

**UNIVERSITY OF GHANA
COLLEGE OF HUMANITIES
SCHOOL OF LANGUAGES
DEPARTMENT OF FRENCH**



**ISSUES OF EQUIVALENCE: A TRANSLATION OF « LES BANQUES
CENTRALES DANS LA TEMPÊTE POUR UN NOUVEAU MANDAT
DE STABILITÉ FINANCIÈRE »**

(TRANSLATION FROM FRENCH TO ENGLISH)

BY

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DECLARATION

I, Joycelyn Naa Amerley Armah, hereby declare that with the exception of cited references, all the information in this work is a presentation of my original dissertation. This dissertation has never been presented in part or in whole to any institution for the award of any degree.

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DEDICATION

I dedicate this work to all incoming MA Translation students of the University of Ghana.

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My utmost gratitude goes to the Almighty God for the strength and grace he gave me to go through this programme and to complete this work.

Completing this work would have been all the more difficult and not seen the light of day without the professional guidance of Prof. Robert Yennah. I am colossally indebted to you for taking time off your busy schedule to correct my work and your prompt responses to my emails.

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ABSTRACT

This study sought to investigate issues of equivalence in translating the source text (ST) from French to English.

The ST – *Les banques centrales dans la tempête pour un nouveau mandat de stabilité financière* was selected as a primary source material. The design in the work was primarily analytical and contrastive, as it analyzed issues of equivalence owing to linguistic and extra-linguistic factors, such as false friends, ambiguity, non-equivalence and context. Translation strategies and theories served as a guide to explain and overcome the challenges of equivalence encountered that were a threat to translatability.

The study found that formal equivalence like dynamic equivalence, as a strategy, was capable of producing equivalent effect so that meaning is not distorted. On the other hand, it may be a fertile ground for false friends. Additionally, replacing SL textual material with TL textual material was found to lead to a loss in information content although the message was fully conveyed. Finally, full equivalence was not always achieved. This was evident in some cases of idiomatic expressions where the best strategy was to understand the message of the author and to re-express it with the appropriate equivalents.

Key words: Linguistic factors, extra-linguistic factors, non-equivalence, translatability, equivalent effect

RESUMÉ

Cette étude visait à examiner les questions d'équivalence dans la traduction du texte source (TS) du français vers l'anglais.

L'ouvrage *Les banques centrales dans la tempête pour un nouveau mandat de stabilité financière* a été choisi comme texte source. La méthode de l'étude était principalement analytique et contrastive, puisqu'elle analysait les questions d'équivalence en raison de facteurs linguistiques et extralinguistiques tels que les faux amis, l'ambiguïté, la non-équivalence et le contexte. Les stratégies et théories de traduction ont servi de guide pour expliquer et surmonter les problèmes d'équivalence rencontrés qui menaçaient la traduisibilité.

L'étude a montré que l'équivalence formelle tout comme l'équivalence dynamique, en tant que stratégie de traduction était capable de produire un effet équivalent en raison du fait que la traduction ne déforme pas le sens. De plus, le remplacement du matériel textuel de la langue de départ (LD) par du matériel textuel de la langue d'arrivée (LA) est avéré entraîner une perte de contenu d'information bien que le message ait été entièrement transmis. Enfin, l'équivalence totale n'a pas toujours été atteinte. Ceci était évident dans certains cas des idiomes où la meilleure stratégie était de comprendre le message de l'auteur et de le ré-exprimer avec les équivalents appropriés.

Mots clés : Facteurs linguistiques, facteurs extra-linguistiques, non-équivalence, traduisibilité, effet équivalent

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ABBREVIATIONS

Source Text – ST

Target Text – TT

Source Language – SL

Target Language – TL

Texte source - TS

Langue de départ – LD

Langue d'arrivée – LA

CHAPTER ONE

1.0 INTRODUCTION

1.1. Background

Translation became necessary because of the proliferation of languages at the tower of Babel (Ladmiral, 1979). Although the actual study of translation as an academic discipline started in the twentieth century, translation has been used throughout history. This has made translation an indispensable aspect of human communication. The demand for translation services is undoubtedly on the increase and is more important than ever before in today's world – commonly referred to as a global village. A global community where businesses cannot expand internationally or penetrate foreign markets without the translation of documents. This claim is based on Roger's (2017, CNBC news) assertion that “the number of people in the translation and interpretation industry has doubled in the past seven years” and is expected to “grow by 29%” through 2024. Translation is very essential to the development of literature. Translation gives new life to documents written centuries ago when they are reproduced in another language with the content remaining the same. Benjamin (2004) emphasized this idea by stating that a translation comes long after its original and therefore the translation of important works marks their stage of continued life. With regards to technical texts, Salama-Carr et al. (1995, p. 101) cited in (Krein-Kutiile, 2003, p. 10), posited that “technical and scientific translation, more than any other mode of translation perhaps, is an instrument of cross-fertilization, transformation and progress. Without translation, the modern phenomenon of “technology transfer” would not exist”.

Leonardi (2000) avers that defining equivalence poses a challenge which may be due to the lack of a general approach to this notion. Nevertheless, the concept of equivalence highlights that the source text and target text “share some kind of ‘sameness’” (Panou, 2013, p.2).

Catford (1965) defines the translation activity in relation to equivalence. According to him, translation is “the replacement of textual material in one language (SL) by equivalent textual material in another language (TL) (p.20)”. In addition, Kenny (2009) cites (Pym 1992a:31) who evokes the notion of circularity in relation to translation and equivalence. He states that, “equivalence is supposed to define translation and translation, in turn, defines equivalence”. Nida (1964, p. 159) cites (Belloc, 1931), who argues that, “identical equivalents” do not exist and as such, a translator must look out for “the closest possible equivalent”. Issues of this nature draw attention to (Kenny, 2009) who described equivalence as both a “central concept” and a “controversial one.”

Centuries ago, theoretists such as Cicero, Horace and St Jerome started the debate on what the focus should be in finding TL equivalents. Some argued that the focus should be on the lexical item, that is, rendering word for word, whereas others emphasized the meaning (Amparo; Munday, 1990; 2008). The former represents a literal translation and the latter, free translation. In the course of time, new theorists emerged and so did the transition of the concept of equivalence: Eugene Nida’s seminal concepts of *Formal and dynamic equivalence and the principle of equivalent effect*, Peter Newmark’s *Semantic and communicative translation*, and Werner Koller’s *Korrespondenz and Äquivalenz (Correspondence and Equivalence)* (originally written in German but translated into English) served as precursors during the transition period. According to Venuti (2004, p. 5), the concept of equivalence has been interpreted as “accuracy”, “adequacy”, “correctness”, “correspondence”, “fidelity” or “identity”.

Baker (1992) points out the different levels at which a translator must achieve equivalence. However, achieving equivalence at word and beyond word levels will be the focus of this study. That is, single words and lexical patterns such idioms and fixed expressions.

She further claims that a threat to the translation activity is the issue of non-equivalence and that a translator may have to manipulate the linguistic system of the language in question to achieve equivalence in some contexts. This is because, at the end of the day, a message and not words have to be communicated to TL readers. Unlike the “straight jacket effect” (p.100) the grammar of a language produces on the translator, translating words and lexical patterns may make room for dynamism. This throws more light on Nida’s (1964) theory of dynamic equivalence where the focus is on conveying a message and not words.

If indeed equivalence and translation go hand in hand, as Kenny (1998) has suggested, equivalence will continue to remain central to the practice of translation and will therefore remain a topic for discussion in the field of translation.

1.2. Problem statement

The controversies surrounding equivalence as a concept in translation stress the claim of Catford (1965) that “the central problem of translation practice is finding TL translation equivalents (p.21)”. The differences that exist between French and English make the quest for equivalence at all levels challenging, since every language has its own rules for the formation of words and sentences. This poses a threat to the translation activity. Baker (1992) evokes the issue of non-equivalence which may occur at the word level and beyond the word level. This is because there might be no direct equivalence between two languages. She further states that in the translation of idioms and fixed expressions, it is unworkable for the translator to always expect to find equivalence. A translator who resorts to formal equivalence as a means of achieving equivalence may always be in the wrong although formal equivalence makes an attempt to convey the message of the author as well, but in both form and content. To this end, this study seeks to investigate translation strategies that will create equivalent effect in spite of all the challenges a translator may be faced with.

1.3. Significance of Study

The study is relevant due to an observed limitation posed by formal equivalence synonymous in the translation activity and therefore seeks to explore other methods that can be used to achieve equivalent effect. As Baker (1992) claims, a translator may also be faced with the issues of non-equivalence. Since every language has a system for naming concepts, issues of non-equivalence should not lead to untranslatability. This study identifies such instances in the source text and proposes meaningful strategies for translating them and which will in turn communicate the message intended by the author. As the focus of the translation activity is faithfulness to meaning and not words, the study will therefore be highly relevant to students and translators to inform pragmatic shifts on methods of translation - including literal translation, to create equivalent effect.

1.4. Research Questions

1. Do economic texts have any particular traits that influence a translator's choice of equivalents?
2. How important is it to maintain the imagery an author creates in the source text as part of his style of writing?
3. If equivalence is beyond finding replacements for lexical and grammatical items between languages, as Bassnett (2002) claims, what are the other factors that come into play?
4. What techniques of translation can a translator resort to when faced with non-equivalence at the word level and beyond the word level?

1.5. OBJECTIVES

Objectives are indispensable in a research work as they explain what the researcher hopes to achieve at the end of the project.

1.5.1. General Objective

To translate the source text, *Les banques centrales dans la tempête pour un nouveau mandat de stabilité financière* from French to English and to explore the particular challenges it poses.

1.5.2. Specific Objectives

1. To identify what accounts for the difficulties of finding equivalence at both word and beyond word levels such idioms and fixed expressions.
2. To explore the challenges of equivalence with the help of translation techniques and theories proposed by translation experts.
3. To choose the appropriate equivalents which will preserve meaning and consequently create equivalent effect.
4. To investigate the limits and usefulness of formal correspondence as a method of finding equivalence in the translation activity.

1.6. Theoretical Framework

Theories from linguistic and functionalist approaches will serve as a guide to overcome challenges faced in the course of the translation process. Firstly, the contrastive linguistic approach will be used as we will be reflecting on the similarities and the differences that exist between the two languages. Gast (2012), stated that contrastive linguistics can be considered as a branch of comparative linguistics. This highlights Catford's (1965) reference to the theory of translation as a branch of comparative linguistics. Thus, in the process of analyzing the particular challenges faced in translating the source text from French to English, there will be an indirect comparison between the two languages as these challenges are due to the differences that exist between them.

Moreover, the interpretative theory or theory of meaning established by Seleskovitch & Lederer (1984) cited in (Herbulot, 2014) is based on the principle that translation is an activity performed on the message or meaning and not on words or languages. No matter the kind of text a translator is translating, be it literary or technical, the translation involves two successive actions: Understanding and saying. After understanding, the translator must “de-verbalise and then re-express, and say things in another language” (Herbulot, 2014, p.309). This theory will influence this study as we aim at transferring meaning and not words. Thus, a deep understanding of the message will be required in order to de-verbalise and re-express what the author is trying to say.

Furthermore, Vermeer (2004) propounds the skopos theory as an aspect of a theory of translational action which is based on a source text. Functionalist approaches, including Vermeer’s skopos theory, claim that the linguistic form of the target text is determined by the purpose it is meant to fulfill. Based on this theory, the source text under study has been identified as an informative text. Schäffner (2009, p.116) has avered that in translating informative texts, the translator’s goal should be “invariance of content” and a translation will be considered “successful if the information has been transmitted in full”. Thus, in finding the appropriate equivalents in the process of translating the source text from French to English throughout this work, there will be an attempt to transmit the message of the author in full, without disorting its meaning. This will highlight the fact that in translation, the only thing that changes is the language and not the message the author intends to carry across to his audience.

In addition, Levý, (2004) posits that from the teleological point of view, translation is a process of communication. This stresses translation as “un acte de communication” [an act of communication] (Ladmiral, 1979, p.13), as it serves as a medium for transferring information to interlocuters who speak different languages.

Consequently, this makes translation a decision process, as the goal of translating is to convey knowledge from the source text to the foreign reader. Levý (2004) adds that, the decision a translator will make can be compared to “moves, as in a game”. He opines that, the difficulties the translator faces in this process makes it possible to compare the translation activity to the game theory in which translators are referred to as the “players”. With this theory in mind, as players in this game of translation, there will be some brainstorming in the search for the best equivalent among a number of alternatives in translating the ST from French into English. The brainstorming process will be consistent with Larbaud’s (1946) description of the work of translators as « *peseurs de mots* » [weighers of words] cited in (Hurtado Albir, 1990).

Nida (1964) propounds the theory of formal and dynamic (functional) equivalence. He states that formal equivalence stresses on the message in both form and content. That is, the message in the receptor language “should match as closely as possible the different elements in the source language” (p. 159). The concept of dynamic equivalence is based on “equivalent effect” where “the relationship between receptor and message should be substantially the same as that which existed between the original receptors and the message” (p.159). Dynamic equivalence aims at complete naturalness of expression. This theory will be relevant to our study, especially in the translation of technical terms.

1.7. Literature Review

The aim of this section is to discuss pertinent views on the issues of equivalence across literatures which will serve as a point of reference in overcoming challenges of equivalence in the text.

Baker (1992) presents the problems of equivalence at word and above word levels of translation. She claims that one-to-one correspondence between orthographic words and elements of meaning across languages is impossible. This questions the effectiveness of literal translation as an accurate method of translation. She adds that many orthographic words in one

language may be represented by one orthographic word in another and vice versa to communicate meaning. The choice of a suitable equivalent in a given context depends on a wide variety of factors; linguistic or extra-linguistic. Baker admonishes translators to be cautious when translating literally as they may be faced with non-equivalence in some contexts. What method of translation will a translator resort to in such situations? The author posits that at the word level, non-equivalence may be a challenge in the absence of a direct-equivalent for a word in the TT as the word may be culture-specific; the SL word which may express a peculiar concept may not be lexicalized in the TL; the SL word may be semantically complex; loan words used in the SL create difficulties as the translator may not find an equivalent loan word in the TL to express the same idea.

Baker (1992) further states that some words never find their way into a dictionary and thus a dictionary may not always be a “final authority and depository of all the words of a language” (Nida, 2001, p.30). To tackle the issue of non-equivalence at word-level, the author suggests some translation strategies such as, translation using a more general word; translation using a less expressive word; translation by cultural substitution; translation using a loan word which may include an explanation and translation by omission.

In addition, Baker states that words normally occur with others. However, every language has its own rules on how they can be combined to convey meaning. This makes literal translation a risky process. Mona Baker groups this lexical patterning in terms of collocations, idioms and fixed expressions. The first is not related to our study. Baker (1992, p. 76) considers idioms and fixed expressions as “frozen patterns of language” which allow little or no change in form. She avers that unlike idioms, the meanings of fixed expressions are more transparent.

The author asserts that the major challenge that idiomatic and fixed expressions create in translation is linked to two factors: the capability to recognize and interpret an idiom accurately

and the difficulties in rendering the different aspects of meaning that an idiom or fixed expression conveys into the target language. They do not make sense when translated literally.

The author draws our attention to the fact that an idiom may be used in the source text in both its literal and idiomatic senses at the same time. To overcome challenges in translating idioms and fixed expressions, Baker proposes some strategies. The translation can be carried out using an idiom with similar meaning and form; an idiom with similar meaning but dissimilar form; a paraphrase or they can simply be omitted. Additionally, the author explains that differences in grammatical structures of the SL and TL normally lead to some change in the information content when translating. This may either be in the form of adding a grammatical item to the TL or the omission. Thereof, it is noteworthy to state that this doesn't create any change in meaning if the translator respects TL grammatical rules.

Larson (1998) suggests that meaning, which is the constant in translation must be given priority over form (that is, the actual words, phrases, clauses, sentences, paragraphs). In her view, a translator must critically consider the lexicon, grammatical structure, communication situation and cultural context of the SL text, examining it to establish its meaning, and then reformulating this same meaning, resorting to the lexicon and grammatical structure which are suitable in the SL and its cultural context. Therefore, doing a literal translation in some contexts would produce a bad translation. She claims that, a one-to-one correlation between form and meaning exists only when a form is being used in its primary meaning or function. In the absence of this all lexical items and all grammatical forms would have a specific meaning; and a literal word-for-word and grammatical structure-for-grammatical structure translation would be possible. This then will make the translation a walk in the park.

What then should be the goal of the translator? In response to this, the author states that the translator must produce a TL text which is "idiomatic" (Larson, 1988, p. 2). That is, it must

have equivalent meaning as the SL text but communicated in the natural form of the TL. She further states that literal translations of words, idioms, figures of speech and many others produce meaningless and unnatural translations. However, translations are normally a combination of literal transfer of the grammatical units together with some idiomatic translation of the meaning of the text. In order to maintain imagery, the author creates his text to produce a particular effect on his reader; the translator may want to translate these vehicles of imagery literally as seen in our ST.

Baker suggests three alternative ways in dealing with lexical equivalents for objects or events which are not known in the TL. A translator may resort to a generic word with a descriptive phrase, a loan word or a cultural substitute. When a generic word is used, the translator may make the function, form or both explicit. S/he may also use comparison. Additionally, she confirms that translators may have great difficulty translating idiomatic expressions as they are usually based on stories or historical events. Larson cites Beekman & Callow (1974), who define idioms as expressions of “at least two words which cannot be understood literally and which function as a unit semantically.” The author suggests that an idiom may be translated with a nonfigurative expression or with an equivalent idiom in TL, provided such exists.

One of the diverse ways Eugene Nida contributes to Translation studies is through his book - *Contexts in Translating*. Nida (2001) avers that the failure of translators to take the contexts of words or phrases into consideration accounts mainly for the most serious blunders in understanding and reproducing the meaning of a discourse. In his opinion, context not only affects the decoding of the meaning of a word, but how a word is to be translated.

Most translation experts have stressed the importance of the notion of meaning in translation and state that it is a constant factor a translator must always focus on. Therefore, in finding equivalents, we must be careful not to distort meaning. Newmark (1988) defines translation

based on the notion of meaning by stating that, translation is “rendering the meaning of a text into another language in the way that the author intended the text” (p.5). This undoubtedly puts us in the shoes of the author.

Nida (2001, p. 33) advances that in some cases, words combine with context to produce meaning. He refers to this collaboration between a word and context as “semantic molecule”.

Although context is just one of the numerous ways a translator adopts to deal with multiple meanings of words, it will serve as one of the essential tools in confronting challenges faced with equivalence in our ST. The author mentions that, although there exists no direct mapping between a ST and a TT, there should be sufficient similarity that it can be classified as “having some significant measure of equivalence described either as “the closest natural equivalent or as sufficiently similar” (Nida, 2001, p. 6).

