rate. That is why communication is crucial. If the agents understand the shift in strategy, they will validate the related interest rate movements.

3.5.3. Limits to signalling policy

Interest rate policy is sometimes presented as a “signalling policy”. Unexpected movements in the interest rate are perceived as a signal of change in the central bank strategy, or a signal of a structural change in the economy. It looks like as if the central bank has difficulties in communicating with words to the agents and has been reduced to signals.

In practice, turning points in monetary policy strategy are extensively explained to the public via language. The Volcker rupture of 1979 was clearly announced with words, and not only via interest rate signals. It was obviously a communication strategy for shocking expectations. It demonstrates that when the time of severe shift in the strategy comes, it is generally the moment that the central bank talks the more intensively. In times of change, the central bank is not reduced to interest rate signals. The signalling policy does not perfectly correspond to times of change because in times of change communication with words is at least as important as interest rate action. Put differently, communication seems as powerful as the interest rate to come down markets animal spirits in case of stress conditions. To sum up, the confidence theory to communication could be represented as follows:
4. THE FRAMEWORK: COMMUNICATION IN PRACTICE

4.1. COMMUNICATION FRAMEWORK, REGIME, AND COMMITTEE

The communication theory, strategy and policy should be combined in a communication framework. Of course, it is related to institutional design. It includes procedures, regular publications…But the overriding goal is not optimal institutional design. First, the framework searches rather for the organisation of a communication understandable to the public. Secondly, there is not one best way. Different regime and strategy call for different communication. Different forms of monetary policy committee decision-making call for different forms of communication.

4.2. CALENDAR, CONCENTRATION AND COORDINATION

On the one hand, agents have a limited capacity of attention and for processing information. On the other hand, information consumes attention. It suggests, as Sims (2002) puts it, there is “rational inattention”, in the meaning that due to their limited attention the agents must focus on the most important and neglect the rest. They are in bounded rationality.

In order to attract agents’ attention, communication should not be a permanent flow of information, otherwise the agents would not listen. « No one argues for weekly, daily or continuous commentary from central banks, so in principle there is some optimal frequency of communication…The shorter the interval between communications, the less genuine information there is likely to be. At some point, excessive frequency of announcements risks generating more noise than signal » (Edey & Stone, 2004:84). In brief, too much information destroys information.

Sources: Blinder et al. (2001); Blinder & Wyplosz (2004); Ehrmann & Fratzscher (2004) and author
The corollary of the limitation to monetary policy interventions is that it should be richer in explanations because the expectations formation process is mainly based on them. Actions have to be accompanied by an extensive communication. To sum up, the communication framework is aimed at:

- Concentrate communication on precise and scheduled dates
- Concentrate and focus the expectations formation process on the precise date of the central bank
- Control information used by agents to forge their expectations
- Accelerate the expectations formation process
- Facilitate expectations formation

More generally, the communication framework attempts to make the expectations transmission channel surer, stronger and faster.

4.3. COMMUNICATION: TIMING AND FREQUENCY

In light of this agents’ rationality, the central bank should limit its flow of information and schedule its communication. The frequency and timing of communication is crucial. For example, the number of scheduled decision date should be limited to 8 to 12 a year.

Figure 6: An overview of the number of scheduled monetary policy meetings

<table>
<thead>
<tr>
<th>Number of scheduled meetings a year</th>
<th>Central bank</th>
<th>Characteristics of meetings</th>
<th>Monetary policy regime</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Popular Bank of China</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>South African Reserve Bank</td>
<td>« Once every two months»</td>
<td>Inflation targeting</td>
</tr>
<tr>
<td>8</td>
<td>Fed</td>
<td></td>
<td>Risk management</td>
</tr>
<tr>
<td></td>
<td>Bank of Canada</td>
<td></td>
<td>Inflation targeting</td>
</tr>
<tr>
<td></td>
<td>Swedish Riksbank</td>
<td></td>
<td>Inflation targeting</td>
</tr>
<tr>
<td>One every 6 weeks</td>
<td>Bank of Norway</td>
<td></td>
<td>Inflation targeting</td>
</tr>
<tr>
<td></td>
<td>Reserve Bank of New Zealand</td>
<td></td>
<td>Inflation targeting</td>
</tr>
<tr>
<td>11</td>
<td>Reserve Bank of Australia</td>
<td>First Tuesday of the month, except in January</td>
<td>Inflation targeting</td>
</tr>
<tr>
<td>12</td>
<td>Bank of England</td>
<td>« Monthly basis»</td>
<td>Inflation targeting</td>
</tr>
<tr>
<td></td>
<td>Central bank of Brazil</td>
<td></td>
<td>Inflation targeting</td>
</tr>
<tr>
<td></td>
<td>The Central bank of Chile</td>
<td></td>
<td>Inflation targeting</td>
</tr>
<tr>
<td></td>
<td>European Central Bank</td>
<td>Bi-monthly meetings, but decision only at the first meeting of the month (since November 2001)</td>
<td>Pragmatic monetary targeting</td>
</tr>
<tr>
<td></td>
<td>The Bank of Korea</td>
<td>Thursday of the 2nd week of the month</td>
<td>Inflation targeting</td>
</tr>
<tr>
<td></td>
<td>Bank of Israel</td>
<td></td>
<td>Inflation targeting</td>
</tr>
<tr>
<td>24</td>
<td>Bank of Japan</td>
<td>Twice a month in principle, but usually once</td>
<td></td>
</tr>
</tbody>
</table>

