

The Impact on Long-Term Capital Investment of Accounting and Prudential Standards for European Financial Intermediaries

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The aim of this paper¹ is to explain why there is insufficient long-term capital investment despite the abundant savings collected by a booming financial sector. Special attention is given to understanding the role of today's accounting and prudential requirements, to grasping their limitations and to underscoring the need for reform to foster long-term capital spending in Europe. This paper shows that International Financial Reporting Standards (IFRS) can affect different financial intermediaries in different ways, and that current prudential rules are likely to prove even more detrimental to long-term investment financing.

long-term investment – accounting standards – prudential standards – banks – insurance companies – lending – asset allocation

L'impact des normes comptables et prudentielles des intermédiaires financiers européens sur l'investissement à long terme

Cet article vise à comprendre le manque d'investissement à long terme malgré l'essor d'acteurs financiers collectant une épargne abondante, en privilégiant en particulier la compréhension des exigences comptables et prudentielles en vigueur afin d'appréhender leurs limites et de prendre conscience de la nécessité d'une réforme européenne au regard de l'investissement à long terme. Il montre que les normes comptables IFRS peuvent avoir des effets différenciés selon les intermédiaires financiers et que les règles prudentielles apparaissent plus pénalisantes encore pour le financement de l'investissement à long terme.

investissement à long terme – normes comptables IFRS – normes prudentielles – banques – compagnies d'assurances – prêts – allocation d'actifs

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1. Introduction

Insufficient capital investment has emerged as a major obstacle to economic growth. Through the investment multiplier, investment² is supposed to have indirect consequences on the economy. The underlying assumption is that an increase — or decrease — in investment has a more than proportional impact on aggregate income. However, the past three decades have seen a decrease in the global rate of investment. According to a McKinsey [2010], that rate dropped from 26.1% of world GDP in 1974 to 21.8% in 2009, representing a cumulative decline of roughly \$20 trillion. The decline, which was concentrated in the developed world, has accelerated since the 2007 crisis. It was particularly pronounced in the euro area, where investment slumped from 26% of GDP in 1970 to 18% in 2013. Yet the countries affected are greatly in need of large-scale investment to deal with issues ranging from outdated manufacturing facilities to an ageing population, from climate change to growing scarcity of raw materials. And it is precisely those issues that are making sectors such as infrastructure, energy, transport, and information and communication technology increasingly interdependent.

This secular decline in investment has proven to be a drag on economic growth. From 2000 to 2008, output grew 2% in the developed countries. In the years from 1960 to 1970, it increased by 5.3%. In the eurozone, growth was negative (– 4.4%) in 2009 and stayed very weak from 2010 to 2015. This decrease can be explained by European economic policies. Since 2010, an austerity bias has dominated euro area economic policy, with fiscal retrenchment undermining macroeconomic demand, and therefore investment. During the same period, the United States and the United Kingdom opened the financial market floodgates for mortgage lending and the wealth effect, two forces capable of supporting demand, and with it investment. Capital investment can therefore be considered a prerequisite to a return to strong, sustainable, job-rich growth. Europe is facing challenges in particular with the level and innovation-generating capacity of such investment. The European Commission (EC) recently addressed the issue with the Juncker Plan, whose aim is to unlock investments of €315 billion in Europe over a three-year period. In addition to cyclical causes related to the financial crisis and to differing economic policies across the developed world, the falloff in investment can be attributed to changes in the interrelated demand for and supply of capital. Investment cannot be brought about by decree; it depends on both available funding and corporate decisions.

Companies, however, are in transition today as they struggle to imagine the investments of tomorrow — those most likely to involve Schumpeterian-style innovation and disruption. Given that economic growth phases have always been preceded by radical and incremental innovations, the key challenge today is to achieve the kind of innovation — by definition with no

2. Defined as gross fixed capital formation. We are therefore dealing with capital expenditure.

certainty as to outcome — that will contribute to a successful energy transition (above all to a low-carbon economy). In terms of capital supply, we observe a gap between weak investment and plentiful savings which can reveal an inefficient allocation of savings, resulting from the short-term bias of market participants and the most important financial intermediaries like banks and insurers. On this point, there has been a rough consensus for some time in the academic literature along with growing awareness among finance professionals (Aglietta and Rebérioux [2004], Asker, *et al.* [2015], Baudru and Kechidi [1998], Baudru and Lavigne [2001], Brossard, *et al.* [2013], Orléan [1999]). Larry Fink, the Chairman and Chief Executive of BlackRock, one of the world's leading asset managers, warned in letters sent in 2014, 2015 and 2016 to the CEOs of S&P 500 companies, *"We certainly believe that returning cash to shareholders should be part of a balanced capital strategy; however, when done for the wrong reasons and at the expense of capital investment, it can jeopardise a company's ability to generate sustainable long-term returns."*

At issue here is the preference of many non-financial firms for share buybacks and dividend distributions rather than for investment. The weight and activism of pension funds, the policies of mutual funds with responsibility for managing the assets of those firms and the rise of hedge funds are among the factors that have fuelled concern over firms' short-termism (Lazonick and O'Sullivan [2000]). Moreover, non-financial companies are not the only ones feeling the pressure of highly liquid markets, where shareholders can sell their shares as soon as a company's ROE (Return on Equity) drops below what the market deems average and/or dividend pay-outs fall short of expectations. Market pressure has even greater impact on the financial firms that, as intermediaries, help to finance the broader economy. They, too, may respond by selecting risky projects that are profitable in the short term and by turning down long-term investments likely to produce lower immediate returns. But by focusing exclusively on short-term returns and distributing dividends, companies wind up initiating fewer investment projects, which in turn reduces their ability to create value in the future. The risk is that lower capital expenditure will jeopardise long-term economic growth and even the earnings prospects of companies themselves.

Many other observers have perceived the excesses of finance since the onset of the crisis in 2007-2008 as well. Regulators such as Paul Volcker³ (former Chairman of the Fed) and Lord Adair Turner⁴ (former Chairman of the UK's Financial Services Authority) voiced doubts in 2009 about the economic usefulness of financial innovations — CDSs, CDOs (Zingales [2015]). At the same time, international institutions and universities published a large volume of empirical research that questioned the positive correlation between the size of the financial services sector and economic growth (European Commission [2013], IMF [2014], Jorda, *et al.* [2014], Kneer [2013],

3. *The Wall Street Journal*, 14 December 2009.