Munday (2008) discusses the concept of equivalence based on books written by authors such as Roman Jakobson (Jakobson, 1959), Eugene Nida and C.R. Taber (Nida, 1964), (Nida & Taber, 1969) and Peter Newmark (Newmark, 1981; 1988). The discussions show differences in the views of these authors on this central concept in translation. He cites Jakobson (1959) who states that that “there is ordinarily no full equivalence between code-units” (p.60). What then is the translator’s solution in this situation? Literal translation will certainly not be a solution if a translator cannot identify a word in the TL which corresponds to the SL word in question. Will this lead to untranslatability? Jakobson considers translation as an act of replacing messages and not words, in one language, with equivalent messages in another language.

Additionally, Nida (1964) makes a distinction between formal and dynamic equivalence. The former focuses on the form and content of the message and the latter is based on the concept of equivalent effect. In this context, the same impact the ST has on the original receptors should

be the same as that of the TT on the receptors. Nida (1964) claims that equivalent effect is achieved when a text reads so naturally that readers cannot tell it has been translated. He states the goal of dynamic equivalence as finding “the closest natural equivalent to the source-language message (p.159).” Therefore, there will have to be adaptations of grammar, lexicon and cultural references to achieve naturalness.

In describing the translation activity, Hoof (1994) in his book *Traduire L’anglais*, suggests that, linguistic knowledge is an indispensable instrument in the translation activity. However, in order to use this instrument, the translator must acquire the techniques and learn how to use them. His book is unique as he focuses only on French and English and identifies the major features of each, which in turn pose challenges in translating from one to the other. He develops four constants in the linguistic process which according to him are beneficial to the translation process. According to Hoof, the English lexicon is richer than that of French. This is very evident in the ability of English to express one concept with several words. Secondly, English is more concise and French is more analytical. In juxtaposing a French text and its translation into English, we will realize that the French text is longer than the English text. Thirdly, the author highlights the tendency of English to use concrete terms whereas French uses more of abstract terms. Lastly, English is dynamic whilst French tends to be static.

Knowledge of such differences that exist between two languages as the above helps translators understand why they are confronted with difficulties when translating. The author considers the latter as a better solution to translation problems. In addition, literal translation is generally limited to relatively short and simple phrases whose meaning is not affected by extra-linguistic factors. Likewise, Vinay & Darbelnet (1977) state that direct translation becomes possible where there are parallel categories or structural parallelism between the SL and TL and SL and TL concepts are the same. They propose translation techniques and classify them under two

headings. Direct translation which includes borrowing, literal translation and indirect translation which comprises transposition, modulation, equivalence and adaptation. However, it is noteworthy that the concept of equivalence they evoke is different from that adopted by authors such as Nida (1964). Vinay & Darbelnet (1977) explain equivalence in terms of rendering the same situation using two texts with completely different stylistic and structural methods. An example of this is could be the case of proverbs, idioms, and clichés.

Though issues of equivalence tend to be problematic in the field of translation, Hermans (2009, p. 300) states that, “different languages may package meaning differently, but ultimately all languages are able to convey all possible meanings”. A translator therefore has to equip himself with the various methods of translation proposed by different theorists in order to overcome such challenges and translate the right way without distorting meaning.

1.8. Methodology

Research methodology is the systematic approach used to solve a research problem. The study design to be used will be qualitative but hinging on analytical and contrastive analysis (CA).

Through this approach, the study will make an attempt to investigate the challenges of equivalence in translating a text from French to English owing to the differences that exist between the two languages.

An economic text was chosen because of my personal interest in the field of Economics. The text will be studied and the particular challenges it poses will be identified and brought under one umbrella. Next, translation strategies and theories that will help to overcome these challenges and produce a target text that will read as naturally as possible will be used.

The research will rely mainly on secondary source data. Data from secondary sources will be collected from information in books, archival materials at the University of Ghana French

departmental library, online articles and journals as well as offline and online monolingual and bilingual dictionaries will serve as a guide.

1.9. Introduction to the Source Text

The source text is taken from the domain of Economics. It is a booklet entitled, *Les banques centrales dans la tempête pour un nouveau mandat de stabilité financière* translated as *The struggle of central banks for a new financial stability mandate*.

The booklet is part of the collection of Centre pour la recherché économique et ses applications (CEPREMAP). The objective was to create an interface between the academic world, public and private policy makers. CEPREMAP partners with institutions such as the Bank of France, the National Center for Scientific Research (CNRS), the National Institute for Statistics and Economic Studies (INSEE) and the French Development Agency (AFD). It was written by Xavier Ragot, an Associate professor at the Paris School of Economics and a researcher at CNRS. In summary, the booklet explains how the Central banks have contributed to the creation of financial fragility before the financial crisis began in 2007. The author argues that if the Central banks claim to be the silent guardians of price stability, the 2007 crisis highlights the need to rethink their role more generally.

The source text is made up of seventy-eight pages and is divided into 4 main sections. These four sections are made up of the main headings and with sub-headings that explain specific economic issues. The total number of words translated from the booklet is eight thousand four hundred (8,400) - per the requirements of the MA Translation programme. The target text is made up of seven thousand three hundred and fifty words (7,350), all making a total of fifteen thousand seven hundred and fifty words (15,750).

With regards to the author's style of writing, one peculiarity of the source text is that some economic terms were borrowed from English. Some examples could be identified as;

“repurchase-agreement”, “hair-cut”, “commercial paper funding facility”, “sub-primes”, “money market funds”, “put option”, “gambling for resurrection” and “quantitative easing”.

Interrogating why the author of the source text decided to borrow these economic terms, we made an observation in the course of translating the source text from French to English that these technical terms have no equivalents in French. This is consistent with Baker’s (1992) concept of non-equivalence - where she emphasizes that it is unrealistic for a translator to always expect to find equivalences between two languages and proposes the strategy of borrowing as one of the techniques to overcome challenges of non-equivalence. In the same vein, some abbreviations were left untranslated by the author, notably, “MMFs (Money Market Funds)” and “RMBS (residential mortgage-backed securities)”. This, in a way, facilitated the translation process, as they were maintained in the target text.

CHAPTER TWO

2.0. CORPORA ALIGNMENT

Les Banques centrales dans la tempête pour un nouveau mandat de stabilité financière.

Introduction

Les banques centrales sont en principe les gardiennes silencieuses de la stabilité économique : stabilité des prix, stabilité du système de paiement et stabilité du système bancaire. Ces différentes fonctions sont apparues crise après crise. La pratique moderne des banques centrales est le fruit des leçons chèrement payés des crises bancaires du XIX^e et du début du XX^e siècle.

La Réserve fédérale américaine, la FED, a été créée en 1913 pour mettre fin à des crises bancaires cycliques. L'objectif actuel d'inflation faible visé par les banques centrales est une leçon des années 1970 pendant lesquelles l'inflation était forte et la croissance faible.

The struggle of Central banks for a new financial stability mandate.

Introduction

Central banks are in principle to ensure economic stability: price stability, payment system stability and stability of the banking system. These various functions came about crisis after crisis. The modern practice adopted by central banks is as a result of lessons learnt the hard way from the 19th and early 20th century banking crises.

The Federal Reserve System (FED) was established in 1913 to end the cyclical banking crises. The current low inflation target set by Central banks is a lesson from the 1970s during which inflation was high and economic growth was slow.

Dans les années 1980, le coût en termes de chômage et de croissance de l'effort de diminution de l'inflation a fait prendre conscience des mérites d'une inflation stable et modérée. À n'en pas douter, la crise financière commencée en 2007 sera une nouvelle étape de la définition du rôle des banques centrales dans l'économie.

Il est peu probable en effet que les démocraties acceptent une nouvelle fois de consacrer autant d'argent à sauver des acteurs financiers qui ont été à l'origine de la crise. La réglementation financière va changer, tout comme le rôle des banques centrales.

Avant la crise, la fonction des banques centrales pouvait paraître assez simple. Elles modifiaient leurs taux directeurs, c'est-à-dire les taux auxquels les banques se prêtent de l'argent entre elles, en fonction de l'inflation anticipée et de l'activité économique, suivant leur mandat.

In the 1980s, costs of unemployment and increased efforts to reduce inflation raised awareness of the advantages of a stable and moderate inflation. The 2007 financial crisis will undoubtedly be a new step in defining the role of Central banks in a country's economy.

As a matter of fact, it is unlikely that governments will again agree to spend so much money to help financial actors who were at the root of the crisis. Financial regulations, like the role of Central banks, will change.

Before the crisis, the function of central banks could seem quite simple. They modified their policy rates, that is, the rates at which banks lend to each other in relation to expected inflation and economic activity, based on their mandate.

Les banques centrales ont mis en place, dans l'urgence, de nouveaux outils pour éviter la désagrégation du système financier. Elles ont dû gérer à la fois des crises bancaires, l'implosion de certains marchés essentiels au fonctionnement de l'économie, les difficultés de financement de la Grèce et de l'Irlande, les risques de récession et, évidemment, les risques de déflation ou d'augmentation de l'inflation. Reconnaissons que cela fait beaucoup pour une seule institution.

Aujourd'hui que le rôle des banques centrales, notamment leur détention des dettes publiques, est devenue plus visible, nombre d'économistes se demandent si leur mandat ne devrait pas évoluer. Ainsi, la Banque centrale européenne (BCE) est principalement la gardienne de la stabilité des prix, avec une inflation faible, proche de 2 % ; or son action durant la crise a eu une portée bien plus large, comme nous le verrons plus loin.

Cependant, un rapport récent du Centre d'analyse économique sur les banques centrales et la stabilité financière montre des divergences entre les économistes.

In emergency situations, Central banks have created new measures to prevent the disintegration of the financial system. They had to simultaneously manage bank crises, implosion of markets beneficial to the running of the economy, financing difficulties of Greece and Ireland, recession risks and obviously, risks of deflation or rise in inflation simultaneously. We must admit that this is too much for one institution.

Now that the role of central banks has become clearer; particularly, their holding of public debt, many economists wonder if their mandate should not change. Thus, the European Central Bank (ECB) is primarily to ensure price stability with a low inflation of about 2%; but it had a lot more during the crisis, as we will discover later

However, a recent report by the Center for Economic Analysis on Central banks and financial stability shows differences between economists

Si certains continuent d'insister sur le rôle clé de la stabilité des prix dans le mandat des banques centrales, d'autres estiment qu'elles doivent peser sur la stabilisation macroéconomique et financière.

Les marchés financiers étant aujourd'hui instables, on ne peut écarter l'idée qu'ils développeront de nouveau les germes d'une crise future. Face à un tel risque, les banques centrales doivent désormais être en charge de la stabilité financière et de la stabilité globale de la liquidité dans l'économie.

Même si de nouvelles institutions sont en cours de création afin d'assurer la stabilité financière et le financement des États, les banques centrales auront toujours un rôle décisif dans cette stabilité par leur capacité à créer de la monnaie et donc de la liquidité.

Ce constat se fonde sur trois observations :

- Les marchés financiers sont instables et leur liquidité peut brusquement disparaître, entraînant des effets réels profondément déstabilisants. La politique des banques centrales peut affecter, en positif ou en négatif, la stabilité financière.

While some continue to emphasize price stability as the major role of Central banks, others think that they must influence macroeconomic and financial stabilisation.

As financial markets are unstable today, we cannot rule out the idea that they will lead to a future crisis. Faced with such a risk, Central banks must henceforth be responsible for financial stability and the overall stability of liquidity in the economy.

Even if new institutions are being established to ensure financial stability and State funding, Central banks will always have a decisive role in this stability by their ability to create money and therefore, liquidity

This assertion is based on three observations:

- Financial markets are unstable and their liquidity can suddenly disappear, causing profoundly destabilizing real effects. Central banks' policy can negatively or positively affect financial stability.

Par ailleurs, elles peuvent coordonner les anticipations pour éviter les crises de dettes autoréalisatrices.

- Les banques centrales peuvent créer de la liquidité de manière générale ou ciblée, vers certains marchés ou vers certaines institutions. En effet la nature de la « liquidité manquante » n'est pas la même aux Etats-Unis et en Europe, par exemple. Les banques centrales ont su définir les outils adaptés pour cela.
- Les banques centrales auront toujours un rôle à jouer pour assurer le fonctionnement normal des marchés financiers, avant, pendant et après les crises. Il convient donc de faire évoluer leur mandat. Les coûts éventuels d'un tel changement sont inférieurs au gain qui en résultera : le renforcement de la compétence des banques centrales en matière de compréhension du fonctionnement des marchés financiers.

Quelle a été l'action récente des banques centrales ? Avant la crise de 2007, elles ont contribué à augmenter les déséquilibres produits par le système financier. Cette période est analysée dans la première partie de notre étude.

Moreover, they can coordinate expectations to prevent self-fulfilling debt crises.

- Central banks can create liquidity in a general or targeted way, for some markets or institutions. Indeed, the nature of "missing liquidity" is not the same in the United States and in Europe, for example. Central banks were able to define appropriate tools for that.
- Central banks will always have a role to play in ensuring the normal operation of financial markets before, during and after the crises. Their mandates therefore need to be changed. The possible costs of such a change are lower than the gain that will result from it: enhancing the ability of Central banks to understand the operations of financial markets.

What has been the latest activity of Central Banks? Before the 2007 crisis, they contributed to the increase in imbalances produced by the financial system. This period is analyzed in the first part of our study.

Le cœur de la crise financière a consisté en une implosion du secteur bancaire aux États-Unis et en Europe. Aux États-Unis, la liquidité produite par le secteur bancaire parallèle s'est évanouie ; en Europe, la liquidité échangée sur le marché interbancaire a disparu. Dans les deux cas, la réaction des banques centrales a été de fournir des liquidités en quantité presque illimitée. Nous décrivons ce moment de la crise dans une deuxième partie.

La troisième période de la crise est celle des dettes publiques en Europe. La BCE fournit très partiellement de la liquidité aux États pour leur donner le temps nécessaire à la mise en place d'une consolidation fiscale. Les montants sont probablement trop faibles. Un incident de paiement de la part de certains grands pays européens comme l'Italie aurait des conséquences très déstabilisatrices sur les marchés financiers.

Il faut donc envisager la relation entre BCE et États sous l'angle de la stabilité financière et non directement sous celui de la contribution fiscale. Notre troisième partie étudie l'utilité d'un financement de certains États européens et les risques associés.

The climax of the financial crisis was the collapse of the banking sector in the United States and Europe. In the United States, liquidity generated by the shadow banking sector vanished; In Europe, liquidity exchanged on the inter-bank market disappeared. In both cases, the reaction of the Central banks was to provide liquidity in almost unlimited amounts. We will describe this period of the crisis in the second part.

The third period of the crisis is that of public debts in Europe. The ECB provides some money to States to give them enough time to implement fiscal consolidation. The amounts are probably too low. A default in payment by some great European countries like Italy had very destabilizing effects on financial markets.

It is therefore necessary to examine the relationship between the ECB and States from the angle of financial stability and not directly from that of fiscal contribution. Our third part studies the importance of funding some European States and the associated risks.

Dans une quatrième partie, nous montrons la nécessité de faire évoluer le mandat des banques centrales pour qu'elles assument leur rôle clé dans la stabilité financière. Ce rôle est à penser au sein d'une nouvelle architecture financière où de nouvelles institutions seraient aussi en charge de la stabilité des marchés financiers. Dans tous les cas, les banques centrales demeurent les institutions qui ont le monopole de la création de billets de réserve, donc de la liquidité. Ce qui leur donnera toujours un rôle décisif en matière de stabilité financière.

Les banques centrales ont-elles favorisé la crise ?

La période de constitution de la « fragilité financière » a lieu aux États-Unis entre 2003 ou 2004 et 2007. Ce terme de « fragilité financière » désigne un endettement et une exposition aux risques macroéconomiques sans précédent de la part des intermédiaires financiers. Il ne s'agit pas d'un choc extérieur qui a fait vaciller l'ensemble des marchés financiers internationaux, mais, au contraire, de mécanismes produits au sein des marchés américains, profondément déstabilisants et non apparents pour la plupart des observateurs.

In the fourth part, we will show the need to change the Central banks' mandate so that they could play their major role in financial stability. This role is to be thought of within a new financial architecture in which new institutions would also be in charge of financial market stability. In any case, Central banks remain the institutions which have the monopoly to create Federal Reserve Notes and as such, liquidity. This will always give them the decisive role in financial stability.

Have the Central banks stimulated the financial crisis

The United States experienced a period of "financial fragility" between 2003 or 2004 and 2007. The term "financial fragility" refers to an unprecedented debt and exposure of financial institutions to macroeconomic risks. It is not an external shock which shook all global financial markets; but on the contrary, mechanisms created in the US markets, greatly destabilizing and not noticed by most observers.

Aujourd'hui encore, la nature des facteurs qui ont rendu possible l'élaboration d'un tel château de cartes fait débat. L'enjeu est de taille : comment modifier les outils publics pour atteindre trois objectifs, c'est-à-dire éviter la constitution de déséquilibres financiers, agir efficacement en cas de crise et limiter les conséquences les plus négatives des crises financières et bancaires sur l'activité économique.

Le rôle des banques centrales dans la constitution de la fragilité financière a été largement débattu et trois arguments ont été avancés. Tout d'abord, les banques centrales et notamment la FED ont conservé trop longtemps une politique monétaire accommodante et ont tardé à remonter les taux d'intérêt.

Ensuite les changements non anticipés de politiques monétaires ont accru la prise de risques des institutions financières en 2004. Enfin, les banques centrales ont eu le tort de laisser penser qu'elles déploieraient un filet de sécurité efficace si une crise advenait, ce qui a entraîné des prises de risque excessives.

Ces arguments présentent une part de vérité. Ils sous-estiment cependant le rôle essentiel des innovations financières dans la constitution des déséquilibres financiers.

Till date, the nature of the factors which made the development of such a house of cards possible is a subject of debate. The stakes are high: how do we modify public tools to attain three objectives, that is, to avoid the creation of financial imbalances, act effectively during crisis and reduce the negative effects of financial and banking crisis on economic activity.

The role of central banks in creating financial fragility has been widely debated and three arguments were made. Firstly, Central banks, and particularly the FED, have maintained an accommodating monetary policy for too long and have delayed in increasing interest rates.

Secondly, unexpected monetary policy changes increased risk-taking among financial institutions in 2004. Finally, Central banks erred in promoting the understanding that they could deploy an effective safety net in times of crises and that caused excessive risk-taking.

These arguments are partially true. However, they underestimate the major role of financial innovations in creating financial imbalances.

La politique monétaire a accru des déséquilibres préexistants et non identifiés.

UNE POLITIQUE MONÉTAIRE EXPANSIONNISTE

La critique la plus fréquente de la politique monétaire américaine est connue. Elle affirme que la FED a mené une politique monétaire expansionniste pendant trop longtemps après l'éclatement de la bulle Internet, ce qui a conduit à des coûts de financement à court terme extrêmement faibles et à une injection substantielle de liquidités dans l'économie. Ces liquidités ont permis aux intermédiaires financiers de faire massivement crédit aux ménages qui achetaient des maisons, gonflant ainsi la bulle immobilière.