Most central banks recently focus on the date and number of scheduled meetings. The Bank of Canada, in October 2000, decides to implement 8 dates a year. The ECB, in November 2001, has reduced its scheduled decisions from 24 to 12 a year.

4.3.1. Date, day and scheduled

Scheduled meetings tend to create a framework for the deliberation between the central bank and the agents. In line with the framing theory, we can say that this organisation frames the interactional learning between them. They become “rendez-vous” or routines that are the foundations for the common understanding.

The choice of the date and the day is not harmless. The Bank of Canada indicates that it chooses different dates than the Fed. This caution avoids two problems: i) the assimilation of the Canadian’s policy to the United States’s one, a derivation of the Fed; ii) Bank of Canada’s decisions
are not polluted by the Fed. With different dates, agents’ attention is focused on the Bank of Canada, and not diverted by the Fed’s decisions. This aspect of regularity of communication has two benefits (Le Heron, 2004:23):

- Reduction of uncertainty. With a calendar, agents can plan their decisions more easily and work more efficiently.
- Emphasis on medium-term strategy (18-24 months) is greater because agents do not take into account every day noises and refer to the long movements of the communication framework.

4.4. TYPE OF COMMUNICATION AND SEGMENTS OF THE YIELD CURVE

To each horizon of the yield curve corresponds a type of communication. Depending on the targeted horizons, the central bank should use different contents of communication. Put differently, if it wants to steer the whole spectrum of the yield curve, it has to employ various types and contents of communication. This diversity could be represented as follows:

*Figure 7: The adaptation of communication to the targeted horizon of the yield curve*

<table>
<thead>
<tr>
<th>Segments of the yield curve</th>
<th>Main determinants of the yield curve</th>
<th>Appropriate communications strategy</th>
</tr>
</thead>
</table>
| Short-term (1 to 6 months) | • Current interest rate decision  
  • Path of the future interest rate  
  • Interest rate target change factor | 1) Current action accompanied by its explanation  
  2) Rationale for interest rate decision |
| Medium-term (until 5 years) | • Macroeconomic news  
  • Inflation expectations  
  • Interest rate path factor | 1) Communication on future monetary policy actions  
  2) Communication on the economy  
  3) Communication on the strategy  
  4) Communication on the interest rate decision |
| Long-term (10 years)       | • Inflation expectations  
  • Macroeconomic news  
  • Policy and economy factors | 1) Communication on the economy  
  2) Communication on the strategy  
  3) Communication on future monetary policy actions |

5. CONCLUSION

Leaving rational expectations and credibility

As soon as the expectations theory is not based on rational expectations hypothesis, confidence is not given, it has to be built. Contrary to credibility, confidence cannot be based on a true model, a rule, a reputation, a commitment or a contract; but on communication. Since the monetary authority does not control long term inflation expectations, the rational or credibility theories of the term structure are not robust. The central bank does not achieve easily the rates linkage problematic. The interest rate instrument is not enough. Policy efficiency is dramatically reduced.

Communication and confidence

Communication appears to be part of the solution to this expectations issue. There is a consensus on the efficiency of communication, on its ability to affect expectations. Communication matters. It does not simply supplement interest rate actions, it is a policy instrument per se: “Do central bank actions speak louder than words? We find that the answer to this question is a qualified no” (Gurkaynak et al., 2004:18).

The case against the case for communication

It leads to two remarks. First, it does not mean that communication is the only policy instrument. The central bank is not an army with only words corps. Interest rate and communication are complementary. Open market and open mouth operations work together. Secondly, there are of course limits to communication. But it is not a reason for avoiding communication. Critics towards the communicative trend (Morris and Shin, 2002; Amato et al., 2002) do not seem robust (Svensson, 2005). The risk that markets become “lazy” (Padoa, 2004) is limited. With an environment of radical uncertainty, communication cannot be “boring” since it explains new developments that maintain markets in alert.
Communication and the democratic turn in central banking

More generally, communication should not be perceived as a new version of mystique. It is not a new element for the old debate on monetary policy as art or science. Evolving from mystique to openness, central banks have turned art into science. Developing a theory of communication is a contribution to modern scientific central banking.

The communication revolution results from the democratic turning point in central banking that happened in the 90s with inflation targeting. Communication has little to do with central bank independence; communication is not really the *qui pro quo* of independence. Communication has a lot to do with the re-politisation of central banking. The title of this article should be communication and monetary policy, not communication and central banking.