4. *The Financial Times*, 23 September 2009.

Philippon and Reshef [2012])⁵. One of the explanations advanced for short-termism⁶ is that regulatory requirements perhaps encourage financial investors who might otherwise make long-term investments to adopt a short-term bias. Financial intermediaries have to contend with a fairly wide range of regulatory frameworks that impose varying degrees of constraints and that evolve over time. In response to a deep financial crisis that revealed the shortcomings and even excesses of specific banking models,⁷ those frameworks have undergone large-scale reforms since 2009, from prudential banking regulation, with Basel III, and insurance regulation, with the Solvency II Directive, to accounting regulation, with international accounting standards IFRS. By encouraging greater caution, the new regulations have unquestionably provided the enhanced financial stability and transparency needed to strengthen the resilience of the financial system. The question, however, is to what extent the aims of the various regulations are consistent with the goal of financing the economy. While there is a body of theoretical and empirical research that seeks to demonstrate the beneficial effects of fair-value accounting on transparency or of prudential standards on financial stability, very few studies have focused on the connection to investment. This paper aims to bridge this gap by seeking to define long term investment and to identify short-term bias in the regulations that apply to banks and insurance companies — the primary providers of corporate funding.

Because it is particularly hard to assess the real impact of regulation on the financial intermediary activity of banks and insurers (lending and asset allocation) — due to scarce quantitative data and even more so of several reforms currently under way — we have opted for a qualitative approach. Our research methodology is based on 77 semi-structured interviews in France and a content analysis of comment letters to several questions asked in the EC's public consultation via a Green Paper⁸ (GP) on the issue of "long-term financing of the European economy". We particularly focused on 3 questions of the GP related to long-term investment definition, accounting and prudential standards effects on long term investment. French interviews and content analysis of responses on a European scale represent two

5. In the Commission staff working document accompanying its Green Paper on the long-term financing of the European economy [2013], the Commission discusses inefficiencies in the intermediation chain with reference to Kay [2012], who argues that the success of the financial system should be measured by how effectively it channels funding from providers of funds to those who seek to raise funds, rather than by its contribution to liquidity and price discovery.

6. Another possible explanation has to do with the growing number of management mandates given to competing external asset managers, who have an incentive to seek short-term rather than long-term returns. By making the investment chain longer and more complex, the expanding role for asset managers has not only contributed to lower investor involvement with business management; it has also raised the cost to agents in need of funding and led to asymmetric risk taking.

7. More specifically, their increasing reliance on short-term market financing, excessive levels of leverage and their tendency to conduct high-risk trading activities alongside retail banking activities (Barut, *et al.* [2015]).

8. Green papers typically present a range of ideas with the aim of initiating Europe-wide consultation on a specific issue. Interested parties, organisations and individuals are encouraged to submit their views in writing before a given deadline. The consultation may subsequently result in the production of a white paper representing the next stage in the process, with a well-argued set of proposals for EU action in the area under consideration.

complementary approaches which allow us to have an idea of the stakeholders' behaviors in order to find a new definition of long term investment and to identify the mechanisms leading to short-term bias in regulatory standards. To deal with three themes, we have opted for an abductive approach (back and forth between the research field and literature review) which leads us to present results in three parts (theory, results, discussion and recommendations).

Our analysis puts forward a new definition of long term investment based on three complementary dimensions, then our findings highlight that IFRS standards affect funding for long-term investment in a variety of ways, depending on the activities in which banks (lending) and insurance companies (asset allocation) engage. Lastly, our paper shows that prudential rules are likely to prove even more detrimental to long-term investment financing. We note that prudential requirements (solvency, liquidity and leverage ratios) have a negative impact on portfolios of loans and high-risk securities such as quoted and unquoted equity instruments and infrastructure investments, although that impact should not be overstated. We have found that the cumulative negative effects of existing accounting and prudential standards make high-risk investments less attractive than government paper. Section 2 introduces research methods used in the paper and the nature of qualitative data collected. Section 3 seeks to clarify the concept of long-term investment and identify its sources, while attempting to overcome the limitations of previous definitions. Section 4 presents the IFRS accounting standards that apply to publicly listed banks and insurance companies, their theoretical backgrounds and their main effects on long-term investment funding. Section 5 sets forth the primary prudential constraints for banks and insurers and seeks to gauge their potential impact on their investments.

2. Data and Methodology

Our research design lays on a qualitative approach based on semi-structured interviews and content analysis of responses received by the EC for the GP on long-term investment financing. Our qualitative approach can be explained by the lack of a universal definition of long term investment and the scarcity of quantitative data. In respect of our issues, the only way to investigate this new field is to qualitatively explore stakeholders' practices. A such qualitative design is particularly relevant for explanatory study (Dumez [2012]). To deal with our three issues, we have opted more precisely for an abductive approach that is to say that the interview guide was designed without an *a priori* theory; the aim was to accurately reveal the information from the research field. Broadly speaking, abduction is a reasoning process invoked to explain a puzzling observation (Aliseda [2006]). According to Boisot and Mckelvey [2010] abduction seeks inference toward the best explanation, one that is based on the coherence with which a novel or anomalous event can be related to a background theory. In abductive explanatory methods, researchers are principally interested in inductively

finding an explanation to the regularities observed (critical realism) or an understanding of the regularities experienced (Avenier and Thomas [2013]).

2.1. Semi-structured interviews

We conducted 77 semi-structured interviews with financial institutions⁹ between April 2013 and September 2015. This phase aimed at identifying the points of view of the players on prudential and accounting standards (Appendix 1). The diversity of the respondents led to the collection of a sufficient amount of empirical information to identify if IFRS and prudential standards are an incentive or a constraint for long-term investment (Appendix 2). The validity of our findings is based on the large panel of interviewees (Table 1).