Cette explication peut sembler séduisante, car elle est simple et repose sur des constatations empiriques. Cependant, elle manque la question centrale : pourquoi les acteurs financiers ont-ils si mal apprécié les risques ?

Des taux d'intérêt historiquement faibles

Les taux d'intérêt de court terme décidés par la Réserve fédérale ont été historiquement bas après 2001. John Taylor a montré que l'on pouvait se

Monetary policy has increased already existing and unidentified imbalances.

AN EXPANSIONARY MONETARY POLICY

The commonest criticism of the US monetary policy is known. It states that the FED implemented an expansionary monetary policy for too long after the burst of the internet bubble which led to very low short-term financing costs and a substantial injection of liquidity into the economy. This liquidity enabled financial institutions to massively lend money to households which bought houses, thereby increasing the size of the real estate bubble.

This explanation may appear convincing, because it is simple and depends on empirical evidence. However, it fails to answer the central question: why have financial actors assessed risks so poorly?

Historically low interest rates

The short-term interest rates determined by the Federal Reserve have been historically low after 2001. John Taylor showed that we can explain the behaviour

représenter le comportement de la FED comme répondant à l'inflation et à la dynamique de la production.

Cette estimation, appelée règle de Taylor, est donc une règle simple de comportement pendant une période où l'inflation s'est révélée stable et pendant laquelle les fluctuations de la production étaient considérablement inférieures à celles des périodes antérieures. Cette réduction des fluctuations macroéconomiques a amené les économistes à appeler cette période la « grande modération ».

L'écart entre les taux de la FED et les taux impliqués par la règle de Taylor après 2001 a atteint plusieurs pourcents en 2005 : le taux décidé par la FED était de moins de 2 % en 2005, alors que le taux de la règle de Taylor était supérieur à 5 %. La FED a choisi des taux bas comparés à son comportement moyen pendant la grande modération.

Ces faibles taux d'intérêt sont effectivement associés à une croissance rapide du crédit au-delà de sa moyenne historique. Ce dynamisme n'a pas entraîné une hausse des prix des biens consommés par les ménages.

of the FED as responding to inflation and production trends.

This assessment, called Taylor's rule, is therefore a simple behavioural rule during a period where inflation is stable while at the same time production fluctuations were considerably lower than previous periods. This reduction in macroeconomic fluctuations led economists to name this period the "Great Moderation".

The gap between FED rates and rates implied by the Taylor rule after 2001 reached several percentage points in 2005: FED's rate was less than 2% in 2005 whereas the Taylor rule rate was higher than 5%. FED chose low rates compared to its average behaviour during the Great Moderation.

These low interest rates are actually linked to a rapid credit increase beyond its historical average. This trend has not resulted in an increase in the prices of consumer goods.

L'inflation mesurée par le prix du panier de bien des ménages est restée stable, autour de 2 %. En revanche, les prix immobiliers se sont considérablement accrus. Le prix des maisons au États-Unis a quasiment doublé entre 2000 et 2007.

L'affirmation d'une relation entre taux bas et bulle financière existe dans une version affinée. En effet, il est difficile de comprendre comment les taux d'intérêt bas de court terme peuvent expliquer à *eux seuls* la création d'une instabilité financière. Les taux d'intérêt bas induisent généralement une demande de crédit qui se solde par des pressions inflationnistes.

Si tel n'a pas été le cas, c'est que les taux d'intérêt bas se sont conjugués à une vague d'innovation financière entraînant une demande de crédit essentiellement immobilier, qui a eu un impact faible sur le niveau général des prix. Les prix immobiliers ont augmenté car la demande de maisons a augmenté, ce qui a entraîné un accroissement de la demande de crédit immobilier.

The inflation measured by the prices of a basket of household goods remained stable around 2%. Contrarily, housing prices have considerably increased. The price of houses in the United States almost doubled between 2000 and 2007.

The assertion of a link between low rates and the financial bubble has been further elaborated. As a matter of fact, it is difficult to understand how short-term low interest rates *alone* can cause financial instability. Low interest rates generally lead to demand for loans which can result in inflation pressures.

If that didn't happen, it is because low interest rates have merged with a wave of financial innovation bringing about demand for loans, particularly housing loans, which had a low impact on general price levels. Housing prices rose because of increased demand for housing which has caused an increase in housing loans.

FRENCH

Ce premier mécanisme a été rendu possible par des innovations financières qui se sont largement répandues dans les années 2000 et qui sont des titres financiers adossés à des crédits immobiliers : les fameux *subprimes*, ou encore les RMBS.

Ainsi, une première critique de l'action des banques centrales montre qu'elles n'ont pas remonté leurs taux d'intérêt suffisamment vite pour freiner la hausse de la demande de crédit immobilier induite par les innovations financières. La réponse des banquiers centraux à cette critique est simple.

La demande de crédits immobiliers était d'abord alimentée par des innovations financières et des mouvements de capitaux internationaux qui rendaient la recherche de crédit peu dépendante de la politique monétaire. Cette politique ayant peu d'effets sur les taux de long terme, elle n'est donc pas responsable de la dynamique du crédit.

Cet argument de l'inefficacité de la politique monétaire est exagéré. Car les crédits distribués étaient titrisés et revendus à des institutions financières qui se finançaient à très court terme sur le marché monétaire.

ENGLISH

This first mechanism was made possible by financial innovations that became widespread in the 2000s and are financial securities backed by mortgages: the famous *subprimes*, or RMBS.

Thus, an initial criticism of the Central banks' action shows that they have not increased their interest rates quickly enough to curb the increase in demand for mortgage caused by financial innovations. The Central banks' response to this criticism is simple.

The demand for mortgage was initially fueled by financial innovations and international capital flows which made the demand for credit less dependent on monetary policy. Since this policy has little effect on long-term rates, it is therefore not responsible for the increase in demand for credit.

This argument about the monetary policy's inefficiency is exaggerated as distributed loans were securitized and resold to financial institutions which were financing themselves in the very short-term on the money market.

Ainsi, si une hausse des taux courts pouvait avoir un effet limité sur la demande de crédit par les ménages, ils auraient considérablement réduit la demande de produits titrisés par les intermédiaires financiers.

D'un point de vue théorique, O. Loisel, A. Pommeret et F. Portier montrent que de petites variations de taux d'intérêt peuvent entraîner des effets importants sur les portefeuilles des agents, lorsque les agents ont des comportements mimétiques et essaient d'extraire de l'information des actions des autres.

La seconde réponse à cette mise en cause est plus profonde car elle concerne le fonctionnement même des marchés financiers. Au fond, personne ne savait vraiment quel était le niveau raisonnable du prix des actifs immobiliers. Les débats actuels sur les prix de l'immobilier parisien montrent bien la difficulté d'évaluation du prix de ces actifs, ce qui est d'ailleurs une conclusion simple de la théorie économique.

Comme les banques centrales n'ont pas pour mandat d'évaluer les prix des actifs ou d'essayer de détecter des bulles financières, elles se sont reposées sur les marchés financiers pour évaluer les

Thus, if an increase in short-term rates could have a limited effect on household demand for credit, they would have considerably reduced demand for securitized products through financial institutions.

From a theoretical point of view, O. Loisel, A. Pommeret and F. Portier show that minor changes in interest rates can have significant effects on agents' portfolios when they have mimetic behavior and try to extract information on the actions of others.

The second answer to this question is more profound because it concerns the actual operation of financial markets. Basically, no one really knew what the reasonable level of real estate asset prices was. Current debates on Parisian real estate prices clearly show the difficulty of assessing the price of these assets, which is moreover a simple outcome of economic theory.

Since Central banks are not mandated to evaluate asset prices or try to detect financial bubbles, they depended on financial markets to assess the real estate price risks. It is this excessive outsourcing

risques des prix immobiliers. C'est cette externalisation trop importante de l'évaluation du risque au niveau global qui a posé problème, et qui remet en cause aujourd'hui cette réponse.

Une mauvaise appréciation du risque par les marchés

L'évaluation du risque par les intermédiaires financières a été un échec, ce qui constitue une leçon financière de la crise, même pour A. Greenspan. Les innovations financières et comptables, l'opacité des bilans, la créativité technique n'ont pas abouti à une division et à une répartition efficiente des risques, mais ont rendu impossible leur évaluation par les acteurs financiers.

Ces évolutions financières conjuguées avec le bas niveau des taux d'intérêt peuvent expliquer une prise de risque excessive. Cette mauvaise évaluation du risque peut être mise en lumière en considérant différentes mesures du risque de crédit sur la dette des intermédiaires financiers. Ces mesures captent l'appréciation portée par les acteurs de marché sur le risque de faillite des intermédiaires financiers.

Ces mesures restent désespérément plates jusqu'en juillet 2007, lorsque les premiers fonds sont fermés. De manière plus fine,

of risk assessment at the general level which was problematic, and questions this response today.

Poor risk assessment by markets

The risk assessment by financial institutions was a failure, which is a financial lesson from the crisis, even for A. Greenspan. Financial and accounting innovation, opaque balance sheets and technical creativity have not led to an efficient division and distribution of risks, but have made it impossible for financial actors to assess them.

These financial developments combined with low interest rate levels may explain excessive risk-taking. This poor risk assessment can be highlighted by considering various credit risk measures on the debts of financial institutions. These measures capture market players' assessment of financial institutions' bankruptcy risk.

In addition, these measures remained hopelessly ineffective until July 2007 when the first funds were closed. In greater

en écart par rapport aux autres secteurs et mesuré par les Credit Default Swap (CDS), le secteur financier n'a pas connu d'augmentation de primes de risque.

Ces dernières augmentent de manière inédite en septembre 2008 après la faillite de Lehman Brothers'. Ces primes de risque ont donc largement suivi les effets et ne les ont nullement anticipés.

La prise de risque des intermédiaires était-elle le résultat du bas niveau des taux d'intérêt ?

Des travaux universitaires montrent empiriquement et théoriquement la possibilité que de faibles niveaux de taux d'intérêt accroissent la prise de risque des intermédiaires financiers. Cet effet est aujourd'hui appelé « canal de prise de risque de la politique monétaire ».

Pour montrer cela de manière empirique, se rencontre tout d'abord une redoutable difficulté. En effet, les bas niveaux de taux d'intérêt peuvent être le résultat de la prise de risque et de la fragilité des acteurs financiers. Dans ce cas, ils seraient une conséquence et non une cause de la fragilité financière. Pour résoudre ce problème de causalité, V. Ionnadou, S. Onega et J. Peydro ont étudié le cas de la Bolivie de 1999 à 2003.

detail, deviating from other sectors and measured by Credit Default Swap (CDS), the financial sector has not experienced any increase in risk premiums.

The latter increased unprecedentedly in September 2008 after the bankruptcy of Lehman Brothers'. These risk premiums have therefore largely followed the effects and in no way anticipated them.

Was risk-taking by financial institutions the result of low interest rates?

Academic work empirically and theoretically shows the potential for low interest rate levels to increase risk-taking by financial institutions. This effect is currently called "monetary policy's risk-taking channel."

To show this empirically, there is first of all a formidable difficulty. Actually, low interest rate levels may be the result of risk taking and financial actors' fragility. In this case, they would be the result and not a cause of financial fragility.

To solve this problem of causality, V. Ionnadou, S. Onega and J. Peydro studied the Bolivian case from 1999 to 2003.

Durant cette période, la politique monétaire bolivienne était ancrée sur celle du dollar, alors que les choix de la politique monétaire des États-Unis ne considéraient pas la situation bolivienne. Le problème de l'exogénéité de la causalité peut donc être résolu dans ce cas.

Les auteurs montrent que la qualité des nouveaux crédits a sensiblement diminué et que les banques ont donc pris plus de risques. Une série de travaux empiriques utilisant d'autres stratégies d'identifications tendent à confirmer l'existence d'un canal de la prise de risque.

Après tout, cette prise de risque additionnelle est-elle nuisible ? Il n'est pas étonnant que les banques financent plus de projets lorsque les coûts de refinancement sont faibles, et que les projets additionnels soient plus risqués.

Des travaux récents concluent que la prise de risque additionnelle peut être déstabilisatrice, lorsqu'elle interagit avec d'autres frictions financières.

Les travaux d'A. Shleifer et R. Vishny étudient le comportement des banques lorsque celles-ci peuvent titriser leur crédit et lorsqu'il existe une bulle sur les prix des actifs, que les banques

During this period, the Bolivian monetary policy was based on that of the dollar whereas the choices of the United States Monetary policy did not consider the Bolivian situation. The problem of the exogenous nature of causality can therefore be solved in this case.

The authors show that the quality of new loans has declined significantly and that banks have therefore taken more risks. A series of empirical studies using other identification strategies tend to confirm the existence of a risk-taking channel.

After all, is this additional risk-taking harmful? It is not surprising that banks finance more projects when refinancing costs are low and additional projects are riskier.

Recent work found out that additional risk-taking can be destabilizing when combined with other financial frictions.

The works of A. Shleifer and R. Vishny study the behaviour of banks when they can securitize their loans and when they perceive an asset price bubble. In this case, banks try to make the most of this profit

perçoivent. Dans ce cas, les banques essaient de profiter au maximum de cette opportunité de profits car elles savent que les prix d'actifs sont différents de leur valeur fondamentale.

Elles augmentent considérablement leur levier, font crédit et revendent les crédits. Les facilités d'endettement de court terme accroissent l'ampleur de la prise de risque. C'est donc la rationalité des banques face à une erreur de marché qui les conduit à prendre sciemment des risques importants pour maximiser leurs profits.

Les problèmes financiers qui aboutissent à un effet négatif des taux d'intérêt bas tiennent à la présence initiale d'une erreur d'évaluation du risque et aux innovations financières qui permettent la titrisation.

Pourquoi les acteurs se sont-ils à ce point trompés sur le risque agrégé ? En d'autres termes, d'où provient la bulle initiale ?

Les travaux que nous avons menés avec S. Dubecq et B. Mojon apportent un élément de réponse à cette question et montrent le rôle de l'opacité financière dans la formation de la bulle. Les innovations financières des années 2000 coïncident avec l'évolution du cadre réglementaire, avec le passage aux normes Basel 2 et l'introduction de nouvelles règles comptables.

opportunity because they know that asset prices differ from their base value.

They increase their leverage considerably, give credit and resell the credits. Short-term debt facilities increase the extent of risk-taking. It is therefore the thinking of banks faced with a market error that leads them to knowingly take significant risks to maximize their profits.

The financial problems that lead to a negative effect of low interest rates are due to the initial presence of a risk assessment error and financial innovations that allow securitization.

Why were the financial actors so wrong about aggregate risk? In other words, where did the initial bubble come from?

The studies we did with S. Dubecq and B. Mojon provide an answer to this question and show the role of financial opacity in the formation of the bubble. The financial innovations of the 2000s coincided with changes in the regulatory framework, the transition to Basel 2 standards and the introduction of new accounting rules.

Ces évolutions conjointes ont rendu extrêmement difficile la compréhension des contraintes réglementaires pesant effectivement sur les banques et les intermédiaires financiers en général. V. Acharya et P. Schnabl soulignent que les intermédiaires financiers ont joué avec les contraintes réglementaires pour diminuer au minimum le montant de leur capital et pour maximiser ainsi leur levier.

Quant à J.-C. Rochet, il insiste sur la technicité des modèles d'évaluation du risque des acteurs financiers, qui rend impossible l'appréciation de leur robustesse. Cette évolution de la contrainte réglementaire facilite la prise de risque et augmente donc la demande d'actifs risqués comme les crédits immobiliers, ce qui accroît leur prix. Si les épargnants ne comprennent pas vraiment le jeu des intermédiaires financiers et leur réelle contrainte réglementaire, ils ne font qu'observer la hausse du prix des actifs risqués et peuvent ainsi croire que les banques, tout comme eux, sont plus riches qu'ils ne le sont vraiment.

Cet effet de richesse fallacieux tend à dissimuler la fragilité des intermédiaires financiers, ce qui explique les primes de risque faibles avant 2007 et le bas taux d'épargne des ménages, lesquels se

These joint developments have made it extremely difficult to understand the regulatory constraints actually influencing banks and financial institutions in general. V. Acharya and P. Schnabl point out that financial institutions have played with regulatory exigencies to minimize the amount of their capital and thus maximize their leverage.

As for J.-C. Rochet, he insists on the technicality of risk assessment models of financial actors, which make it impossible to assess their robustness. This trend of the regulatory exigencies facilitates risk-taking and thus increases the demand for risky assets such as mortgages, which increases their price. If savers do not really understand the game of financial institutions and their real regulatory exigencies, they only observe the rise in risky asset prices and can thus believe that banks, like them, are richer than they really are.

This fallacious wealth effect tends to conceal the fragility of financial institutions, which explains the low risk premiums before 2007 and the low savings rate of households, which thought

croyaient riches. Dans ce cadre, une politique monétaire accommodante conduit à une demande encore plus grande d'actifs risqués par les intermédiaires et augmente l'ampleur de cet effet de richesse fallacieux.

Les deux études que nous venons de citer insistent sur le comportement relativement sophistiqué des intermédiaires financiers en présence d'acteurs moins bien informés. Cependant, un doute est difficile à dissiper : ces intermédiaires ont-ils été aussi perspicaces que cela dans l'appréciation du risque en période d'innovations financières ?

Sans citer de noms, nous nous souvenons de discussions avec d'excellents économistes soutenant l'allocation optimale des risques par les marchés financiers en 2007. Et nous étions nous-même loin de prévoir l'ampleur des déséquilibres financiers. Ainsi il s'agit peut-être d'une intoxication collective après ingestion déraisonnable d'innovations financières. Cette hypothèse peut être qualifiée de minskyenne et est défendue par les économistes André Orléan ou Michel Aglietta.

themselves rich. In this context, an accommodating monetary policy leads to an even greater demand for risky assets by institutions and increases the magnitude of this fallacious wealth effect.

The two studies just mentioned emphasize the relatively sophisticated behavior of financial institutions dealing with much less informed stakeholders. However, a doubt is difficult to dispel: have these institutions been as insightful as that in assessing risk in times of financial innovations?

Without mentioning names, we recall discussions with excellent economists supporting the optimal allocation of risks by financial markets in 2007. We ourselves were far from predicting the magnitude of the financial imbalances.

Thus, it is perhaps a collective intoxication after unreasonable ingestion of financial innovations. This hypothesis can be described as Minskyan and is defended by the Economists, André Orléan or Michel Aglietta.

Il faut reconnaître que les analyses d'Hyman Minsky semblent particulièrement pertinentes pour la crise actuelle. Il insiste sur le caractère intrinsèquement instable de la dynamique financière. Par temps calme, les acteurs financiers ont tendance à minimiser les risques économiques et à produire des innovations financières qui permettent de contourner les contraintes existantes pour prendre plus de risques.

Un réseau d'intermédiaires financiers différent du système bancaire classique et moins réglementé se développe, que les régulateurs comprennent mal. Les risques s'accumulent là où on ne regarde pas. On peut voir certaines des études citées plus haut comme des explications de mécanismes partiels décrits par Minsky.