Table 1. Interviews' breakdown

Number of interviews	77
Number of institutions	38
Total time of recording (hours)	171
Number of pages of transcription	2386

The interviews were conducted using an interview guide¹⁰ whose main themes dealt with the definition of long-term investment, the effects of accounting standards (IFRS) and prudential requirements (Basel Accord and Solvency II) on long term investment. The interviews ranged from 40 to 160 minutes. They were fully recorded, transcribed and then validated by the interviewees. The transcripts were coded by researchers with the N'Vivo 10 software. This tool usually helps to organize and rationalize the coding development. In accordance with the recommendations of Strauss and Corbin [1998], we first made an open coding based on the themes of the interview guide; and then we made an axial coding to identify relationships between different levels of coding and link them to the problem of long-term investment. The coding scheme was conducted jointly by researchers. The results refer to the most frequently discussed arguments about accounting and prudential standards. For Detchenique [2015] semi-structured interviews have the advantage of allowing the interviewees to talk freely and the interviewer to rekindle discussion. According to Loupias and Ricart [2006], many economists are reluctant to use the interview method for two main reasons. First, respondents can be easily influenced by the precise wording of the

9. Banks (23), insurance companies (18), pension funds (11), regulators and standard-setting bodies (10), consulting and other firms (17).

10. To save space, interview guide is available on demand.

questions, and secondly, they may have no incentive to respond truthfully or thoughtfully. But for Coleman [2013] the only way to gain direct insight into the decision process of investment managers is to ask them. So interviews are certainly not a perfect data source, but they do offer a perspective on investor thinking.

2.2. Content analysis of European Green Paper on long-term financing

At the same time, the EC published, in November 2013, the responses received to the Public Consultation on the GP on the issue of “long-term financing of the European economy”. The objective of this GP was to engage in a debate with key stakeholders on the issue of long-term financing in the framework of the 2000-2025 growth project. The GP asked 30 questions that can be grouped into eight broad areas among them there are 3 questions representing precisely our research subject: the definition of long-term investment¹¹, the issue of the prudential regulation¹² of financial intermediaries with regard to long-term investment, the issue of accounting (fair value valuation) for long-term investment¹³. To the extent that these questions are open-ended, we decided to gather the responses (comment-letters) in a file (excel) to conduct a content analysis.

In November 2013, the European Commission published 292 responses received. We have treated 257 letters that was available and in English or French language. Given the number of respondents, the diversity of their sectors of activity and the number of nationalities, this database constitutes a representative European sample (Appendix 3). To deal with our issues, we analyzed comment-letters in respect of a coding¹⁴ specific to 3 treated questions.

We conducted a content analysis in line with previous work on the analysis of letters received by standardization bodies (Seaman [2004], Larson [2008], Chattam, *et al.* [2010]). Indeed, content analysis is defined as a set of techniques for analysis communication, which use systematic and neutral process to analyze the content of messages and to obtain indicators allowing inference (Bardin [2013]). More precisely, this research methodology aims to identify the views of stakeholders who have taken a position in the GP. We followed the recommendations of Krippendorff [2012] to perform a steady, reliable and replicable content analysis. First, the coding grid was

11. Question 1: Do you agree with the analysis out above regarding the supply and characteristics of long-term financing? Question 2: Do you have a view on the most appropriate definition of long-term financing?

12. Question 10: Are there any cumulative impacts of current and planned prudential reforms on the level and cyclicity of aggregate long-term investment and how significant are they? How could any impact be best addressed?

13. Question 20: “To what extent do you consider that the use of fair value accounting principles has led to short-termism in investor behaviour? What alternatives or other ways to compensate for such effects could be suggested?”

14. To save space, coding grid is available on demand.

performed by two coders then we studied the whole questions asked in the GP and lastly, researchers coded alongside the same comment-letter in order to compare and discuss results for a better consistency. It is therefore necessary to emphasize that we are studying discourses which are representations of the stakeholders' views. It is also important to note that our data represent position statements that may be equivalent to a form of communication or lobbying *vis-à-vis* the authorities.

3. Result 1: Toward a new definition of long-term investment

What makes defining long-term investment such a crucial issue is that there is no legal, much less universal, definition of the term. A few authors have attempted to provide one, but no consensus has emerged in support of any of the proposals. This exercise proves to be essential because the definition of long term is a pre-condition for identifying short-term bias. This section aims at clarifying the notion of long-term investment resting on the analysing of responses to the GP.

3.1. The various attempts at defining long-term investment

According to the G30 [2013], long-term investment is defined as spending on the various types of infrastructure that can expand the productive capacity of an economy. This encompasses tangible assets (such as roads, bridges, ports, factories and hospitals) and intangible assets (such as education and research and development) that increase future prospects for innovation and competitiveness. The World Economic Forum Report [2012] defines long-term investing as "investing with the expectation of holding an asset for an indefinite period of time by an investor with the capability to do so". This typically entails holding an asset for at least ten years or through an entire business cycle. Aglietta and Rigot [2009] define long-term investment in terms of the investment behaviour that investors with long-term liabilities need to adopt. Because they are inherently less exposed to liquidity risk (unanticipated withdrawals of savings), such investors¹⁵ should in theory take an approach to asset allocation that is independent from their own short-term financing capacity and that aims for long-term returns that match their liabilities. In contrast, the OECD distinguishes three features of long-term investment: (i) productive capital; (ii) patient capital; and (iii) engaged capital (Della Croce, *et al.* [2011]).

15. Such as defined benefits pension funds, insurance companies and permanent funds (*e.g.*, sovereign wealth funds, university endowments, reserve pension funds).

Each definition tends to cover only one or two of the three facets of the problem: i) the nature of the long-term project to be financed; ii) how such a project is financed; and iii) the long-term behaviour of funding providers (Table 2).

- The first facet (the long-term investment project) pertains to the real economy, that is, to the areas in need of investment to support long-term growth and to the kinds of companies that require financing.
- The second facet (long-term financing) has its locus in the financial services industry and involves forms of financing that can be apprehended from two key standpoints: the nature of the requisite resources and the investors liable to finance long-term projects of the kind referred to in Facet 1.
- The third facet (long-term behaviour of funding providers) has to do with the behaviour of those who fund long-term projects, which is related to their investment strategies and to corporate governance.

Table 2. Main facets of the concept of long-term investment

3 facets of LT investment	Facet 1 Nature of LT project	Facet 2 LT financing	Facet 3 LT behaviour
Sub-facet 1	Investment in tangible and intangible assets (G30, OECD)	Nature of resources (Aglietta <i>et al.</i>)	Investment strategies (Aglietta <i>et al.</i> , OECD, WEF)
Sub-facet 2		Long-term investors (Aglietta <i>et al.</i>)	Corporate governance (OECD)

3.2. Main results: The definition of long term investment according to the respondents

For the first two questions in the GP that deal with long-term investment definition, there were 189 respondents, over 70% of the 257 respondents analyzed. We observed that respondents are most active on the second dimension of long-term investment (funding long-term investment) then the third (investor behavior) and first dimensions (nature of the asset to be financed). In the first dimension, the majority of respondents define long-term investment as a productive¹⁶ asset such as the tangible and intangible. For some (16%), these assets can have different maturities (short-, medium- and long-term) because they are highly dependent on the nature of businesses to finance (the SMEs for example often need short-term refinancing). Most of respondents prefer the exclusively productive nature of the asset (23%) while there a few who are in favor of the financial nature of long-term assets (4%).

¹⁶. Gross fixed capital formation.

The answers which relate to the second dimension of long-term investment underline the nature of long-term liabilities, most occurrences favoured resources of a period of less than 5 years¹⁷. Among the other responses, we note the diversification of actors in the financial system but within which banks should retain the hegemony in the traditional intermediation in the financial system (32% vs. 3% for the diversification toward a financial market orientated system to the detriment of banks). Concerning the degree of liquidity of the financial instruments, most respondents (24%) are in favour of the possibility for the asset to be liquid while few occurrences are in favour of assets of an exclusively illiquid nature (4%). Among the interesting answers but which include few occurrences (4%) there is the development of long-term bond markets and the privileging of the primary market accompanied by creation of long-term products. It should also be noted the proposals supporting the government intervention (12%) for example with the creation of public or semi-public intermediaries as an interface between long-term investors and long-term applicants, the creation of a European long-term funds, regional development banks or the intervention of the Central Bank.

In the third dimension, most of the answers relate to the assets' management of non-bank intermediaries and their behavior as shareholders of listed companies. The long-term behavior is associated with a counter-cyclical management as opposed to pro-cyclical herd behavior. Then respondents highlight another type of strategy: asset-liability management. Lastly, a third feature of this behavior is related to the holding or intended holding of an asset over the long term (to be determined) involving a low turnover in the short term: respondents highlight the need for stable capital in a world of high market volatility to define long-term behavior, either through effective long-term holding or via an illiquid percentage of their portfolio (24%).

At last, there are some responses which provide the link with the enterprise thanks to the notion of commitment or ESG¹⁸ while taking into consideration the business model of the financial intermediary. Far behind, respondents offer to observe the fiduciary duties by changing incentives to align the interests of leaders and officials within financial intermediaries. These types of strategies remain at the level of principles and are not very functional. It is also very interesting because it reveals that a certain dose liquidity risk is needed if one wants to make its behavior compatible with its resources (dimension 2) and the nature of the asset to be financed (dimension 1). Finally, what also appears is the idea of the need to keep the balance sheet risk. This proposal which urges the banks to determine their long-term behavior in relation to the ability to keep their balance sheet risks refers to a securitization with safeguards.

17. Maturity greater than 10 years resources, which is backed by the G30, is hardly mentioned.

18. Environmental, Social and Governance.

3.3. Discussion and recommendations: The three complementary facets of long-term investment

What emerges from our work on the responses to questions 1 and 2 in the GP is that there is broad agreement, at least to varying degrees, on the three complementary facets of the concept of long-term investing. To the extent that long-term investment involves a chain of participants who must all behave compatibly, we consider these three facets to be complementary (Demaria and Rigot [2015]). Bringing all three together is therefore essential to properly defining long-term investment, because it is the only way to transcend the limitations in previous definitions and arrive at the kind of universal definition that is clearly a necessity if incentives to engage in long-term investing are to be introduced.

The first facet (the nature of the investment project) rests on the assumption that long-term investment involves investing in capital assets to be distinguished from financial capital. Although it requires the entity making the investment to take risks, financial capital does not directly push back the frontiers of production. For that reason, only tangible and/or intangible assets (among which low carbon investments) used by businesses should be viewed as candidates for such long-term investment projects. Moreover, capital assets may be renewed in the short, medium or long term. But defining the nature of an investment project in relation to long-term growth is necessary but not sufficient, however, as long-term needs must be financed in part by agents with excess savings. This underscores the importance of the second facet of long-term investing, which pertains to long-term financing.

The second facet can be apprehended from three key standpoints: i) the nature of savings which pertains to the preferences of agents who have surplus savings. Their resources may be more or less short-term, public or private, internal or external. We believe that long-term savings should rank highest, as they involve lower liquidity constraints for providers of funds; ii) the nature of long-term financing instruments which raises the question of what vehicles/instruments should be promoted for financing long-term investment projects. Given that such projects originate with companies that have to plan for the future, we see a need to expand the range of *ad hoc* long-term financial instruments (*e.g.*, long-term European funds, long bonds); iii) the long-term providers of funding which are the willing to commit funding for a period long enough to finance long-term growth. They may be long-term investors with long-term liabilities (such as pension funds and insurance companies) or development banks and public investment banks. This second facet is important in that it highlights the need to promote prior savings and appropriate long-term financing vehicles, but it, too, is insufficient, because the question remains as to how providers of funds will behave in the long term or actually hold securities for long time horizons (the third facet). An investor with long-term resources may very well prefer shorter investment horizons for any number of reasons, ranging from com-

petition to regulations to existing incentives. This points to the need to consider a third facet focused on defining long-term behaviour and how it differs from short-term behaviour.

The third facet can be decomposed in two points: i) Long term asset allocation by financial intermediaries who seeks to finance long-term projects. Our starting premise is that such intermediaries should adopt countercyclical investment strategies (as opposed to momentum management) and low portfolio turnover. In the case of bank intermediaries engaging in their traditional activity, long-term behaviour has to do with their ability to extend loans with differing maturities and keep those loans on their balance sheets so as to maintain their long-term relationship with the borrowers; ii) The necessary long-term commitment by banks involves promoting partnership-based governance, both for asset management purposes and at the companies in which they invest their own funds (instead of shareholder value governance).