Ainsi, optimisme, innovation et opacité financière ont pu créer des effets inédits de taux d'intérêt faibles.

De faibles coûts de financement ont augmenté la demande de crédit d'acteurs financiers. Ces derniers utilisaient de nouveaux instruments pour acheter massivement des actifs risqués, augmentant leur prix sans avoir d'effet manifeste ni sur les primes de risque, ni sur l'inflation mesurée par l'indice des prix à la consommation.

It must be acknowledged that Hyman Minsky's analyses seem particularly relevant to the current crisis. He highlights the intrinsically unstable nature of financial trends. Under favorable economic conditions, financial actors tend to minimize economic risks and produce financial innovations that circumvent existing constraints to take more risks.

A network of financial institutions different from the conventional and less regulated banking system is developing, which regulators poorly understand. Risks accumulate where we least expect. Some of the studies cited above can be considered as explanations of partial mechanisms described by Minsky.

Thus, financial optimism, innovation and opacity could create unprecedented effects of low interest rates.

Low financing costs have increased credit demand by financial actors. The latter used new instruments to buy risky assets on a large scale, increasing their prices without having a visible effect either on risk premiums or on inflation measured by the consumer price index.

Alors, la politique monétaire apparaît dans le pire des cas comme ayant un effet multiplicateur sur des déséquilibres financiers préexistants. Ceux-ci sont avant tout le fruit gâté des innovations financières, en avance sur la réglementation concernée.

Ce sont donc bien les lacunes de la réglementation qui ont permis à certains acteurs d'utiliser toutes les ressources disponibles pour augmenter leur exposition au risque. Ainsi, si l'on reconnaît un rôle à la politique monétaire, c'est la croyance plus générale des régulateurs dans la pertinence de l'évaluation du risque et dans la stabilité des marchés financiers qui est en cause.

Cette conclusion conduit naturellement à discuter prioritairement la réforme de la réglementation financière, mais il nous faut d'abord analyser d'autres critiques de la politique monétaire.

L'EFFET DE LA REMONTÉE NON ANTICIPÉE DES TAUX D'INTÉRÊT

Des travaux récents sur le lien entre politique monétaire et instabilité financière insistent sur la remontée non anticipée des taux d'intérêt effectuée par la FED, plutôt que sur le niveau faible de

Hence, monetary policy appears in worst case scenarios to have a multiplier effect on pre-existing financial imbalances. These are above all, the bad results of financial innovations, ahead of the regulations concerned.

It is therefore the regulatory gaps that have allowed some financial actors to use all available resources to increase their exposure to risk. Thus, if monetary policy is recognized as having a role, it is the more general belief of regulators in the relevance of risk assessment and in the stability of financial markets that is in question.

This conclusion naturally leads us to discuss the reform of financial regulation as a matter of priority, but we must first analyse other criticisms of monetary policy.

THE EFFECT OF THE UNEXPECTED RISE IN INTEREST RATES

Recent work on the relationship between monetary policy and financial instability emphasizes the unexpected increase in FED interest rates, rather than on their low level. Anticipating the Central bank's

ces derniers. L'anticipation du comportement de la banque centrale et donc la transparence des débats au sein de cette institution serait alors une condition essentielle de la stabilité financière.

C'est ce qu'avancent par exemple A. Landier, D. Sraer et D. Thesmar en étudiant en détail le cas d'un intermédiaire financier, New Century, qui a eu un rôle important dans l'émission des titres de crédits subprimes et qui a fait faillite début 2007. L'intérêt additionnel de ce travail est de montrer concrètement le comportement des intermédiaires dans la bulle.

Dans un premier temps, New Century a conservé à son actif une partie importante des titres de crédits risqués émis. Il est donc erroné de croire que les acteurs au cœur de l'émission des actifs financiers les plus risqués se sont totalement débarrassés du risque. Puis New Century a changé de comportement de manière brutale en 2004 en finançant des crédits de plus en plus risqués.

Cette année-là sont introduits de nouveaux contrats de crédits à taux variables où les emprunteurs ne paient que les intérêts sur les crédits pendant une période fixée contractuellement (contrat interest only). Ensuite, en 2005, apparaît une autre sorte

behaviour and thus the transparency of debates within this institution would then be an essential condition for financial stability.

This is what A. Landier, D. Sraer and D. Thesmar, for example, claim by studying in detail the case of a financial institutions, New Century, which had a major role in the issue of subprime loan securities and which went bankrupt in early 2007. The additional relevance of this work is to show concretely the behavior of the institutions in the bubble.

Initially, New Century retained a significant portion of the risky credit securities issued in its name. It is therefore wrong to believe that the financial actors at the center of the issuance of the riskiest financial assets have completely rid themselves of risk. Then, New Century abruptly changed its behaviour in 2004 by financing increasingly risky loans.

That year, new variable-rate loan agreements were introduced where borrowers only pay interest on loans for a contractually specified period (interest only contract). Then, in 2005, another type of variable-rate contract appeared for

de contrats à taux variables pour lesquels le montant du capital n'est pas totalement remboursé à la fin du contrat de crédit. Ce qui permet de financer des ménages au revenu encore plus faible par rapport au prix de la maison achetée (contrat Balloon).

Pour les auteurs de l'étude citée, le changement de comportement en 2004 est lié à la hausse non anticipée des taux d'intérêt qui a amené l'entreprise à prendre plus de risques. La hausse des taux d'intérêt a entraîné une fragilisation des bilans et une probabilité de faillite plus grande. Dans un tel cas, il peut être rationnel de prendre encore plus de risques pour jouer le tout pour le tout. Cette stratégie de *gambling for resurrection* a pu être observée pour des entreprises proches de la faillite. Quand on sait que l'on est au bord du gouffre, il n'y a plus qu'à sauter le plus loin possible pour espérer arriver de l'autre côté.

Cette explication met donc en avant la hausse non anticipée des taux d'intérêt dans le changement des comportements des intermédiaires financiers en 2004. Il semble cependant difficile d'adhérer vraiment à cette explication. Car l'année 2004 est celle de la diffusion des innovations financières. Il y a peut-être une simple corrélation entre

which the principal amount is not fully repaid at the end of the loan agreement. This makes it possible to finance households whose income is even lower than the price of the house purchased (Balloon contract).

For the authors of the study cited, the change in behaviour in 2004 is linked to the unexpected rise in interest rates which led the company to take more risks. Rising interest rates have led to a weakening of balance sheets and a greater likelihood of bankruptcy. In such a case, it may be rational to still take more risks in order to gamble everything. This *gambling for resurrection* strategy has been observed for companies close to bankruptcy. When we know that we are on the edge of the abyss, all that remains is leaping as far as we can with the hope of getting to the other side.

This explanation therefore highlights the unexpected rise in interest rates with regards to behavioral change of financial institutions in 2004. It seems however difficult to really agree with this explanation. This is because the year 2004 was marked by the spread of financial innovations. There may be a simple correlation between the development of

développement des innovations et modification de la politique monétaire. Par ailleurs, c'est aussi l'année des débats réglementaires sur les contraintes en capital retenues pour les produits titrisés. Ainsi, changement de la réglementation et innovations financières sont des explications plus crédibles.

De manière plus générale, la fin des périodes de bulles spéculatives coïncide avec une hausse des taux d'intérêt. Ces hausses rendent plus évidentes encore la surévaluation des prix des actifs risqués en faisant diminuer la demande et donc leur prix, du fait de l'augmentation des coûts de refinancement. H. Minsky notait ainsi que les bulles spéculatives étaient dynamiques car les acteurs anticipaient une hausse permanente des prix. Plus que les rendements des actifs, ce sont les gains en capital (la hausse des prix) qui justifiaient les stratégies.

Lorsque le coût de financement à court terme augmente, la demande et les prix baissent. Les acteurs financiers spéculatifs vendent leurs actifs pour diminuer leur endettement, ce qui contribue à une chute brutale des prix. T. Adrian et H. Shin ont montré que les banques d'investissement avaient une demande d'actifs qui augmentait avec les prix et donc diminuait lorsque les prix baissaient. Ce

innovations and changes in monetary policy. Moreover, it was also the year of regulatory discussions on capital constraints on securitized products. Thus, change in regulations and financial innovations are more credible explanations.

More generally, the end periods of speculative bubbles coincide with an increase in interest rates. These increases make the over-assessment of risky asset prices even more obvious by reducing demand and hence their price, due to the increase in refinancing costs. Thus, H. Minsky noted that speculative bubbles were dynamic because financial actors anticipated a permanent increase in prices. It was capital gains (rising prices) that justified the strategies more than asset returns.

When short-term financing costs rise, demand and prices fall. Speculative financial actors sell their assets to reduce their debt which contributes to a sharp fall in prices. T. Adrian and H. Shin showed that investment banks had an asset demand that increased with prices and therefore decreased when prices fell. This abnormal behaviour (demand should increase when prices fall!) leads to destabilizing spiral

comportement anormal (la demande devrait augmenter lorsque les prix baissent !) conduit à des mouvements déstabilisants de spirale à la vente après une chute initiale des prix.

Ainsi, si l'on peut observer que la hausse des taux d'intérêt coïncide avec la chute du prix des actifs financiers, cette relation atteste plutôt l'existence d'une bulle spéculative que le caractère dangereux d'une hausse des taux. Cependant, l'analyse du comportement des intermédiaires financiers indique l'importance de la prévisibilité de la politique monétaire. Ces acteurs prennent des positions qui les rendent très dépendants du risque de hausse des taux d'intérêt court, essentiellement un endettement à court terme pour un placement à plus long terme, pour jouer la pente de la courbe des taux. Les banques centrales peuvent créer un risque additionnel en changeant leur taux d'intérêt de manière non anticipée.

La prévisibilité de la politique monétaire peut donc contribuer à une plus grande stabilité financière. Cette réflexion est au cœur d'un vaste débat sur la communication des banques centrales. Doivent-elles être plus transparentes pour être plus prévisibles ? Doivent-elles suivre des règles simples ou s'accorder le droit à

sales movements after an initial fall in prices.

Thus, if we can observe that the rise in interest rates coincides with the fall in financial asset prices, this relationship attests more to the existence of a speculative bubble than to the dangerous nature of a rate hike. However, the analysis of financial institutions' behaviour shows the importance of monetary policy predictability. These actors take positions that make them highly dependent on the risk of increasing short-term interest rates, essentially a short-term debt for a longer-term investment, in order to ride the yield curve. Central banks can create an additional risk by changing their interest rates unexpectedly.

The predictability of monetary policy can therefore contribute to greater financial stability. This reflection is at the center of a broad debate on Central banks' communication. Should they be more transparent to be more predictable? Should they follow simple rules or be allowed discretionary interest rate movements?

des mouvements discrétionnaires des taux d'intérêt ?

Sur ce dernier point, un consensus émerge dans les pratiques des banques centrales pour suivre des règles flexibles. Suivre une règle sauf quand on a un intérêt manifeste et justifiable à dévier de la règle (par exemple de la règle de Taylor). En effet, il peut y avoir des situations non prévues qui justifient des déviations. Sur le premier point, celui de la transparence, les pratiques sont plus différentes.

Le degré de transparence des débats est tout d'abord très variable. Certaines banques centrales rendent publics les débats de manière nominative, comme la Riksbank (la Banque centrale de Suède). D'autres les rendent publics de manière non nominative. D'autres encore, comme la BCE, ne les communiquent pas. Ensuite, certaines banques centrales rendent publiques les règles simples sur lesquelles se fondent les décisions de politique monétaire, comme la Banque centrale du Canada.

Enfin, et c'est peut-être là le plus intéressant pour les débats sur la stabilité financière, d'autres publient chaque mois le sentier de taux d'intérêt de court terme qu'elles prévoient. Elles annoncent donc tous les mois ce qu'elles pensent être leurs

On this last point, a consensus is emerging in the practices of Central banks to follow flexible rules. Follow a rule except when there is a clear and justifiable interest in deviating from the rule (for example, Taylor's rule). Indeed, there may be unforeseen situations that justify deviations. On the first point, that of transparency and practices are more different.

First of all, the degree of transparency of debates varies greatly. Some Central banks make the debates nominally public, such as the Riksbank (the Central Bank of Sweden) whereas others do not nominally do so. Still others such as the ECB, do not communicate them. Furthermore, some Central banks make public the simple rules on which monetary policy decisions are based, such as the Central Bank of Canada.

Finally, and perhaps this is most interesting for financial stability debates, others publish the short-term interest rate path monthly. They therefore announce every month what they think their future decisions will be. These announcements do

décisions futures. Ces annonces ne les engagent pas, mais communiquent au marché l'évolution anticipée des taux par les banques centrales elles-mêmes.

Les banques centrales de Suède, de Nouvelle-Zélande, de Norvège, d'Islande et de République tchèque annoncent ainsi les sentiers de taux. Des évolutions en terme de transparence des banques centrales permettront à n'en pas douter au marché financier de mieux anticiper les évolutions de politique monétaire. Cependant, il est difficile d'affirmer que la crise financière a quelque chose à voir avec l'absence de transparence des banques centrales.

« PUT OPTION »

L'éclatement de la bulle Internet au début des années 2000 a marqué la fin de l'ancienne « nouvelle économie ». La FED a baissé substantiellement ses taux d'intérêt afin de limiter les effets de la récession. L'inflation étant restée faible, les taux sont demeurés bas pendant plusieurs années. La politique contracyclique de la banque centrale a joué comme un filet de sécurité pour les acteurs financiers qui ont pris des risques excessifs lors de la bulle Internet, en leur permettant de se refinancer à un coût faible.

not commit them, but communicate to the financial market the Central Banks' own anticipation of the trend in the rates.

The Central banks of Sweden, New Zealand, Norway, Iceland and the Czech Republic thus announce the rate paths. Developments with regards to Central banks' transparency will undoubtedly enable the financial market to better anticipate monetary policy developments. However, it is difficult to say that the financial crisis is linked to the lack of Central banks' transparency.

“PUT OPTION”

The bursting of the Internet bubble in the early 2000s marked the end of the old "new economy". The FED substantially reduced its interest rates in order to limit the effects of the recession. As inflation remained low, rates remained low for several years. The Central bank's counter-cyclical policy acted as a safety net for financial actors who took excessive risks during the Internet bubble, by allowing them to refinance themselves at a low cost.

L'action des banques centrales fournit l'assurance que les choses ne vont pas trop mal tourner si le système devient instable. Cette description de leur action en cas de crise possède une part de vérité pour les grandes institutions financières qui se savent trop importantes pour faire faillite.

Si les banques centrales interviennent pour limiter les conséquences des crises financières, elles rassurent, certes, les acteurs financiers, mais elles les incitent aussi indirectement à prendre des risques, puisqu'ils seront aidés en cas de récession. Ce problème d'aléa moral standard est formalisé par E. Farhi et J. Tirole dans le cas des crises financières. Ils montrent que les intermédiaires financiers peuvent avoir intérêt à choisir des investissements pour être sûrs de bénéficier de l'aide de la banque centrale en cas de crise. Ils aboutissent donc à une corrélation des risques pour bénéficier tous de l'aide publique.

Ainsi, ce sont les stratégies d'aide au secteur financier menées par les banques centrales qui sont les racines de la prise excessive de risque suivante et donc de la prochaine crise. Plus particulièrement, les auteurs critiquent les interventions très générales en cas de crise qui aident toutes les institutions financières, comme une

The action of Central banks provides assurance that things will not go too wrong if the system becomes unstable. This description of their action in the event of crisis is partially true for major financial institutions that know they are too big to fail.

If Central banks intervene to limit the consequences of financial crises, they certainly reassure financial actors, but they also indirectly encourage them to take risks, since they will be helped in the event of a recession. This standard moral hazard problem is formalized by E. Farhi and J. Tirole in the case of financial crises. They show that financial institutions may have an interest in choosing investments to ensure that they receive help from the Central bank in the event of a crisis. They therefore conclude on a correlation of risks so that all will benefit from Government assistance.

Thus, it is the Central banks' assistance strategies to the financial sector which are the roots of the next excessive risk taking and hence, the subsequent crisis. More particularly, the authors criticize the very general interventions in the case of crisis that help all financial institutions, such as lower policy rates. More targeted

baisse des taux directeurs. Des interventions plus ciblées, si elles sont possibles, sont plus efficaces.

Cet argument est différent d'une autre forme d'aléa moral, souvent citée en économie bancaire, qui est le « trop gros pour faire faillite ». Les acteurs systémiques, dont la faillite mettrait en péril tout le système financier, savent qu'ils bénéficieront de l'aide publique dans tous les cas et sont donc incités à prendre trop de risques.

L'argument de Farhi et Tirole concerne aussi les institutions de petite taille.

Il est difficile de confronter cette explication de la prise de risque aux données. À ce stade, on ne voit pas comment mesurer l'anticipation de l'aide des banques centrales et des crises. Apprécier les croyances en l'intervention des banques centrales en cas de crise est déjà difficile. Mesurer les anticipations quant à la probabilité d'une crise est un peu plus facile.

La discussion menée plus haut sur la mesure du risque par les intermédiaires financiers montre plutôt une sous-estimation globale du risque qu'une juste appréciation de celui-ci et de l'intervention des banques centrales.

interventions, if possible, are more effective.

This argument is different from another form of moral hazard, often cited in banking Economics, which is "too big to fail". Systemic actors, whose bankruptcy would jeopardize the entire financial system, know that they will benefit from Government assistance in all cases and are therefore encouraged to take too many risks. Farhi and Tirole's argument also concerns small institutions.

It is difficult to compare this explanation of risk-taking with the data. At this stage, it is unclear how to measure the anticipation of Central bank assistance and crises. Assessing beliefs about Central banks' intervention in times of crisis is already difficult whereas measuring expectations about the likelihood of a crisis is a little easier.

The discussion above on risk measurement by financial institutions rather shows an overall underestimation of risk than a fair assessment of risk and Central banks' intervention.

L'approche en terme d'aléa moral est à l'opposé d'une approche que l'on a qualifié de minskyenne, reposant sur une dérive optimiste des anticipations. Au contraire, c'est la très grande rationalité des anticipations en cas de crise qui explique les comportements de prise de risque. Les deux explications sont opposées mais peuvent coexister : sous-estimation des probabilités de crise et croyance en l'action efficace des banques centrales lorsque ces probabilités se confirment.

Dans tous les cas, même si l'aléa moral engendré par l'action des banques centrales n'est pas la cause première de la crise, il semble aujourd'hui évident que l'action publique ne doit pas donner de filets de sécurité trop importants (financés par l'argent du contribuable) à des acteurs financiers qui empochent les profits sans payer toutes les pertes. Les efforts d'évolution de la réglementation financière vont dans ce sens.

La critique que l'on peut adresser aux banques centrales comme à beaucoup d'institutions publiques est d'avoir pris trop au sérieux l'efficacité de l'évaluation des risques par les acteurs financiers. Auraient-elles pu mieux faire ? La

The moral hazard approach is the opposite of an approach we have qualified as Minskyan, based on an optimistic drift in expectations. On the contrary, it is the very high level rationality of expectations in the event of crisis that explains risk-taking behaviour. The two explanations are opposed but can coexist: underestimation of the probabilities of crisis and belief in the effective action of Central banks when these probabilities are confirmed.

In any case, even if the moral hazard generated by the action of Central banks is not the root cause of the crisis, it seems obvious today that Government action must not give too large safety nets (funded with taxpayers' money) to financial actors who rake in profits without paying losses. Efforts to change financial regulation are moving in this direction.

The criticism that we can level against Central banks as well as many public institutions is that they have taken too seriously the effectiveness of risk assessment by financial actors. Could they have done better? The answer today is obviously, yes.

réponse est évidemment aujourd'hui affirmative.

Cependant, concentrer les critiques sur la seule politique monétaire, c'est trop limiter la réflexion sur la constitution de l'instabilité financière. Si les causes profondes des déséquilibres financiers sont produites par les marchés financiers eux-mêmes, il ne faut pas demander à la politique monétaire d'assurer à elle seule la stabilité financière.

Un autre outil réglementaire directement concentré sur les zones d'instabilité doit être mis en place. C'est la raison profonde de l'émergence des outils d'une politique macroprudentielle. Mais ces nouveaux outils laisseront toujours un rôle majeur aux banques centrales en cas de problème, comme le montre la crise actuelle.

Après l'étude des effets de la politique monétaire avant la crise, nous entrons dans la crise elle-même. Celle-ci permet de mieux comprendre ce qu'est au fond de la politique monétaire : l'injection de liquidité et la modification des coûts de refinancement à très court terme. L'action des banques centrales dans cette crise marque le début d'une nouvelle période.

However, focusing criticism on monetary policy alone means limiting too much the thinking on the constitution of financial instability. While the root causes of financial imbalances are produced by financial markets themselves, we must not expect monetary policy alone to ensure financial stability.

Another regulatory tool directly focused on areas of instability must be put in place. This is the underlying reason for the emergence of macro prudential policy tools. Nonetheless, these new tools will always attribute a major role to Central banks in the event of a problem, as the current crisis portrays.

After studying the effects of monetary policy before the crisis, we focus on the crisis itself. This provides a better understanding of what is at the basis of the monetary policy: injecting liquidity and changing very short-term refinancing costs. Central banks' action in this crisis marks the beginning of a new period.

2. Le jour où le marché s'arrêta

Les études récentes permettent d'avoir une vision un peu synthétique du système financier américain avant la crise et de comprendre les principaux mécanismes de la crise du système financier après la faillite de Lehman Brothers'. Pour résumer, le système financier américain a produit en son sein un « système bancaire parallèle », parfois appelé fantôme, en marge des réglementations existantes.

Le terme ne doit pas être pris en un sens trop métaphorique : ce système émettait des titres très liquides et jugés sans risque, qui étaient utilisés comme de la quasi-monnaie par les ménages, les entreprises et des acteurs publics, telles les municipalités américaines. Le problème est que cette liquidité émise finançait des titres risqués, adossés aux prix immobiliers américains, et donc soumis à un risque macroéconomique important. Le cœur de la crise est l'évaporation de la liquidité produite par le système bancaire parallèle.

SYSTÈME BANCAIRE PARALLÈLE ET BULLE IMMOBILIÈRE

La bulle immobilière est en grande partie une conséquence du développement du système bancaire parallèle, qui a masqué la réalité des risques pris par une longue et

2. The day the financial market stopped operating

Recent studies allow us to have a somewhat synthetic vision of the American financial system before the crisis and to understand the main mechanisms of the financial system crisis after the bankruptcy of Lehman Brothers'. In a nut shell, the American financial system has produced within itself a "shadow banking system", sometimes referred to as ghost, outside existing regulations.

The term must not be taken too metaphorically: this system issued securities that were very liquid and considered risk-free, which were used as quasi-money by households, companies and public actors, such as American municipalities. The problem is that this issued liquidity financed risky securities backed by American real estate prices, and therefore subject to significant macroeconomic risk. The heart of the crisis is the evaporation of liquidity produced by the shadow banking system.

SHADOW BANKING SYSTEM AND REAL ESTATE BUBBLE

The real estate bubble is largely a consequence of the development of the shadow banking system, which masked the reality of the risks taken by a long and

complexe chaîne d'intermédiation dont on comprend mieux maintenant le fonctionnement.

Pour illustrer l'absorption de l'épargne mondiale par le système bancaire parallèle la figure 1 montre l'évolution des ressources allouées au secteur bancaire traditionnel et au secteur bancaire parallèle dans les années récentes. L'unité est le millier de milliards de dollars.

Ainsi, le passif du système bancaire parallèle aux États-Unis, c'est-à-dire l'argent qui lui a été prêté, était proche de 20 000 milliards de dollars, alors que le passif du système bancaire traditionnel était de 13 000 milliards de dollars.

L'implosion du système bancaire parallèle est la conséquence de l'explosion de la bulle immobilière qu'il a contribué à engendrer. Ce processus touche à une question profonde, développée plus loin, qui est l'instabilité de la monnaie privée. Une réglementation et une garantie publique sont nécessaires pour assurer l'existence d'un système bancaire stable. Comme il a été rappelé en introduction, les banques centrales modernes proviennent justement des leçons des crises bancaires.

complex intermediation chain whose functioning is better understood now.

To illustrate the absorption of global savings by the shadow banking system, Figure 1 shows the trend of resource allocation to the traditional banking sector and the shadow banking sector in recent years. The unit is trillion dollars.

Thus, the liabilities of the shadow banking system in the United States, that is, the money lent to it, was close to 20 trillion dollars, while the liabilities of the traditional banking system amounted to 13 trillion dollars.

The collapse of the shadow banking system is the result of the real estate bubble burst that it helped to generate. This process touches on a profound issue, which is the instability of private money, developed further in the booklet. A regulation and public guarantee are necessary to ensure a stable banking system. As was pointed out in the introduction, modern Central banks are actually established based on lessons of banking crises.

La crise en Europe est de nature différente. Elle ne touche pas le secteur bancaire parallèle mais directement le secteur bancaire réglementé, du fait de son exposition aux risques des actifs américains, puis au risque sur les dettes publiques européennes. Cette différence s'explique parce que les banques sont très importantes pour le financement de l'économie européenne, ce qui n'est pas le cas aux États-Unis.

Dans ce pays, le crédit bancaire représente 40 % du financement des entreprises. Ce montant est de 75 % en Europe. L'action des banques centrales de la zone euro et de la BCE a donc été plus directement concentrée sur le secteur bancaire.

LA PRODUCTION D'UNE QUASI-MONNAIE PRIVÉE AUX ÉTATS-UNIS

Le système bancaire parallèle peut être représenté par une chaîne complexe d'intermédiaires financiers, qui réalisaient des prêts immobiliers risqués à long terme et émettaient des dettes à très court terme considérées comme sûres. Cette possibilité repose sur deux innovations que sont la titrisation et le découpage en tranche des risques. Ce n'est pas le détail de cette chaîne d'intermédiation qui nous intéresse ici, mais les maillons finaux de

The crisis in Europe is different in nature. It does not affect the shadow banking sector but the regulated banking sector directly, due to its exposure to American asset risks, then to European public debt risks. This difference is explained by the fact that banks are very important for financing the European economy, which is not the case in the United States.

In the United States, bank credit accounts for 40% of corporate financing and 75% in Europe. The action of the Euro Zone Central banks and the ECB was therefore more directly focused on the banking sector.

THE PRODUCTION OF A PRIVATE QUASI-MONEY IN THE UNITED STATES

The shadow banking system can be represented by a complex chain of financial institutions, which gave out long-term risky real estate loans and issued very short-term debts considered safe. This possibility is based on two innovations which are securitization and risk slicing. It is not the detail of this chain of intermediation that interests us here, but the final links of the intermediation chain that

la chaîne d'intermédiation qui émettaient de la quasi-monnaie. Cette chaîne d'intermédiation est décrite par exemple par Z. Pozsar.

La production de quasi-monnaie a été principalement réalisée par deux structures. La première est le réseau des fonds monétaires américains, Money Market Funds (MMFs), qui ressemblent aux OPCMs français. Les fonds américains sont cependant allés bien plus loin que leurs homologues européens en émettant des titres de valeur constante garantie à 1 dollar. Avant la crise financière, les montants investis dans les MMFs atteignaient 6 000 milliards de dollars environ, et étaient donc très proches des 6 200 milliards de dollars des dépôts bancaires aux États-Unis. La seconde structure est le marché du repurchase-agreement, ou marché du repo, qui est estimé à 10 000 milliards de dollars par G. Gorton et A. Metrick.

Les fonds monétaires MMFs

Pourquoi le passif du système bancaire parallèle était-il considéré comme de la monnaie ? La nature des MMFs permet de comprendre le processus. Les MMFs émettent aux États-Unis des actions d'une valeur de 1 dollar, et gèrent activement le cours de leur action de sorte que ce dernier reste à 1 dollar. Les détenteurs d'action

issued quasi-money. This intermediation chain is described for example by Z. Pozsar.

Two Institutions mainly carried out the production of quasi-money. The first is the network of American Money Market Funds (MMFs), which are similar to French UCITS. However, US funds have gone much further than their European counterparts by issuing guaranteed constant-value securities at \$1. Before the financial crisis, amounts invested in MMFs was about \$ 6 trillion, and were therefore very close to the \$ 6.2 trillion of bank deposits in the United States. The second establishment is the repurchase-agreement market, or repo market, which is estimated at \$10 trillion by G. Gorton and A. Metrick.

Money Market Funds (MMFs)

Why was the shadow banking system's liability considered as money? The nature of MMFs helps to understand the process. The MMFs issue \$1 worth of shares to the United States, and actively manage their share price so that it remains at \$1. As a result, MMF shareholders do not make any

des MMFs ne font donc aucun gain en capital, ce qui simplifie les déclarations fiscales, et reçoivent un gain en dividendes.

Détenir une action d'un MMF, c'est comme détenir de la monnaie rémunérée car lorsque l'on a besoin de fonds, on vend ses actions à 1 dollar, on récupère son argent et on empoche au passage les dividendes distribués. Rémunération et liquidité sans risque : on comprend que ces titres aient attiré les ménages, les entreprises qui plaçaient leur trésorerie et les institutions publiques comme les villes américaines qui accroissaient ainsi le rendement de leur liquidité. Il existe différents types de MMFs, certains s'engagent à ne détenir que des titres publics, d'autres détiennent des titres adossés à de l'immobilier et proposent des rendements plus élevés.

L'engagement de maintenir la valeur de l'action à 1 dollar n'était pas un engagement contractuel mais un engagement implicite des MMFs qui fondaient leur stratégie de vente sur leur capacité à maintenir une valorisation constante. Les MMFs utilisaient leurs fonds pour investir en titres adossés sur les crédits hypothécaires, dont le rendement était donc indexé in fine sur l'évolution des prix immobiliers, et en titres de court

capital gains, which simplifies tax returns, and receive a dividend gain.

Holding an MMF share is like holding remuneration because when you need funds, you sell your shares for \$1, get your money back and pocket the dividends distributed in the process. Risk-free remuneration and liquidity: it is understandable that these securities attracted households and companies that invested their cash and public institutions such as American cities, which thus increased their liquidity returns. There are different types of MMFs. Some are committed to holding only public securities, others hold real estate-backed securities and offer higher returns.

The commitment to maintain the share value at 1 dollar was not a contractual commitment but an implicit commitment of the MMFs who based their sales strategy on their ability to maintain a constant valuation. The MMFs used their funds to invest in mortgage-backed securities, whose return was therefore ultimately indexed to real estate price developments, and to short-term corporate securities, that is, to commercial paper.

terme des entreprises, c'est-à-dire en papier commercial.

Lorsque la crise est survenue, les MMFs adossés à des titres immobiliers n'ont pas pu tenir leur engagement de 1 dollar pour la valeur de l'action, simplement du fait que la valeur de leur actif, adossé sur l'immobilier, s'est effondrée.

Ils vécurent alors une décollecte massive. Dans la seule semaine du 15 septembre 2008, après la faillite de Lehman Brothers', ils perdirent 300 milliards de dollars de valeur. La suspicion envers les MMFs devint générale. Les investisseurs placèrent leur argent dans d'autres **supports** pour minimiser leur exposition aux risques immobiliers.

Cependant, comme les MMFs investissaient aussi dans les titres à court terme des entreprises, celles-ci se sont retrouvées brutalement sans financement et on assista à une disparition presque complète du marché du papier commercial. Nombre d'entreprises ne pouvant s'endetter à court terme se sont alors retrouvées au bord de la faillite pour des raisons qui ne concernaient nullement leur santé économique.

Pour éviter des faillites massives d'entreprises du fait de la disparition du marché du papier commercial, la FED a

When the crisis occurred, MMFs backed by real estate securities could not meet their \$1 commitment for the share value, simply because the asset value, backed by real estate, collapsed. They then experienced significant outflows.

In the week of 15 September 2008 alone, after the Lehman Brothers' bankruptcy, they lost a value of \$300 billion. Suspicion towards MMFs became widespread. Investors invest their money in other products to minimize their exposure to real estate risk.

However, as MMFs also invested in short-term corporate securities, they were brutally left without funding and we witnessed a near complete collapse of the commercial paper market. Many companies that could not go into debt in the short term ended up on the brink of bankruptcy for reasons that had nothing to do with their economic health.

To avoid massive corporate bankruptcies due to the disappearance of the commercial paper market, the FED had to hastily

dû se substituer précipitamment aux marchés et acheter des titres privés. Cela a été possible grâce au Commercial paper funding facility (CPFF). La banque centrale a pu dès lors acheter pour 350 milliards de dollars de papier commercial en janvier 2009.

La réalisation des risques immobiliers et la difficulté de bien comprendre la localisation de ces risques ont suscité une méfiance des épargnants envers le marché des MMFs. Le problème collatéral a été l'assèchement du financement de court terme des entreprises. Les MMFs sont une première forme de création d'une quasi-monnaie, une seconde est le marché du repo.

Le marché du repo

Le marché du repo est presque un substitut du marché monétaire dans son principe avec en plus l'avantage de prêts de court terme sécurisés du fait de l'emploi d'un collatéral. Imaginons que j'aie 1 000 dollars disponibles pendant une période de trois mois, période après laquelle je veux acheter un nouvel ordinateur. Je peux placer ces 1 000 dollars sur un dépôt à terme dans ma banque. Je peux aussi les prêter à un acteur financier en espérant que ce dernier ne fasse pas faillite dans les trois mois. Pour me dédommager du risque de crédit, je

replace the markets and buy private securities. This was made possible by the Commercial Paper Funding Facility (CPFF). As a result, the Central bank was able to purchase \$350 billion worth of commercial paper in January 2009.

The realization of real estate risks and the difficulty of fully understanding the location of these risks have led investors to mistrust the MMF markets. The collateral problem has been the drying-up of short-term corporate financing. The MMFs are a prototype of quasi-currency creation. Another is the repo market.

The repo market

The repo market is almost a substitute for the money market in principle, with the added advantage of secured short-term loans through the use of collateral. Imagine I have \$1,000 available for a three-month period; after which I want to buy a new computer. I can invest these \$1,000 in a term deposit in my bank. I can also lend them to a financial actor hoping that the latter does not go bankrupt within the three-month period. To compensate me for the credit risk, I then ask for additional remuneration.

demande alors une rémunération supplémentaire.

Une troisième option est d'aller sur le marché du repo qui est sécurisé. L'idée est qu'en échange du prêt de 1 000 dollars en trois mois, l'acteur financier me donne des titres financiers d'une valeur sûre, le collatéral. Dans trois mois, il me rembourse 1 000 dollars plus des intérêts et reprend ses titres. Pendant ces trois mois les titres financiers sont ma propriété : donc si l'acteur fait faillite je peux revendre les titres pour récupérer de l'argent. Cependant, le titre financier peut avoir une valeur fluctuante dans les trois mois, je dois donc me couvrir contre les risques de variation de valeur du collatéral.

Pour me couvrir des risques de faillite et de variation du collatéral, je demande un haircut. Si la valeur des titres mis en collatéral est de 500 dollars au moment du prêt, je peux décider de ne prêter que 480 dollars – le haircut est alors de 20 dollars. Les acteurs du système bancaire fantôme se finançaient essentiellement sur le marché du repo. Ils empruntaient en fournissant comme collatéral des titres financiers hypothécaires supposés de bonne qualité. Lorsque les doutes sur la valeur de ces titres sont apparus en juillet 2007, la

A third option is to go on the repo market which is secured. The idea is that in exchange for the \$1000 loan in three months, the financial actor gives me financial securities of a sure value, that is, the collateral. In three months, he pays me \$1000 plus interests and takes back his securities. During these three months, the financial securities are my property: therefore, if the financial actor goes bankrupt I can resell the securities to recover some money. However, the financial security may have a fluctuating value in the three-month period. I must therefore hedge myself against collateral value variation risks.

To hedge myself against bankruptcy and collateral variation risks, I ask for a haircut. If the value of collateralized securities is \$500 dollars at the time of the loan, I can decide to lend only \$ 480 – the haircut is therefore \$20. The financial actors in the shadow banking system mainly financed themselves on the repo market. They borrowed by providing supposedly good quality mortgage-backed securities as collateral. When doubts on the value of these securities arose in July 2007, the value of haircuts increased considerably.

valeur des haircuts a considérablement augmenté.

Deux périodes apparaissent nettement : avant juillet 2007 le haircut est proche de 0 ; le début de la crise des subprimes datée de juillet 2007 se marque par une hausse sensible des haircuts. La hausse spectaculaire est contemporaine de la faillite de Lehman Brothers' en septembre 2008.

Le marché du repo est de l'ordre de 10 000 milliards de dollars. On ne connaît pas le montant du marché du repo qui sert au refinancement d'acteurs non bancaires. Il semble que des entreprises plaçaient leur trésorerie sur ce marché. La révélation des risques sur les collatéraux a considérablement réduit son attractivité et les entreprises ont placé ailleurs leurs liquidités. C'est donc le risque final sur le secteur immobilier qui a fait considérablement décroître le rôle de ce quasi-marché monétaire qu'est le marché du repo.

L'étude des Money Market Funds et du marché du repo montre que c'est, au final, le risque immobilier qui a fait s'effondrer le système. La complexité des intermédiaires a caché l'exposition au risque final. La bulle immobilière permettait des rendements artificiellement

Two periods clearly came up: before July 2007, the haircut was close to 0; the beginning of the July 2007 subprime crisis was marked by a significant increase in haircuts. The spectacular rise is contemporaneous with the bankruptcy of Lehman Brothers' in September 2008.