Because the three facets are complementary, a proper fit with the first two facets requires a certain degree of long-term commitment by the providers of funding. Without such commitment, projects geared to the future stand little chance of materialising. A business enterprise is an institution designed for the long haul, even though some of the providers of debt and equity financing may only wish to go part of the way with it. When major disagreements on strategy arise, providers of funding who have trouble convincing their partners may be tempted to give up and withdraw their funding from the company. To put it differently, only if investors and shareholders accept the relative illiquidity of the funds they have provided can capital expenditure take place and pave the way for future profits — the best guarantee of real lasting shareholder value. There is necessarily more to an investor's long-term behaviour than simply buying stock. A definition of long-term investing based on these three complementary facets¹⁹ will form the analytical framework for identifying potential short-term bias in the accounting and prudential rules that apply to banks and insurance companies.

4. Result 2: The impact of accounting standards on long-term investment

Since 2005, IFRS standards are mandatory for European listed firms for consolidated financial statements. In particular, financial intermediaries are mainly affected by standards on financial instruments (IAS 39 — Financial Instruments till 2017 which will be replaced by IFRS 9 in 2018) to value and

19. The EC seems to have endorsed a number of these conditions for investing under the European Long-Term Investment Fund (ELTIF) regulation, which entered into force in December 2015. Examples include a five-year investment period, which amounts to introducing a certain amount of illiquidity into asset management, and the specification that long-term financing through such funds should go to real-economy assets, not to mention the prohibition of certain financial innovations.

recognise their investment and IFRS 4²⁰ on insurance contracts to value and recognise debt insurance. Both standards on financial instruments promote a mix approach between valuation at cost and fair value. The main differences between IAS 39 and IFRS 9 are the level of the provisioning model used and the conditions to use fair value or cost accounting. It must be noticed that there are two types of fair value: first, fair value by P&L (Profit & Loss) which conducts to recognise all variations of asset value in the Profit & Loss²¹; and second, fair value by OCI (Other Comprehensive Income) which registers variations of asset value in the balance sheet²². The actual standard on insurance contracts (IFRS 4) does not require a method to estimate and recognise insurance contracts, but permits to continue to apply previous practices defined in local GAAP. It must be noticed that IFRS standards are applied by all firms regardless of the activity sector.

4.1. Literature Review on fair-value accounting

Before identifying the actual and potential effect of accounting standards on long-term investing and financing, we will endeavour to describe the theoretical underpinnings of the standards in force today. Very much like agency theory, which advocates reducing information asymmetry between shareholders and managers, IFRS aim to provide current and potential investors with the information they need to make economic decisions (purchase/sale of securities). The standards are thus in line with the efficient market hypothesis, given that they use fair value, based on current market price, as the primary approach to measurement. That approach has earned recognition for conveying transparent, verifiable information that is relevant to decision-making.

Most of the empirical researches demonstrate fair value accounting increases the relevance of accounting information to investors, as compared to cost accounting (Bernard, *et al.* [1995], Barth, *et al.* [1996], Eccher, *et al.* [1996], Laux and Leuz [2009], Magnan [2009]). To assess the quality of fair value information, those conducting the research have specifically examined its impact on either a company's share price or the market value of its equity (using a statistical regression model). However, most of these studies have some bias, as they focus solely on equity portfolios and do not take into account bond portfolios and alternative investments. Furthermore, this range of literature is not able to confirm indisputably the superiority of fair value accounting on cost accounting... Some studies also point out negative effects of fair value accounting, such as higher volatility. Detractors of fair value accounting emphasise its effect on financial statements and on the behaviour of both investors and managers (Barlev and Haddad [2003], Hitz [2007], Jaggi, *et al.* [2010], Perry and Nolke [2007], Plantin, *et al.* [2008],

20. Normally this standard will be replaced in 2021 by IFRS 17.

21. Fair value P&L has an important impact of market variations on the firm performance (P&L).

22. Fair value OCI has impact on equity amount (balance sheet) and not on the firm performance (P&L).

Sapra [2010], Zhang and Andrew [2014]). They contend that fair value introduces volatility into financial statements (through the valuation of portfolios and equity, where fair value remeasurements are recognised), particularly in the case of medium- and long-term investments that should normally remain on the company's books for a considerable length of time. Moreover, fair value accounting is said to encourage procyclical and short-termist strategies. As producers of a steady stream of instant valuations, market participants tend themselves to react instantly (with momentum strategies) and to shy away from their initial long-term strategies.

4.2. Main results: Fair value accounting have several negative impacts for long-term investment

We have attempted to identify the effects of IFRS on long-term investment and financing by banks and insurance companies. To that end, we have analysed the responses to the EC's GP and conducted a series of semi-structured interviews with a variety of stakeholders (*e.g.*, officers of institutions, consultants, standard-setting bodies, regulators). Of the 257 comment-letters studied, 144 ones answer to the question 20 about fair value accounting. The findings from these 2 surveys are analysed in conjunction with the academic studies examined in our literature review. To start with, we have found large consensus (54% of the respondents to the green paper) on the fact that long-term investing and financing are primarily affected by fair value measurement promoted by IAS 39, to be replaced from 1 January 2018 by IFRS 9²³. Table 3 presents the answers and the main arguments identified in comment-letters.

23. The effective application of the new standard is deferred for the insurance sector.

Table 3. Responses to the question 20 about the potential short-termism of fair value

To what extent do you consider that the use of fair value accounting principles has led to short-termism in investor behaviour?	FV is short-termist	FV is not short-termist	No answer about short-termism	No answer to Q20	
% of the sample	30%	14%	11%	44%	
Respondents arguments (FV is short-termist)	FV increases volatility	FV increases pro-cyclicalit	FV is not suitable for LT assets	FV implies valuation challenges	FV reduces attractiveness for investors
% of the sample	30%	17%	14%	15%	30%
Respondents arguments (FV is not short-termist)	FV leads to better risks'vision	FV increases transparency	FV increases relevance	FV increases comparability	
% of the sample	12%	10%	13%	3%	
Alternatives to compensate such negative effects	No better alternative	Return to cost method	Use of the conservative principle	No FV for LT assets	Transformation of IFRS
% of the sample	8%	7%	6%	5%	15%

These results of the GP analysis are corroborated by the interviews of the various stakeholders (Appendix 4).