The repo market is in the range of \$10 trillion. We do not know the amount of the repo market used to refinance non-bank actors. It seems that companies invested their cash in this market. The revelation of risks on collaterals has considerably reduced its attractiveness and companies have invested their liquidities elsewhere. It is therefore the final risk on the real estate sector that has considerably reduced the role of this quasi-money market, which is the repo market.

The study of Money Market Funds and the repo market shows that it is ultimately the real estate risk that caused the system to collapse. The complexity of institutions hid the exposure to the final risk. The real estate bubble allowed artificially increased returns, the complexity of interconnections

élevés, la complexité des interconnexions a caché le risque et donné l'illusion de la production d'une liquidité alternative à la monnaie.

L'histoire des crises financières montre que l'existence d'un système bancaire stable est le fruit d'une réglementation complexe pour les faillites et les prises de risque excessives. C'est la leçon renouvelée de la crise des subprimes.

La réaction de la FED

La réaction de la FED s'est faite en deux temps. Tout d'abord, du début de la crise à la faillite de Lehman Brothers', la FED a principalement aidé le système bancaire traditionnel. Après la faillite de Lehman Brothers', elle a dû aider globalement le système bancaire parallèle et racheter des titres privés, comme du papier commercial pour soutenir les entreprises. L'aide a été réalisée avec la mise en place de nouveaux dispositifs après septembre 2008.

Cette évolution s'observe dans le bilan de la FED (Bulletin mensuel de la BCE d'octobre 2009, par exemple). Jusqu'à septembre 2008, la FED fait tout pour intervenir dans l'économie en gardant constante la taille de son bilan. À partir de septembre 2008, son bilan a plus que doublé.

hid the risk and gave the illusion of the production of an alternative liquidity to money.

The story of financial crises shows that the existence of a stable banking system is the fruit of a complex regulation for bankruptcies and excessive risk-taking. It is the new lesson of the subprime crisis.

The FED's response

The FED's response was in two parts. Firstly, from the start of the crisis to the bankruptcy of Lehman Brothers', the FED mainly helped the traditional banking system. After the bankruptcy of Lehman Brothers', it had to globally help the shadow banking system and purchase private securities, such as commercial paper to support companies. The assistance was carried out with the implementation of new measures after September 2008.

This development is observed in the FED's balance sheet. (for example, the October 2009 edition of the ECB's monthly newsletter). Until September 2008, the FED is doing everything it can to intervene in the economy by keeping the size of its balance sheet constant. Since September 2008, its balance sheet more than doubled.

La dernière action de la FED est le programme QE2, pour *quantitative easing* 2, commencé en novembre 2010. Soucieuse de la faiblesse de la reprise aux États-Unis, la FED a décidé d'essayer de faire baisser les taux d'intérêt de long terme afin de stimuler l'investissement. Pour ce faire, début novembre 2010, elle a acheté pour 600 milliards de dollars de titres publics de maturité longue, en espérant que la hausse de la demande ferait baisser les taux d'intérêt. Le résultat d'une telle action a plutôt été une hausse des taux d'intérêt, ce qui est le contraire de l'action désirée. Différents effets ont contribué à cela, que nous ne détaillerons pas dans cet opuscule, consacré plus généralement aux banques centrales.

Pour résumer, la taille de la FED est passée de 800 milliards de dollars début 2007 à 2 400 milliards de dollars aujourd'hui, soit une multiplication proche de trois. Le montant de titres privés en lien avec le marché hypothécaire (mortgage backed securities) est aujourd'hui estimé à 1 250 milliards de dollars. Les titres publics détenus dépassent 1 000 milliards de dollars et vont donc s'accroître encore. Ainsi, l'implosion du système bancaire parallèle a obligé la FED à jouer un rôle

The last action of the FED is the QE 2 programme for *quantitative easing* 2, which began in November 2010. Concerned about the weakness of the economic recovery in the United States, the FED decided to make an attempt to reduce long-term interest rates in order to stimulate investment. To achieve this, it bought \$ 600 billion worth of long-dated public securities of long-term maturity in early November 2010, hoping that increase in demand will reduce interest rates. Rather, the result of such an action has been an increase in interest rates which is the opposite of the desired action. Various effects have contributed to this, which we will not treat in detail in this booklet, dedicated more generally to Central banks.

To sum up, the size of the FED has increased from \$800 billion at the beginning of 2007 to \$2.4 trillion today, representing almost a threefold increase. The amount of private securities linked to the mortgage market (mortgage backed securities) is still estimated at \$1.2 trillion. Public securities held exceed \$1 trillion and will therefore increase further. Thus, the implosion of the shadow banking system compelled the FED to play a role of financial intermediary of last resort by lending simultaneously to banks, the State

d'intermédiaire financier en dernier ressort en prêtant à la fois aux banques, à l'État et aux entreprises afin d'empêcher des faillites en série.

LA CONCENTRATION DES PROBLÈMES SUR LE MARCHÉ INTERBANCAIRE EN EUROPE

L'éclatement de la bulle immobilière américaine a affecté différemment l'Europe et les États-Unis. En Europe, le doute s'est porté assez tôt sur la solidité des banques commerciales elles-mêmes. La BCE et les États ont d'abord réagi en les aidant avant de se concentrer sur certains segments de marché.

La crise immobilière a initialement affecté le système bancaire européen par deux canaux. Tout d'abord des banques européennes ont placé de l'argent dans le système bancaire parallèle américain ou en ont même fait partie. Elles ont donc essuyé des pertes importantes. Z. Pozsar et ses coauteurs indiquent que les Landesbank allemandes qui sont des banques régionales publiques étaient très présentes au sein du système bancaire parallèle. Le premier canal est donc l'exposition aux prix immobiliers américains. Le second canal est l'exposition aux prix immobiliers européens des banques européennes. Les

and companies in order to prevent serial bankruptcies.

CONCENTRATION OF PROBLEMS ON THE INTERBANK MARKET IN EUROPE

The bursting of the American real estate bubble affected Europe and the United States in different ways. In Europe, there was doubt rather early about the stability of commercial banks themselves. The ECB and the States first reacted by assisting them before concentrating on certain segments of the market.

The real estate crisis initially affected the European banking system in two ways. First of all, European banks invested money in the American shadow banking system or were even a part of it. They therefore suffered significant losses. Z. Pozsar and his co-authors show that the German Landesbanks, which are public regional banks were very active in the shadow banking system. The first channel is therefore exposure to American real estate prices whereas the second channel comprises the exposure of European banks to European real estate prices. The Spanish and English real estate prices in particular have undergone wide variations.

prix immobiliers espagnols et anglais notamment ont subi d'amples variations. Comme on va le voir, à ces deux premiers canaux se sont ajoutés de nouveaux mécanismes provenant des conséquences de la crise financière. Le dernier mécanisme est le problème posé par la dette souveraine des pays européens comme la dette publique de la Grèce et celle de l'Irlande, ainsi que quelques autres. Il est difficile de revendre ces dettes publiques à un prix élevé aujourd'hui car les acteurs économiques redoutent un défaut des pays concernés. Les banques qui détenaient un grand nombre de ces titres de dettes voient donc leur bilan très fragilisé.

La figure 3 montre l'étendue des problèmes et représente l'écart entre deux taux d'intérêt pour les mêmes maturités auxquels les banques se prêtent. Le premier taux est le taux swap qui est un taux de couverture des variations des taux courts et est considéré comme pratiquement sans risque. Le second est le taux Euribor 3 mois qui est le taux auquel les banques se prêtent en blanc, c'est-à-dire sans mettre de titres en collatéral. En d'autres termes, le taux Euribor est soumis à des risques de crédit alors que le taux swap ne l'est pas. Ainsi la différence des deux taux est une bonne mesure du risque

As we shall see, new mechanisms resulting from the outcome of the financial crisis were added to these first channels. The last mechanism is the problem posed by the sovereign debt of European countries like the public debt of Greece and Ireland, as well as some others. It is difficult to resell these public debts at a high price today because the economic actors fear a default by the countries concerned. The banks which held a large number of these debt securities therefore have a very weak balance sheet.

Figure 3 shows the scale of problems and shows the difference between two interest rates for the same maturities at which banks lend to each other. The first rate is the swap rate, which is a rate used to hedge changes in short-term rates and is practically considered risk-free. The second is the 3-month Euribor rate, which is the rate at which banks lend unsecured funds to each other, that is, without offering securities as collateral. In other words, the Euribor rate is subject to credit risks while the swap rate is not. Thus the difference between the two rates is a good measure of risk perceived on the European banking system by the banks themselves.

perçu sur le système bancaire européen par les banques elles-mêmes.

Avant le début de la crise, l'écart entre les deux taux est nul. Avec le début de la crise des subprimes, il augmente de 75 points de base, car les banques ne connaissent pas l'exposition des autres banques au risque immobilier. La faillite de Lehman Brothers' conduit à une nouvelle hausse brutale de la prime de risque sur le secteur bancaire européen. L'action de la BCE sous différentes formes décrites plus loin a contribué à rassurer les marchés et à faire baisser les primes de risque. Enfin, la crise financière a aussi eu des répercussions sur certains segments de marché comme celui des obligations sécurisées (covered bonds en anglais) ou celui des OPCVM. Cependant, l'ampleur des déséquilibres est restée bien plus faible en Europe qu'aux États-Unis.

Réaction de la BCE et des banques centrales nationales

La réaction de la BCE et des banques centrales de la zone euro a été d'abord dirigée vers les banques et, dans un second temps, vers certains segments de marché. Les banques centrales ont joué leur rôle de prêteur en dernier ressort en inventant dans le tourbillon de la crise de nouveaux instruments pour injecter massivement des liquidités dans le secteur bancaire.

Before the crisis began, there was no difference between the two rates. With the onset of the subprime crisis, it increased by 75 basis points, as banks were not aware of the exposure of other banks to real estate risks. The bankruptcy of Lehman Brothers' led to a further sharp increase of the risk premium in the European banking sector. The ECB's action in various forms described below helped to reassure markets and lower risk premiums. Finally, the financial crisis also had repercussions on certain market segments such as covered bonds and UCITS. However, the scale of imbalances remained much smaller in Europe than in the United States.

Reaction of the ECB and national Central banks

The reaction of the ECB and the Euro zone Central banks was first directed towards banks and secondly to some market segments. Central banks played their role as lenders of last resort in the heat of the crisis by creating new instruments to massively inject liquidities into the banking sector.

« Injecter des liquidités » signifie prêter de l'argent à des banques relativement solides pour qu'elles n'aient pas de problème de refinancement à court terme. La principale innovation a été d'ouvrir un nouveau guichet pour prêter de l'argent à un horizon relativement long (de six mois à un an) et à un taux fixe, contre une gamme élargie de collatéral incluant des titres privés de qualité suffisante.

La demande de collatéral permet de s'assurer que les banques sont solides, la gamme élargie de collatéral utilisé permet de financer largement les banques. Ces prêts ont été réalisés à un taux fixe, très bas, et égal au taux au jour le jour, la totalité des soumissions étant servie, c'est-à-dire que la BCE a fourni autant de crédit que ce qui était demandé par les banques à ce taux d'intérêt.

Avec un tel mécanisme, les banques peuvent acquérir la certitude qu'elles n'auront plus de problèmes de liquidité. Comme la FED américaine, les banques centrales de la zone euro ont racheté des titres privés, les obligations sécurisées, mais pour un montant « faible », à savoir 60 milliards d'euros. Ainsi la BCE est devenue un intermédiaire central en Europe dans la crise mais principalement entre les banques et pas entre les acteurs privés comme aux États-Unis.

“Injecting liquidity” means lending money to relatively solid banks so that they may not have short-term refinancing problems. The major innovation was to open a new window to lend money over a relatively long period (from six months to one year) at a fixed rate, against a wider range of collateral including private securities of sufficient quality.

Asking for collateral helps to ensure that banks are stable whereas the wider range of collateral used enables banks to be substantially financed. The loans are acquired at a very low fixed rate, and are equal to the overnight rate, with full allotment. This means that the ECB provided as much credit as was requested by the banks at that interest rate.

With such a mechanism, banks can be certain that they will no more have liquidity problems. Like the American FED, the Euro Zone Central banks have repurchased private securities, covered bonds, but for a “small” amount of 60 billion euros. Thus, the ECB became a central intermediary in Europe during the crisis but mainly between banks and not between private actors, as in the United States.

Que sont devenues les liquidités injectées ? La BCE a permis aux banques d'acquérir des fonds en quantité illimitée à un taux d'intérêt faible. Elles ont massivement demandé des liquidités mais continuaient à se méfier les unes des autres. Dès lors, plutôt que de prêter aux autres banques les nouveaux fonds reçus de la BCE, elles les ont gardés pour elles, sur leur compte bancaire. Le compte bancaire des banques correspond aux facilités de dépôts de la BCE.

En effet, la BCE accepte de recevoir l'argent des banques et le rémunère à un taux extrêmement faible. Ainsi, la monnaie créée par la BCE à son actif s'est retrouvée en grande partie à la BCE à son passif. L'excès de liquidité dans le marché interbancaire s'est traduit par une chute du taux auquel les banques se prêtent leur liquidité au jour le jour, appelé EONIA, et celui-ci a diminué pour atteindre des niveaux proches des taux de rémunération des facilités de dépôts.

Si l'on cumule les outils de politique monétaire, la taille du bilan des banques centrales de l'eurozone est passée de 400 milliards en janvier 2007 à 1 000 milliards en janvier 2009. Là encore, l'augmentation du bilan des banques centrales est très importante.

What happened to the injected funds? The ECB allowed banks to acquire funds in unlimited quantities at a low interest rate. The banks massively demanded funds but continued to be wary of each other. Since then, instead of lending the new funds received from the ECB to other banks, they have kept it for themselves in their bank account. The banks' bank account corresponds to the ECB's deposit facilities.

Indeed, the ECB admits receiving money from banks and paying back at an extremely low rate. Thus, money created by the ECB to its credit, became its liability. Excess liquidity in the inter-bank market led to a fall in the rate at which banks lend their funds overnight, called EONIA. This fell to levels close to remuneration rates on deposit facilities.

If monetary policy tools are combined, the size of the balance sheet of the Euro Zone Central banks increased from 400 billion in January 2007 to 1 trillion in January 2009. Here again, the increase in Central banks' balance sheet is very significant.

CHAPTER THREE

3.0 Analysis and Discussion of Translation problems

According to Vinay & Darbelnet (1977) , « La traduction est une discipline exacte, possédant des techniques et ses problèmes particuliers. . . » (p.7). [Translation is a specific discipline with its own techniques and challenges]. In view of this notion, we will in this chapter analyse the issues of equivalence encountered in the course of translating the source text from French to English. The chapter will explain how the issues were resolved based on the translation strategies and theories proposed in the theoretical framework and literature review.

In the attempt of this work to replace textual material in the source language by equivalent textual material (Catford, 1965) or with the “closest natural equivalent” (Bell, 1991, p. 6), the approach is to communicate the message of the author (Pergnier, 1993) and not to merely translate words. Ladmiral (1979) has emphasized this by referring to translation as an act of communication. This will consequently reproduce the same impact created by the original text on its original receptors.

Over a long period, a translator observes that each text he comes across, be it technical or general, poses particular challenges and as such requires different techniques to translate effectively in order for the translation to read natural. According to Philips (1953, p. 53) cited by Nida (1964, p.163), “the real test of a translation is that it should not read like a translation at all”. The source text was taken from the domain of Economics. Therefore, translating the text required some level of knowledge in the field of Economics. That notwithstanding, the knowledge gaps were filled with information gathered from extensive research.

The analysis section will list, organise and analyse the difficulties that was encountered in the source text at the word level and beyond the word level. In order to facilitate this analysis,

words were placed in the context in which they appeared but with a focus on the boldened words.

3.1. Word Equivalence

Baker (1992, p. 17) suggested that “if language were simply a nomenclature for a set of universal concepts, it would be easy to translate from one language to another.” However, each language has its own way of naming concepts and for the formation of concepts. Vinay & Darbelnet (1977) have also stated that literal translation becomes necessary when there are parallel concepts between two languages.

With regards to economic texts, (Rollo, 2016, p. 81) has shared this notion: « la langue de l'économie est imprégnée d'expressions métaphoriques systématiques. . . le mécanisme métaphorique permet de conceptualiser les notions économiques en termes d'entité physique ». Rollo's assertion is that economic texts are full of metaphorical expressions which enable a reader to concretize economic notions. He further states that metaphorical expressions make economic texts lively and effective. In order to maintain the mental imagery these words create in the mind of readers, we found it necessary to translate these words literally but meaningfully based on Vinay & Darbelnet's (1977) strategy of literal translation. These literal translations, produced equivalents that equally create mental imagery. We will demonstrate how the assertion of Rollo (2016) influenced my choice of words in the lines below;

A) i) « La bulle immobilière. . . qui a **masqué** la réalité des risques. . . »

The boldened word in the phrase above is a typical example of a word, expressing parallel concepts between French and English. This is because they are both used as verbs and are employed metaphorically in the two languages to express the idea of something concealing another thing to the latter from being noticed. We observed that the author of the Economic text could have used a much simpler word such as « **cacher** » (**to hide**) which will equally convey the same message. However, as Rollo

(2016) stated, the Author may have chosen to use such a metaphoric word to make the text livelier and more effecting by creating an impact on readers in the form of a mental imagery which this word evokes. Therefore, translating this word literally as “**masked**” in English will maintain this same effect on target language readers.

In table 1 we have listed other examples of every day words used metaphorically in the source text that were translated literally in order to create equivalent imagery in the minds of target text readers. Although literal, they are meaningful and read naturally.

Table 1

	Source Text	Target Text
ii)	« . . .l’existence d’un système bancaire est le fruit d’une réglementation complexe. . . »	“. . . the existence of a stable banking system is the fruit of a complex regulation. . .”
iii)	« . . .la liquidité. . .s’est évanouie »	“. . .the liquidity produced. . . vanished ”
iv)	« . . .la liquidité. . .a disparu »	“. . .the liquidity. . . disappeared ”
v)	« . . .la politique monétaire bolivienne était ancrée sur celle du dollar . . . »	“. . .the bolivienne monetary policy was anchored on that of the dollar. . .”

Based on the theory of meaning by Seleskovitch & Lederer (1984), cited in (Herbulot, 2014) which places emphasis on de-verbalization, some words which created an imagery in our minds, aided our understanding and enabled us to find the “closest possible equivalent” (Bell, 1991, p. 6) in order to convey meaning. However, they weren’t translated literally as their literal renditions will be meaningless and they will read unnatural.