Our study highlighted impacts common to both sectors, as well as those that are specific to banking and to insurance. First, we found that IAS 39 has not affected long-term financing activity by banks. This standard permits to measure loans and receivables at amortised cost, which makes long-term management of such portfolios possible. From the insurance point of view, we identified a number of effects, some reflecting the low suitability of IFRS in their current form to the insurance business, and others pertaining to financial statements and the behaviour of insurance fund managers. We identified three types of effects: i) technical impact: IAS 39 doesn't allow to recognize long-term investments at cost, then it implies a quasi-mandatory application of fair value for long term investments; ii) impact on financial statements: fair value accounting related to long-term investments introduces volatility into firms' financial statements. Those re-measurements reflect changes in the market rather than in the actual performance of long-term investment; iii) impact on investment managers: confronted with fluctuations in long-term investments, insurance fund managers adopt momentum strategies and review their asset allocation more frequently, with the result that the holding period for long-term assets has become shorter. Fund managers adopt procyclical behaviour in that they adjust their investment strategies to reflect changes in the market value of assets. Bull and bear market cycles become more pronounced as a consequence.

In addition, we examined the potential effects of IFRS 9 (scheduled to replace IAS 39) on long-term investing by banks and insurance companies. First, IFRS 9 will have an impact on lending by banks, as it will change the criteria for determining the measurement category (fair value or cost) and the provisioning method (adopting an expected loss approach) that will replace the actual incurred loss approach of IAS 39. We find that this new standard would not have impact on loan recognition but would heavily impact the amount of loan provisioning by using a more prudent method that conduct to more provisions. Then according to respondents of the GP and interviewees, IFRS 9 will therefore potentially affect long-term investing activity by banks and insurance companies in the following ways:

- It will heavily penalise investments in stocks;
- It will penalise investments in alternative assets (private equity, infrastructure investments);
- On the whole, it will boost investment in bonds;
- Short-term investments will be unaffected.

The drive for transparency and neutrality that predominates in these standards contributes to a snapshot view of portfolios that conflicts with the kind of long-term financing required by long-term investment projects. The standards are ill-suited to long-term investment practice such as contrarian or countercyclical management, which equates with dynamic asset allocation handled flexibly over time. It is worth noting that the three years we devoted to this issue (2013-2015) allowed us to study standard-setting proposals (on IFRS 9 and IFRS 4) that did not all go through. Over that time span, we got to observe stakeholders' fears and doubts in relation to projects likely to

affect their long-term activities. Some of those proposals were characterised by more significant short-term bias.

4.3. Discussion and accounting recommendations on how to promote long-term investing

In this field study, major importance has been given to the views of banking and insurance stakeholders regarding the effect of IFRS on the financing of long-term investment. The results highlight the difficulties created by IFRS for those managing assets held for the long term. They are in line with the results of the previous literature (Plantin, *et al.* [2008], Laux and Leuz [2009], Sapa [2010]). Based on these points and our review of the literature, we put forward proposals for how the IFRS standard-setting process can take the special features of long-term investing more adequately into account. These recommendations are done in relation to the new definition of long-term investment based on three complementary facets (section 3.3), in particular the third facet related to the effective long-term behaviour (assets holding). Underpinning our proposals is the asymmetric prudence principle, which calls for recognising unrealised losses only, but not unrealised gains. That outlook stands in contrast to the view of prudence upheld by IFRS standards, which can be equated with a neutrality principle that leads to recognition of both unrealised gains and losses.

Our analysis of the responses to the interviews and to the GP shows that IFRS does not make it complicated to account for long-term debt instruments. We therefore have no proposals for that asset class. However, our study does bring to light a problem with respect to recognising and measuring portfolios of quoted and unquoted equity instruments held for the medium and long term. Under IFRS 9, gains and losses on the sale of securities cannot be recycled. This means that the performance of investments will never be recognised in profit or loss. Banks, insurance companies and non-financial companies are all confronted with this issue.

Our identification of these effects of IFRS prompted us to make the following recommendations:

- For (quoted) equities held for the short term (less than 1 year), we propose to use FV by P&L accounting. The management intent with regard to such instruments is to maintain high turnover so as to achieve the highest possible returns in a short time span. Such an approach is in line with the IFRS's short-term outlook;
- For (quoted and unquoted) equities held for the medium term (between 1 and 5 years), use the FV by OCI category, while allowing the recognition of gains and losses on the sale of those instruments²⁴. Given that

24. IFRS 9 doesn't allow the recognition of the profit/loss when an equity is sold. This rule is very detrimental to equity investments.

the shareholders in this case make a longer-term commitment, both management intent and the measurement category should be different from what they would be in the case of investors holding equities for short periods;

- For (quoted and unquoted) equities held for the long term (over 5 years), use cost accounting by creating a new category for longer-term equity investments.

As long-term investing is not unique to banks and insurance companies, a new accounting category could be applied to all investors who hold financial assets for longer periods. A number of conditions relating to actual investor behaviour could be included. Such a long-term accounting category could, for example, meet the following requirements: First using measurement at cost accompanied by a provisioning model that permits recognition of unrealised losses. Then, the use of rebalancing method, which permits portfolio reallocation and therefore active management, but with the consistent aim of meeting the long-term strategic allocation objective. This implies proper control of turnover. The goal remains long-term allocation to achieve long-term returns. Rebalancing is meant to ensure that the current allocation is in line with the long-term strategic allocation set for the portfolio. It should thus be distinguished from tactical allocation, whose purpose is to take advantage of current market conditions without a long-term benchmark. In addition it will be important to determine a minimum holding period. A 5-year period would be in line with the consensus response on the concept of long-term investing. Five years is also the period adopted by the EC for the European Long-Term Investment Fund Regulation, which entered into force on 15 December 2015. And finally this accounting category must be well documented by requiring mandatory disclosure of the following information in the notes to the financial statements: the composition of the portfolio, changes in that composition with justification provided for rebalancing and the fair value of the assets held.

5. Result 3: The impact of prudential standards on long-term investment

Because they played a crucial role in the economy financing, financial intermediaries are particularly regulated. To the extent they collect savings to offer financing (loans or financial assets purchase) and they manage the means of payment and create money (banks), their collapse may have detrimental effects on the economy, disturbing the means of payment system or reducing the financing of profitable investment projects. Their financial fragility can also have an impact on others banks via the inter-bank market where banks seek refinancing. Thus, financial regulation aims at protecting public savings and avoiding bankruptcy (Diamond and Dybvig [1983]). For more than thirty years, we observe a gradual evolution towards a self-regulation. As an example, in banking sector, this evolution has begun in the

late 1970s at an international level and was piloted by the Basel Committee on Banking Supervision with the three Basel Agreements (1988, 2004, and 2010). In insurance industry, the prudential framework Solvency I and II was inspired by the Basel Agreements.