Nida (1964, p. 164) cites (Souter, 1920, p. 7) who expressed that, “our ideal in translation is to produce on the minds of our readers as nearly as possible, the same effect as was produced by the original on its readers. Below are some examples

B) i) « Les banques centrales dans la **tempête** . . . »

A metaphor is again used in the above sentence. This could not be translated literally as “**storm**” as it will not read natural. This created a challenge, as care had to be taken in order not to choose an equivalent which will distort meaning. Words such as “**struggle**” and “**battle**” had to be weighed to determine which better conveys the message of the author. The imagery created by this word in the source language gives us the understanding of an ongoing “**struggle**”. Hence, the translation “The **struggle** of Central banks” was deemed more appropriate.

ii) « La pratique moderne . . . est le **fruit** des leçons . . . »

In this case, rendering the word « **fruit** » literally will be appropriate as the metaphorical meaning of the word “**fruit**” symbolizes “the effect or consequence of an action or operation” (www.merriam-webster.com). That notwithstanding we chose to translate this word with the closest equivalent, “**result**” which creates the same equivalent effect.

iii) « Cette explication peut sembler **séduisante** »

In as much as this word evokes imagery in our minds, it will not fit the context of the text to translate it literally. Our ability to visualize the message the author intends to carry across gave us a deep understanding of the word and facilitated the choice of the closest appropriate equivalent, “**convincing**”.

Moreover, the literal rendition “**seductive**” does not collocate with the word “**explanation**” (« **explication** »). An explanation is described as “**convincing**” and not “**seductive**”. Thus, the word “**explanation**” collocates better with “**convincing**”. Therefore, we can say that the choice of the word “**convincing**” is also influenced by the word it occurs with.

More examples of the above are listed and bolden in the Table 2.

Table 2

iv)	« . . . freiner la hausse de la demande . . . »	“. . . to curb the increase in demand . . .”
v)	« Les acteurs au cœur de l’émission. . . »	“financial actors at the center of the issuance . . .”
vi)	« La demande . . . était alimentée . . . »	“The demand . . . was fueled . . .”
vii)	« . . . les causes profondes . . . »	“. . . root causes . . .”
viii)	« . . . au fond de la politique monétaire . . . »	“. . . what is at the basis of the crisis . . .”
ix)	« . . . les racines de la prise excessive de risque. . . »	“. . . the roots of excessive risk-taking. . .”

C) Vinay & Darbelnet (1977) suggest that English may employ the strategy of expansion (étoffement) to fortify a word which is inadequate on its own and thus, may need to be supported by others. In translating the source text, we came across words that needed to be translated by this strategy. In this case, a single word unit was replaced by two words. This emphasizes Kade’s (1968) notion of equivalence relationship stated in (Kenny 2009) where there may be a one-to-one equivalence, that is, a word may be replaced by one word or a one-to-many equivalence, in which a word may be replaced by two or more lexical items. This approach was considered necessary to make the meaning clearer and to avoid the problem of ambiguity. Below are some examples of such words in the text;

i) « . . . faiblesse de la **reprise** . . . »

In the above, it was appropriate to expand the word « **reprise** » and replace it with the economic term, “**economic recovery**” and not “**recovery**” alone. This is because, rendering it by the latter will create the problem of ambiguity and target readers may be left to assume what kind of recovery the author is talking about. According to www.larousse.fr, the word « **reprise** » has multiple meanings and can be used in the field of Economics to specifically mean “(**economic**) **recovery**” in

English. The fact that this word has multiple meanings makes it obligatory to qualify it with the adjective “**economic**”.

- ii) « Pourquoi les **acteurs** se sont-ils à ce point trompés sur le risque agrégé ? »

Similar to the above, instead of translating the word « **acteurs** » with the lexical item “**actors**” we decided to expand the word for clarification, so, the word « **acteurs** » was replaced with the multi word “**financial actors**”. Once again, without this strategy of expansion, confusion may be created in the minds of the readers. Expanding this word proved essential as the term « **acteurs** » occurred a number of times in the ST but meant differently in light of the context in which it appears. In another instance in the ST, « **acteurs** » alone was translated as “**stakeholders**” as in « **acteurs** moins bien informés ». Thus, not expanding the word « **acteurs** » will leave the readers wondering what actors the author is referring to at this point.

- iii) « . . . communiquent au **marché** »

In (iii), the word « **marché** » was also expanded and translated as “**financial market**”. Just as in (ii), we deemed it necessary to expand in order to be specific about the kind of market the author is referring to as the word « **marché** » appeared in different contexts in the ST. Examples include: « **marché interbancaire** », translated as “**interbank market**”, « **marchés américains** » rendered as “**American markets**” and « **marché du papier commercial** » translated as “**commercial paper market**”.

We observed that the translation strategy of expansion does not distort the message the author intends to carry across, although this may lead to an increase in information content. It proved essential, in order to make the message of the author clearer and precise, especially in the case of technical texts. Based on Kade's (1968) equivalent relationships cited in Kenny (2009) the words "**reprise**" and "**acteurs**" were replaced by more than one TL expressions.

D) The extra-linguistic factor of context played a key role in the search for the appropriate equivalents. Nida (2001) highlighted the important role of context in understanding and reproducing the meaning of a word. He expressed that, the context does not usually only influence how a translator may understand a word but how the word needs to be translated.

An observation was made that, a word may be polysemous but that notwithstanding, the environment in which it appears helps the translator to detect its specific meaning.

This is illustrated in the lines below:

i) « . . . **place** de l'argent dans le système bancaire parallèle . . . »

The translation of this word is affected by the environment in which it occurs and the field of discourse involved, which is Economics. In the economic context, the word « **placé** » specifically means "**invested**". Thereof, the translation, ". . . **invest** money in the shadow banking system.

The same applies to the term « **placement** » as in « . . . un **placement** à long terme . . . » rendered as "**investment**" and not literally as "**placement**" which has a different meaning in another context.

ii) « Les investisseurs placèrent leur argent dans d'autres **supports**. . . »

Similarly, translating the French word « **supports** » into English posed a great challenge as this required some knowledge in the area of finance.

In order to come up with the right equivalent, the introspective question asked was, “What do investors invest in?” This required some research. From knowledge gathered at www.investopedia.com, the understanding was that, “an investment product” is a product offered to investors based on the underlying security or group of securities that is purchased with the expectation of earning a favorable return”. Therefore, inference could be made from this information that, by buying investment products, investors place their monies in “**products**” and not “**supports**” - as the latter will evoke the translation problem of false friends.

- iii) « . . . les **démocraties** acceptent une nouvelle fois de consacrer autant d’argent à sauver des acteurs financiers »

Rendering the word « **démocraties** » as “**democracies**” will create the problem of false friends, particularly as we are not dealing with a political context.

In overcoming this challenge, we had to resort to an extended context provided by the author. This extended context¹ was provided as a reference in the foot note section. This text threw more light on the message the author intends to carry across and cleared all ambiguities. Nida (2001, p. 31) suggests that, “the answer to most problems of meaning come from extended contexts whether within the text in question or in other texts produced by the same writer or in text produced by other writers on the same subject.”

In this extended context, the writer talks of the action of the US Government through the Federal Reserve, the Treasury Department, and the US Congress to bail out banks and securities firms in the wake of the financial crisis that hit the United States of America between 2008 and 2009. Thus, the nearest appropriate equivalent to replace the word « **démocraties** » is “**Governments**”.

¹ See J.-P. Trichet, Wall Street Journal, 26 December 2010

Some may argue that this word is too general. (Baker, 1992) suggests the strategy of using a more general word to describe a concept in cases where one cannot find a direct equivalent to replace a word. She refers to this general word as a superordinate. So far as meaning is not distorted, this strategy is valid.

iv) « **important(e)(s)** »

In another instance where context played a role was in the translation of « important (e)(s) ». The meaning changed based on the environment in which the word occurred. A few examples of such are as follows; « effets **importants** » as “**significant** effects”, « externalisation trop **importante** » as “**excessive** outsourcing”, « risques **importants** » as “**significant** risks”, « role **important** » as “**major** role”, « une partie **importante** » as “**significant** portion”, « trop **important** pour faire faillite » as “too **big** to fail”, « filets de sécurité trop **importants** » as “**large** safety nets”, « pertes **importants** » as “**significant** losses”.

v) “**brutale**”

Likewise, the different renditions of the word « **brutale** ». « . . . a changé de comportement de manière **brutale** » rendered as “. . . **abruptly** changed its behaviour”, « chute **brutale** des prix » rendered as “**sharp** fall in prices”, « se sont retrouvées **brutalement** sans financement » rendered as “**suddenly** left without funding”, « hausse **brutale** » rendered as “**sharp** increase”.

vi) « . . . **confronter** cette explication de la prise de risque aux données »

The word « **confronter** » tends to be polysemous. Translating the word « **confronter** » as “**confront**” creates the problem of false friends. However, analyzing the specific context in which the word occurs gives it its specific meaning. The word « **confronter** »

was translated as “**compare**”. Thus, “. . . **compare** this explanation of risk-taking with the data”.

The role that contexts plays in finding the appropriate equivalents is consistent with what Nida (2001, p. 3) posited that, “Professional translators need not only an excellent general vocabulary, but also a mastery of technical terminology . . .”

- vii) « Il ne faut pas **demander à** la politique monétaire d’assurer . . . la stabilité financière ».

Translating the word « **demander à** » engaged the translation strategy of de-verbalization that was based on the interpretative theory or theory of sense (Herbulot, 2014). This required that the researcher understood the message the author intends to carry across and to re-express it. Based on this theory, we translated the verb « **demander à** » as “**expect**”. Therein, “we must not **expect** the monetary policy to ensure . . . financial stability”.

- viii) « Ces mesures restent désespérément **plates** jusqu’en juillet 2007 ».

The word « **plates** » in the sentence is similar to (d). Foremost, the dictionary - according to www.wordreference.com, translate the words “**dull**” and “**boring**”. Since the noun « **mesures** » translated as “**measures**” does not collocate with neither “**dull**” nor “**boring**”, the closest natural equivalent to replace the word « **plates** » is “**ineffective**”, having understood the message the author intended to carry across. Thus, “These measures remained hopelessly **ineffective**”.

3.2. Equivalence Beyond the Word Level

In addition to the above, the work will analyse challenges faced in finding equivalence beyond the word level. (Baker, 1992) refers to this as “lexical patterns”. She opines that words seldom occur alone and that every language possesses its rules for how they can be combined to convey a particular message. Since our source text was is in the area of Economics, we will examine economic terms according to (Nida's, 1964) theory of functional and dynamic equivalence as well as idioms and fixed expressions.

3.2.1. Technical terms

One important fact this study has established about translating technical terms is the loss of information content. Most of the technical terms in the source language occur with prepositions and articles which the target language does away with. A few of these examples include: « **canal de la prise de risque** » translated as “**risk-taking channel**”, « **sentier de taux d'intérêt** » translated as “**interest rate path**” and « **mesures du risque du credit** » translated as “**credit risk measures**”. We can refer to this as zero articles and prepositions (Chuquet & Paillard, 1987). Kade (1968) in (Kenny, 2009, p. 97) refers to this as “nil expressions”.

According to (Nida, 1964), formal equivalence aims to render a word from one language to another with a focus on both form and content without distorting the message.

An observation was made in the translation process that this applies to most of the technical words in the source text. This is illustrated in table 3;

Table 3

a) Innovations financières	Financial innovations
b) Banques centrales	Central banks
c) Acteurs financières	Financial actors
d) Secteur bancaire traditionnel	Traditional banking sector
e) Dettes publiques	Public debts
f) Fluctuations macroéconomiques	Macroeconomic fluctuations
g) Fragilité financière	Financial fragility
h) Politique monétaire	Monetary policy
i) Comportements mimétiques	Mimetic behaviour
j) Marchés financiers	Financial markets
k) Consolidation fiscale	Fiscal consolidation

The examples in the table 3 lend credence to (Nida's, 1964) gloss translation that the translation has "attempted to reproduce as literally and meaningfully as possible the form and content of the original (p.159). From observation, the translation of technical terms that affirm Nida's theory of formal equivalence like in table 3 was made up of 'noun + adjective' in the source text. This have been rendered noun for noun and adjective for adjective.

A major challenge we encountered using formal equivalence is that it could lead to the problem of false friends (*faux-amis*). Examples in the source text include: « **évolutions financières** », « **implosion** », « **valeur fondamentale** », « **dynamique du crédit** », « **architecture financière** » and « **intermédiaires financières** ». Initially, they were translated as "financial evolutions", "implosion", "fundamental value", "credit dynamics", "financial architecture" and "financial intermediaries" respectively. After careful analysis and research in the Field of economics, the following were decided upon as more accurate equivalents respectively: "financial developments", "collapse", "base value", "increase in demand for credit", "financial framework" and "financial institutions". This highlights the theory of dynamic equivalence which aims at equivalent effect and naturalness of expression.

Hence, we may conclude that not all the technical terms can be translated based on the theory of formal equivalence. More instances in the source text which we translated based on the theory of dynamic equivalence are listed in the table below.

Table 4

l) Titres financiers adossés à des crédits immobiliers	Financial securities backed by mortgages
m) Mouvements des capitaux internationaux	International capital flows
n) Mauvaise appréciation du risque	Poor risk assessment
o) Evolution de la contrainte réglementaire	Trend of the regulatory exigencies
p) Taux au jour le jour	Overnight rates
q) Dynamique financière	Financial trends
r) Contrat de crédit	Loan agreement
s) Système bancaire parallèle	Shadow banking system
t) Titres de court terme	Short term securities
u) Taux directeurs	Policy rates
v) Externalisation	Outsourcing

Table 4 shows that technical texts are made up of both formal and dynamic equivalences as proposed by (Nida, 1964). It behoves on the translator to undertake extensive research in order to come up with the appropriate equivalents in order for his/her translation to read natural.

3.2.2 Idioms

The first challenge encountered was recognizing whether a given expression in the source text was an idiom or not, but according to Baker (1992, p. 78) “the more difficult an expression is to understand and the less sense it makes in a given context, the more likely a translator will recognize it as an idiom” which we could attest to after analysis. Challenges in translating idioms were overcome by using the proposed idea of equivalence by Baker (1992) and Vinay & Darbelnet's (1977).

3.2.2.1 Using an idiom with similar form and meaning

This approach entails “using an idiom in the target language that conveys roughly the same meaning as that of the source-language idiom (Baker, 1992)”. This kind of idioms have equivalent lexical items. Larson (1998) also proposed the use of TL equivalent idioms provided they exist.

a) « **Au bord du gouffre** » was rendered with the equivalent expression, “**on the edge of the abyss**”. It is interesting to note that this idiomatic expression is used mainly in the area of Economics to talk about financial bankruptcy (www.linternaute.fr). We could have chosen the equivalent “**on the brink of bankruptcy**” that could have conveyed a similar meaning” but I rather opted for “**on the edge of the abyss**” for the purpose of maintaining the imagery « **au bord du gouffre** » that is related to the source language. The study discovered that « **au bord du gouffre** » created a mental imagery of someone close to falling into an abyss and consequently, the kind of fall s/he will never recover from (www.linternaute.fr). Moreover, the 2018 Cambridge online dictionary also described being “**on the edge of the abyss**” as “a difficult situation that brings trouble or destruction”.

c) « **Trop gros pour faire faillite** » was translated with the TL equivalent idiom, “**too big to fail**”.

The author of the source text explicitly stated that, the above expression was often used in banking Economics and was a form of standard moral hazard². According to www.investopedia.com, the expression “**too big to fail**” describes the concept where a business have become so large that a government will provide assistance to prevent its failure because not doing so would have a disastrous ripple effect on the economy’.

² “Generally, moral hazard occurs when one party or individual in a transaction takes risks knowing that, if things don’t work out, another party or individual then suffers the burden of the adverse consequences” (www.investopedia.com).

The expression « **importantes pour faire faillite** » was also translated as “**too big to fail**” because they conveyed the same message although the author used the word « **importants** » in place of « **gros** ».

3.2.2.2 Using an idiom with similar meaning but dissimilar form

With this strategy, the translator finds an idiom in the target language that have a meaning equal to that of the source language idiom. However, they are made up of different lexical items. This strategy becomes consistent with Vinay & Darbelnet's (1977) technique of equivalence that is predominantly used in translating idiomatic expressions. They define equivalence as two texts reflecting the same situation but using different stylistic and structural means. An observation was made on these idioms that both the source and target language do not have the same lexical items.

d) « . . . **dans le tourbillon** de la crise. . . »

Translating this idiom required an understanding of the author's message. The word « **tourbillon** » which means “**whirlwind**” in English, created a mental imagery of an agitation or a terrible condition that creates destruction. This imagery helped in the analysis of the expression. In the absence of a direct equivalent expression, we replaced « **dans le tourbillon** » with “**in the heat of**” that has a similar meaning.

That is, “the most intense or active stage of some activity or condition” according to thefreedictionary.com. Hence, “**in the heat** of the crisis”.

e) « **jouer la pente de la courbe des taux** ».

This is an expression strictly used in economic contexts and was replaced with the equivalent economic expression “**to ride the yield curve**”.

f) « **L'enjeu est de taille** » was also translated with its equivalent expression, “**the stakes are high**”.

3.2.2.3 Paraphrasing

Baker (1992) advanced that, when a match cannot be found in the target language, paraphrasing is the best option. The interpretative theory proved useful here as these idioms required that the thesis understood them and then, re-express with the appropriate equivalent lexical patterns.

g) « . . . le **fruit gâté** des innovations financières »

This is an expression that can also be described as a metaphor. Based on the interpretative theory, the closest natural equivalent that was used was, “**bad results**”. The word “fruit” metaphorically means “results” of an action (www.collinsdictionary.com). The adjective « **gâté** » connoted the idea of something undesirable. Thus, the English equivalent was “**bad results**”.

h) « . . . de prendre encore plus de risques pour **jouer le tout pour le tout** »

Before this expression « **jouer le tout pour le tout** » was paraphrased I did an intralingual translation (Jakobson, 1959) to understand what the expression meant in the source language. According to www.languefrancaise.net, « **jouer le tout pour le tout** » signified, « **prendre des risques, tenter quelque chose d’audacieux** », translated as (“**taking risks, taking a bold step**”).

In addition, dictionnaire.reverso.net defined this expression as « **risquer tout** », translated as “**risking everything**”. Putting all these explanations together, I reformulated and re-expressed the above idiomatic expression as “**to gamble everything**”.

i) « **Par temps calme** »

This is an expression used mainly in the field of meteorology to signify a calm weather. With regards to the economic context of our source text, the thesis had to rely on the interpretative theory in order to extract meaning and then re-express it using the appropriate equivalent.

The context in which the expression occurred connoted that the author was referring to favorable economic conditions that will allow financial actors minimize risks. After much brainstorming we decided that the best way to render the above expression was, “**Under favorable economic conditions**”. The process applied the strategy of expansion as the thesis introduced more lexical items.

j) « . . . a quelque chose à voir . . . »

The above idiom was translated as “**linked to**” In place of using the equivalent expression “**has something to do with**” which was considered informal and inappropriate for the economic context therein the expression “**linked to**” was considered appropriate.

k) In the same vein, « . . . ont eu le tort » was paraphrased and translated as “. . . **were wrong**”.