5.1. The new prudential requirements for banks and insurers and their theoretical framework

Concerning the banking sector, Basel III (2010) is a set of reform measures to strengthen the regulation and supervision. These requirements aim to improve the banking sector's ability to absorb shocks arising from financial and economic stress and to improve banks' risk management and their disclosures. The reforms have two complementary approaches: micro-prudential and macro-prudential regulations which are supposed to respectively i) raise the resilience of individual banking institutions to periods of stress, and ii) reduce the risk of system wide shocks (as the procyclical amplification of these risks over time).

The new standards imply stricter requirements for banks' capital adequacy (based on risk-weighted assets) and new requirements for banks' liquidity positions. The Committee has therefore developed two liquidity ratios: a short-term ratio — Liquidity Coverage Ratio (LCR) and a long-term ratio — Net Stable Funding Ratio (NSFR). LCR is aimed at reducing the risk that the bank encounters short-term liquidity problems. The idea is to ensure that banks have sufficient liquid assets to survive for a period of 30 days in a stressed scenario. The NSFR is defined as the ratio between the bank's available stable funding and its required stable funding during a stressed scenario of one year. In other words, banks must have sufficient stable funding to cover its need for stable funding 12 months ahead. As a complement, the Committee has introduced a leverage ratio requirement (3%) which is not based on risk-weighted assets to reveal the bank's leverage and prevent its excessive level. Henceforth, banks must have enough capital to cover total assets on the bank's balance sheet and certain off-balance sheet items.

As far insurers are concerned, Solvency II is a harmonized prudential framework introduced in 2009 replacing a patchwork of rules (Solvency I) in order to promote transparency, comparability and competitiveness in the insurance sector. It covers three main areas related to capital requirements, risk management and supervisory rules. The directive requires insurers to hold risk based capital requirements to guarantee that they have enough financial resources to withstand financial difficulties. Firms are required to meet with assets and liabilities valued on a market consistent basis (full fair value). Insurers have qualitative requirements focusing on governance, risk management. Solvency II imposes reporting and disclosure requirements. The aim of public disclosures is to harness market discipline by requiring firms to publish certain details of their risks, capital and risk management.

The theoretical framework of this self-regulation rest on the agency theory (Dewatripont and Tirole [1993]). According to this theory, capital regulation can be modeled as a principal-agent between private bank and a regulator/ insurance deposit system (Giammarino, *et al.* [1993], Bensaid, *et al.* [1995], Freixas and Gabillon [1998]). If the role of the regulator involves setting up adequate incentives in order that agents (banks) behave efficient socially, informational asymmetry is important between banks and their regulators. These last ones do not have the necessary information to monitor banks or with a very high cost. It would be more efficient to allow banks to adopt internally adequate risk management standards. The other founding principle is based on the presupposed that microeconomic market efficiency leads to macroeconomic stability of financial system. In other words, financial markets would be intrinsically stable, ensuring forever perfect liquidity, which is a condition of the efficiency. Consequently, financial markets would be the best regulators of the finance. According to this financial market efficiency (Fama [1970]), the good governance is a virtue of the market discipline which forges transparency, condition of informational symmetry and the incentives consistent with the arbitration between financial intermediaries and non-financial agents.

5.2. Results: Negative effects on the banking sector and their causes

Of the 257 treated responses, 113 mentioned prudential issues. 86.7% of them were of the opinion that prudential regulation negatively affected the long-term financing capacity of banks. While the vast majority of respondents from both the financial sector and non-financial companies (94.2% and 95.5%, respectively) shared that negative assessment, there was less agreement among respondents from civil society, regulatory bodies and financial market participants. For banks, the negative impact responses were characterised by two different lines of arguments. The first had to do with the liquidity requirements and their effect on banks' ability to perform maturity transformation (loan, investment, securitisation portfolios, etc.), the second with capital requirements and the higher costs of financing (through securitised and non-securitised lending). Each effect may be caused by several ratios. These findings coincided with an IMF impact study (Elliott, *et al.* [2012]), which demonstrated that the new liquidity requirements would cost as much as the higher capital requirements. Table 4 presents the answers and the main arguments identified in comment-letters then we explained them related to banking activities.

Table 4. Responses to the question 10 about the effects of banking prudential standards

Question 10: Are there any cumulative impacts of current and planned prudential reforms on the level and cyclicalities of aggregate long-term investment and how significant are they?	Solvency ratio affects negatively long-term investment (LTI)	Liquidity ratios affect negatively LTI	Leverage ratio affects negatively LTI
% of responses	79.6%	32.7%	25.6%
Arguments	Less higher-risk investment (equities, private equity, infrastructures) A threat to the economic viability of securitisation	Reduction in long-term financing Limit banks' ability to perform maturity transformation	Deleveraging Reduction in long-term financing
% of responses	38%	46%	14%

These results of the GP analysis are corroborated by the French interviews of the different stakeholders (Appendix 5).

A reduction in long-term financing

In the view of respondents, the liquidity ratios can affect lending by banks. The majority contended that the two liquidity requirements would limit banks' ability to perform maturity transformation. Transforming short-term liquid deposits into less liquid credits with longer time frames is precisely a form of long-term financing that non-bank financial entities are unable to provide. This first negative effect is heightened by the solvency and leverage ratios. As the loan book represents the primary driver of capital requirements that, they argue, is where banks will focus their efforts. This could induce them to restrict the amount of money they lend in order to keep their regulatory capital from rising. Similarly, leverage ratio adversely affects banks' long-term investment capacity because it applies to a bank's entire balance sheet, without taking the riskiness of assets into account. That could potentially limit investment by banks whose assets are subject to a low or 0% risk weighting, such as long-term loans backed by public sector guarantees.