3.2.3. Fixed expressions

Some fixed expression posed a challenge as their meaning could not be deduced from the sum of the individual words which constitute them. Baker (1992) stressed that it is unrealistic to always expect to find equivalent expressions in the target language. In dealing with such fixed expressions, we had to delexicalize in order to translate meaning. This involved understanding and reexpression. In the end these fixed expressions were either replaced with a simple lexical item or paraphrased - illustration in table 5

Table 5

a) A n’en pas douter	Doubtlessly
b) A eux seuls	Alone
c) Une part de vérité	Partially true
d) Prendre sciemment	Knowingly
e) Pesant . . . sur	Influencing
f) Remet en cause	Questions
g) Profiter au maximum	Make the most of
h) Laisser penser	Promoting the understanding that. . .

3.4. Abbreviations

Another challenge encountered in translating the source text was finding equivalent abbreviations. An observation was made that it was relatively easier to find the equivalents for abbreviations whose meaning was indicated in the source text. Examples of such abbreviations included; **BCE – Banque Centrale Européenne** translated as **ECB- European Central Bank**. For abbreviations whose meanings were not stated in the source text, the only solution was to undertake extensive research with the help of online resources. The translation process became clearer that abbreviations left untranslated may cause the problem of ambiguity, as different organisations may translate the same abbreviation differently. Moreover, an abbreviation in a given area may mean differently in another field area. Therefore, before a translator leaves an abbreviation untranslated, s/he must make sure that the equivalents do not exist in the target language.

“OPCMs”

Since the meaning of the above abbreviation was not stated in the source text, the thesis had to undertake an intralingual translation (Jakobson, 1959) to find out what OPCM stands for in order to help in understanding. According to www.larousse.fr, O.P.C.V.M in the area of finance stands for « organisme de placement collectif en valeur mobilières ». The author of the source text did not include the letter “V” in the abbreviation thereby making it difficult to find its English equivalent. Moreover, the analysis found that the English equivalent of OPCVM according to iate.europa.eu is “UCITS” - “Undertaking for the Collective Investment of Transferable Securities”.

CHAPTER FOUR

4.0 FINDINGS, CONCLUSION AND RECOMMENDATIONS

This chapter will discuss the findings of the work and make conclusions and recommendations.

4.1 Findings

Challenges of equivalence are not limited to the level of words but also include what Baker (1992) refers to as lexical patterning. These lexical patterning include; idioms and fixed expressions.

One major observation in our work was the ability of formal equivalence, also known as literal translation to equally produce an equivalent effect. The kind of equivalent effect produced by formal in the work was not consistent with Nida's (1964) principle of equivalent effect. This was because formal equivalence did not produce a dynamic relationship between a source text and a target text as the form and content were maintained. However, formal equivalence was able to create an equivalent effect so far as it was meaningful and produced an equivalent message. Thus, a dynamic relationship between the source text and the target text was not the only solution to equivalent effect. A few examples could be noted as follows; the translation of some technical terms such as *innovations financières* translated as "financial innovations" and "*dettes publiques*" translated as "public debts"; the replacement of idioms with expressions having similar form and meaning, such as "*au bord de gouffre* rendered as "on the edge of the abyss". However, we discovered that, formal correspondence may be a fertile ground for false friends if care is not taken. We observed this in the translation of some technical terms (pages 77-78)

The ability to visualize and de-verbalize proved very used in the translation activity, particularly in cases where there was no direct equivalent in the source language. The expressions « *fruit gâté* » and « *par temps calme* », for instance, were translated based on

understanding the message of the author and finding the closest possible equivalent which will convey that same message.

As already cited in (Delisle,1988), economic texts are full of metaphoric expressions, since the author may want to associate a concrete conceptual domain with an abstract domain. The study showed that it is necessary to maintain this imagery conveyed by metaphors in the target text in order to produce equivalent effect. Thus equivalent effect is not only limited to producing equivalent meaning and message but includes reproducing imagery as well (pages 67-68).

Furthermore, the study showed that when parallel concepts exist between two languages, the words that denote them can be translated literally. This is evident in the translation of specific lexical items in the source text that were used metaphorically. English in the same vein makes use of these words metaphorically. They include « fruit » translated as “fruit”, « cœur » rendered as “heart”, and « masque » rendered as “masked”.

It was observed that the extralinguistic factor of context played a major role. The environment in which some words, such as « demander à » translated as “expect” and « séduisante » translated as “convincing” occurred, enabled us to detect the specific meaning of the word and to render it by the appropriate TL equivalents. Some words and expressions could be translated effectively only by consulting extended contexts, notably, the word « démocraties » rendered as “governments”. This confirms Nida’s (2001) assertion that meaning may be derived from an extended context instead of the immediate context. That is, their meanings were found in another text apart from the source text. The word and the context formed a “semantic molecule” (Nida, 2001, p.33).

In the quest to transmit the message of the author or meaning from the source language into the target language, a loss of information content was observed. Notwithstanding, this did not distort the message.

In the analysis, it was noticed that this was due to the differences that exist between the two languages. For example, as English is more precise and can do away with articles and prepositions, French tends to be more verbose. This is emphasized by Hoof, (1994). Some technical terms and expressions in French occurred with prepositions and articles that were not repeated in the target language. This loss of information is evident in the source and target text alignment where we notice more words on the left column than on the right column.

In the process of translating, the study observed that, it is not enough to consult monolingual or bilingual dictionaries. This is consistent to Vinay & Darbelnet's (1977) argument that dictionaries alone cannot provide translators with solutions to all their challenges. Besides, not all words are found in the dictionary. Thus, indepth research was undertaken in order to find the appropriate equivalents, notably in the cases of abbreviations such as “RMBS” and “OPCMs” whose meanings have not been stated by the author in the source text as well as technical terms which could not be translated literally like « *systeme bancaire parallele* » translated as “shadow banking system” and « *taux au jour le jour* » rendered as “overnight rates”. This showed that research forms an integral part of the translation activity. It is necessary for a translator who is translating a technical text like an economic text to consult technical dictionaries as well instead of general dictionaries alone.

4.2 Conclusion

Equivalence has proven to be a “central” and “controversial” concept in the translation activity that cannot be overlooked (Kenny 2009, p. 96). Finding equivalence between two languages is a herculean task as the translator needs to adhere to the rules of the languages involved and at the same time transmit the message of the author. In translating the source text from French to English in this study, there were challenges at both the word level and beyond the word level which is referred to as lexical patternings. These lexical patternings, notably idioms and fixed expressions that this work examined formed a unit of meaning. Difficulties in translating abbreviations were also briefly discussed.

The specific aim of the study was to explore the appropriate theories and translation strategies that will serve as a point of reference for overcoming the challenges. Functional and linguistic theories as well as strategies from translation theorists, such as (Nida, 1964; Lederer, 1969; Catford, 1965; Baker, 1992; Vinay & Darbelnet, 1977) proved essential to this work. Linguistic factors such as ambiguity, polysemy, false friends and non-equivalence posed a threat to finding the appropriate equivalents. The characteristic of economic texts having metaphoric words and expressions, also influenced the choices of equivalents.

This work has shown that equivalent effect is not created only when there is a dynamic relationship between the source text and the target text. A literal translation, when done meaningfully, especially in the case of metaphors, is capable of producing an equivalent effect. Besides, a technical text is made up of both formal and dynamic equivalence and the use of both can produce a translation that reads natural. Although a translator may not be fully knowledgeable in the domain the source text belongs to, the knowledge gaps can be filled through extensive research, particularly, with regards to abbreviations. Information content was lost in transferring the SL message into the TL due to the difference that exist between the

French and English languages. However, meaning was preserved. It is not surprising that Pergnier (1993) refers to meaning as the constant factor of the translation activity.

The quality of the translation is measured by the equivalent effect it creates on both the source text and target text readers. J.B Philips (1953, p. 53), cited in Nida (1964) stated that, “The test of a real translation is that it should not read like a translation at all.” Thus, in finding TL equivalents, the translator must ensure that meaning is not distorted. The use of metaphors by the source text influenced the translation in this study, as we had to resort to TL equivalents that will equally maintain the imagery created in the source text.

4.3 Recommendations

This study has showed that finding equivalence between two different languages that possess their own rules for the formation and combination of words does not consist merely in the transfer of words but meaning. This confirms Bassnett's (2002) claim that finding equivalence is beyond replacing lexical and grammatical items. Based on the study, a few recommendations have been made;

1. Students should be wary of word-for-word translation. This is because, owing to the differences between languages, a SL expression may be rendered by a TL word and a SL word may be rendered by a TL expression. Examples include “a n’ en pas douter” which was rendered as “doubtlessly”, and “reprise” which was rendered as “economic recovery”. These lead to a change in information content between the two languages. Therefore, students should read extensively to discover diverse methods and theories for coming up with meaningful equivalences between French and English.
2. Students must make it a point to undertake extensive research, as not all words and terms find their way into monolingual or bilingual dictionaries. Moreover, some words are left untranslated between two languages as there may be no replacements for them. Examples in our source text included the word “repurchase” in the term “repurchase market”, “haircut”, “subprimes”, “Euribor” and “EONIA”. Moreover, Proper nouns such as “Lehman Brothers” were left untranslated.
3. Considering the fact that understanding has proven to be the first step in the translation process, students of translation should focus on understanding the texts they are given to translate before they attempt translating. This will ensure that the message of the author, which is the constant factor in translating a text is not misrepresented.

Table 6

GLOSSARY

FRENCH

ENGLISH

1. Acteurs financiers	Financial actors
2. Actifs immobiliers	Real estate assets
3. Activité économique	Economic activity
4. Aléa moral standard	Standard moral hazard
5. Architecture financière	Financial architecture
6. Banque centrale	Central Bank
7. Banques d'investissement	Investment banks
8. Bilan	balance sheets
9. Bulle financière	Financial bubble
10. Bulle immobilière	Real estate bubble
11. Bulles spéculatives	Speculative bubbles
12. Canal de prise de risque	Risk taking channel
13. Centre d'analyse économique	Center for Economic Analysis
14. Consolidation fiscale	Fiscal consolidation
15. Contrat de crédit	Loan agreement
16. Contribuable	Tax payer
17. Contribution fiscale	Fiscale contribution
18. Coûts de financement à court terme	Short-term financing costs
19. Crédit immobilier	Housing loan
20. Crédits suprimés	Subprime loans

21. Crise financière	Financial crisis
22. Demande de crédit immobilier	Mortgage demand
23. Demande de crédit	Credit demand
24. Déséquilibres financiers	Financial imbalances
25. Dette souveraine	Sovereign debt
26. Dettes autoréalisatrices	Self-fulfilling debts
27. Dettes publiques	Public debts
28. Dynamique de production	Production trends
29. Eclatement de la bulle internet	Burst of the internet bubble
30. Economie bancaire	Banking Economics
31. Endettement	Debt
32. Evaluation du prix	Price evaluation
33. Evaluation du risque	Risk assesment
34. Evolutions financières	Financial evolutions
35. Externalisation	Outsourcing
36. Faillite	Bankruptcy
37. Filet de sécurité	Safety net
38. Fluctuations macroéconomique	Macroeconomic fluctuations
39. Fragilité financière	Financial fragility
40. Gains en capital	Capital gains
41. Indice des prix à la consommation.	Consummer Price Index
42. Inflation faible	Low inflation
43. Innovations financières	Financial innovations
44. Instabilité financière	Financial instability
45. Intermediaires financiers	Financial institutions

46. Marché financier	Financial market
47. Marché interbancaire	Interbank market
48. Marche monétaire	Money market
49. Marchés financiers	Financial markets
50. Mesures du risque de crédit	Credit risk measures
51. Mouvements des capitaux internationaux	International capital flows
52. Mouvements déstabilisants de spirale à la vente	Destabilizing spiral sales movements
53. Passif	Liability
54. Politique contracyclique	Counter-cyclical policy
55. Politique monétaire expansionniste	Expansionary monetary policy
56. Pressions inflationnistes	Infation pressures
57. Prime de risque	Risk premium
58. Prise de risque	Risk-taking
59. Prix des actifs risqués	Risky asset prices
60. Prix immobilier	Housing prices
61. Quasi-monnaie	Quasi-money
62. Règle de Taylor	Taylor's rule
63. Réglementation financière	Financial regulations
64. Réglementation financière	Financial regulation
65. Réserve Fédérale Américain	Federal Reserve System
66. Risques de déflation	Deflation risks
67. Risques de récession	Recession risks
68. Secteur bancaire parallèle	Shadow banking sector
69. Secteur bancaire traditionnel	Traditional banking sector

70. Secteur financier	Financial sector
71. Sentier de taux d'intérêt	Interest rate path
72. Stabilisation macroéconomique et financière	Macroeconomic and financial stabilisation
73. Stabilité des prix	Price stability
74. Stabilité économique	Economic stability
75. Stabilité financière	Financial stability
76. Surévaluation	Overvaluation
77. Système bancaire parallèle	Shadow banking system
78. Système financier	Financial system
79. Taux d'intérêt	Interest rate
80. Taux d'interet à court terme	Short-term interest rates
81. Taux directeurs	Policy rates
82. Titres de court terme des entreprises	Short term corporate securities
83. Titres financiers	Financial securities
84. Titres financiers adossés à des crédits immobiliers	Mortgage-backed securities

REFERENCE

- Baker, M. (1992). *In other words: A coursebook on translation*. London and New York: Routledge.
- Bassnett, S. (2002). *Translation studies*. London and New York: Routledge.
- Bell, R. T. (1991). *Translation and translating: Theory and Practice*. London and New York: Longman.
- Benjamin, W. (2004). The task of the translator. In Lawrence Venuti (Ed.), *The translation studies reader* (2nd ed., pp. 15–22). London and New York: Routledge.
- Catford, J. C. (1965). *A linguistic theory of translation*. Oxford: Oxford University Press.
- Chuquet, H., & Paillard, M. (1987). *Les approches linguistiques des problèmes de traduction*. Paris: Ophrys.
- Delisle, J. (1988). L'initiation à la traduction économique. *Meta*, 33(2), 204–215.
<https://doi.org/10.7202/002515ar>
- Herbulot, F. (2014). *La Théorie interprétative ou Théorie du sens : point de vue d'une praticienne*. 49(2), 307–315. <https://doi.org/10.7202/009353ar>
- Hermans, T. (2009). *Routledge encyclopedia of translation studies* (2nd ed.; M. Baker & G. Saldanha, Eds.). London and New York.
- Hoof, H. Van. (1994). *Traduire l'anglais : Théorie et pratique* (3rd editio). Belgium: Duculot.
- Hurtado Albir, A. (1990). *La notion de la fidélité en traduction*. Paris: Didier Erudition.
- Jakobson, R. (1959). On linguistic aspects of translation. In L. Venuti (Ed.), *Translation studies reader* (pp. 138–143).
- Kenny, D. (2009). Equivalence. In M. Baker (Ed.), *Routledge Encyclopedia of translation studies* (pp. 96–99). London and New York: Routledge.
- Krein-kutiile, M. (2003). *Equivalence in Scientific and Technical Translation: A Text-in-Context-based Study*. University of Salford, Salford, UK.
- Ladmiral, R. (1979). *Traduire: Théorèmes pour la traduction*. Paris: Petite Bibliothèque.
- Larson, M. L. (1998). *Meaning-based translation* (2nd editio). Landham, Maryland:

University press of America.

- Leonardi, V. (2000). Equivalence in Translation: Between Myth and Reality. *Translation Journal*, 4(4). Retrieved from <https://translationjournal.net/journal/14equiv.htm>
- Levý, J. (2004). Translation as a decision process. In Venuti Lawrence (Ed.), *Translation studies reader* (2nd ed., pp. 148–159). London and New York: Routledge.
- Munday, J. (2008). *Introducing translation studies: Theories and applications* (2nd ed.). New York: Routledge.
- Newmark, P. (1988). *A textbook of Translation*. New York and London: Pergamon.
- Nida, E. (1964a). *Towards a science of translating*. Leiden: E.J Brill.
- Nida, E. (2001). *Contexts in Translating*. Amsterdam/Philadelphia: John Benjamins.
- Nida, E., & Taber, C. R. (1969). *The theory and practice of translation*. Leiden: E.J Brill.
- Panou, D. (2013). Equivalence in Translation Theories: A Critical Evaluation. *Theory and Practice in Language Studies*, 3(1), 1–6. <https://doi.org/10.4304/tpls.3.1.1-6>
- Pergnier, M. (1993). *Les fondements sociolinguistiques de la traduction*. Lille: Presses Universitaires.
- Rogers, K. (2017). *As the Earth feels ever smaller, demand for translators and interpreters skyrockets*. *CNBC News*. Retrieved from <https://www.cnbc.com/2017/07/07/as-the-earth-feels-ever-smaller-demand-for-translators-and-interpreters-skyrockets.html>
- Rollo, A. (2016). *Approche cognitive de la traduction économique : réflexion théorique et retombées pratiques*. 8, 61–93. <https://doi.org/10.6035/MonTI.2016.8.2>
- SCHÄFFNER, C. (2009). Functional Approaches. In M. Baker & G. Saldanha (Eds.), *Routledge Encyclopedia of translation studies* (2nd ed., pp. 115–121). London and New York: Routledge.
- Vermeer, H. J. (2004). Skopos and commission in translatorial action. In V. Lawrence (Ed.), *Translation studies reader* (2nd ed., pp. 221–232). London and New York: Routledge.
- Vinay, J.-P., & Darbelnet, J. (1977). *Stylistique Comparée du Français et de l'Anglais*. Paris: Didier.

SITOGRAPHY

- <https://dictionary.cambridge.org/dictionary/english/state-funding>, Retrieved on 30 June, 2018
- https://en.wikipedia.org/wiki/Tax_consolidation, Retrieved on 26 July, 2018
- <http://lexicon.ft.com/Term?term=fiscal-consolidation>, Retrieved on 17 July, 2018
- <https://www.languefrancaise.net/Bob/39799>, Retrieved on 27 July 2018
- <https://dictionnaire.reverso.net/francais-synonymes/jouer+le+tout+pour+le+tout> , Retrived on 27 July, 2018
- <http://www.linternaute.fr/expression/langue-francaise/18194/etre-au-bord-du-gouffre/>, Retrieved on 27 July, 2018
- <https://dictionary.cambridge.org/dictionary/english/abyss>, Retrieved on 2 August, 2018
- <https://www.collinsdictionary.com/dictionary/english/fruit>, Retrieved on 2 August, 2018
- <https://www.merriam-webster.com/dictionary/fruit>, Retrieved on 2 August, 2018
- <https://idioms.thefreedictionary.com/in+the+heat+of>, Retrieved on 10 August, 2018
- <http://www.larousse.fr/dictionnaires/francais-anglais/repris/67749#665377>, Retrieved on 3 September, 2018
- http://www.larousse.fr/dictionnaires/francais/O_P_C_V_M_/55616, Retrieved on 2 October, 2018
- <http://context.reverso.net/translation/french-english/OPCVM>, Retrieved on 2 October 2018
- <http://iate.europa.eu/SearchByQuery.do>, Retrieved on 2, October 2018
- <https://www.investopedia.com/terms/t/too-big-to-fail.asp>, Retrieved on 2 October, 2018