Higher financing costs and a tighter supply of financing

In the view of the respondents, the new long-term liquidity ratio (NSFR) will lead to shorter terms for loans to the broader economy, due to the high cost of matching the maturities of assets and liabilities. Loans with long repayment terms and lower profitability become particularly expensive to provide, given that they have to be offset by stable funding, whose additional cost banks may

well pass on, raising the cost of credit in the process. On the whole, they consider the NSFR highly detrimental to market-based financing in that it will compel banks to draw on long-term resources to pay for the entire volume of liquid securities they hold, and therefore to settle for lower returns. Some of them mention the need to pass on the cost of stability to clients.

Less higher-risk investment

From a prudential standpoint, stocks are risk assets, as they are exposed to market fluctuations and offer no capital guarantee. Supervisory authorities accordingly show considerable determination to penalise such assets — in contrast to government bonds, which are considered less risky and more liquid — by imposing a high solvency ratio. Furthermore, the respondents believe the Basel III rules will strongly affect investments in alternative assets, above all private equity. Regulators consider such investments particularly risky.

A threat to the economic viability of securitisation

Some respondents consider the capital requirements and risk retention rules for securitised assets to be excessive. In their view, securitisation could be an alternative source of long-term funding in that it enables banks to go on extending loans with lower capital requirements, while providing institutional investors and the capital markets with opportunities to invest long term, including in SMEs. The respondents criticise the Basel Committee's proposal to increase the risk weights for longer-maturity securitisation exposures without distinguishing the various types of securitised products, some of which, such as prime collateralised securities and asset-backed securities, are particularly safe. Such an approach would amount to a "double whammy", given that risk and credit analysis already includes maturity profile.

5.3. Discussion of stakeholders' arguments and recommendations

Solvency ratios

Respondents from the banking sector believe the additional requirements will force them to recapitalise and therefore to charge clients more for financing. At the same time, this will drive their Return on Equity (ROE) down, making the banks less attractive to potential shareholders. The trouble they have in building up the regulatory capital required of them will lead them to shun assets with higher risk weights, the respondents contend. This in turn will result in credit rationing and more expensive loans. This deleveraging process will therefore become a major cause of the inadequate supply of long-term financing to the European economy and of low economic growth.

This viewpoint calls for qualification, however, and for two reasons. First, the leading systemically important US and European banks enjoyed an extremely high ROE in the run-up to the financial crisis. Like non-financial companies, financial institutions may experience pressure from shareholders who threaten to sell their shares if the ROE drops below what the market deems average. They may respond by selecting risky projects that are profitable in the short term and by turning down long-term investments likely to produce lower immediate returns. Second, although a high ROE may distinguish those banks most likely to achieve sustainable performance, it tells us very little about the risks they take in terms of leverage, capital structure, dependence on short-term wholesale funding, asset quality, risk concentration and the like. ROE can therefore create negative incentives for some banking business models, for example if compensation policies encourage the pursuit of short-term profits. All strategies for restructuring bank balance sheets to generate long-term (or alternatively short-term) value and move to a more stable business model tend to drive ROE downward (or upward).²⁵

Short- and long-term liquidity ratios:

Regulators introduced the new liquidity ratios because the financial crisis revealed that some banks had taken their transformation activity quite far — collecting more and more short-dated market instruments to finance mortgage assets and structured products created through securitisation whose liquidity then dried up overnight (as happened at Northern Rock and Lehman Brothers). The challenge therefore involves striking a proper balance between mitigating excessive maturity transformation and preserving the ability to perform it.

The leverage ratio

In the view of the banking sector respondents, the simple leverage ratio will act as a backstop that will significantly reduce bank assets. However, increasing equity is a costly undertaking in terms of both returns to shareholders and the bank's image (as it suggests under-capitalisation). Banks understandably tend to juggle their assets (the denominator) to comply with the leverage ratio. Our review of these two types of arguments points to the need to strike a happy medium between a simple (*i.e.*, not risk-adjusted) leverage ratio and solvency ratios (risk-weighted through the use of complex models). Such an approach might require a compromise involving fixed percentages (as under the Cooke ratio) that could then be refined using models (as under the McDonough ratio). The specifics of implementation would subsequently have to be worked out. The aim is not less risk-taking, but more measured risk-taking,

25. Between 2002 and 2014, ROE in US and European industry ranged from 10% to 13%, whereas at universal banks it ranged from 10% to 20% between 2002 and 2005, and from 20% to 30% between 2004 and 2007, after which it declined drastically. The financial crisis revealed that those levels of ROE were unsustainable (Villeroy de Galhau [2015]).

which calls for an understanding of the outputs of the models used to calculate regulatory capital. To incentivise banks to make other trade-offs, prudential regulation should reduce the appeal of activities that are more profitable but less supportive of long-term investment and encourage activities such as lending to SMEs. Similarly, the prudential treatment of derivatives could be less strict if transactions took place on regulated exchanges instead of over-the-counter. While derivatives have the advantage of not requiring up-front financing, they can also entail additional risks.

Securitisation

With securitisation, banks depart from their traditional, “originate-to-hold” intermediation business model, based on extending loans, and move towards another model involving a lengthy chain of non-bank financial intermediaries that take the place of traditional banks, and that operate in parallel to them. It is not risk-free, however. The danger is that banks will have less incentive to manage their risks. Furthermore, securitisation heightens the procyclicality of the financial system. We support the idea of making securitisation safe by establishing safeguards throughout the process and along the chain of securitisation participants, combined with requirements²⁶ as to investment behaviour by investors and the types of investment projects permitted, to avoid lapsing into reckless securitisation practices of the kind that led to the subprime meltdown in the United States.²⁷

To conclude our discussion of the three ratios, to give banks adequate incentives to finance long-term capital investment projects without sacrificing traditional bank intermediation and financial stability: i) risk weightings for long-term assets should be reduced (loans used to finance projects that meet the first requirement in the definition of long-term investment (capital spending on tangible and intangible assets); ii) a wider range of assets should be made eligible for the liquidity buffer (stable deposits at financial institutions, safe securitised products...);, above all investments that finance the real economy iii) only those securitised assets that meet the above requirements should be given preferential prudential treatment, both in terms of weightings for the solvency and liquidity ratios and in the form of implicit public sector guarantees.

Otherwise, while we acknowledge that short-termist regulatory bias may restrict the supply of certain kinds of credit, its role should not be overstated. A look at long-term trends in bank balance sheets shows that the main way in which banks increase total assets is by increasing the weight of the trading book²⁸ (measured at fair value) on their balance sheets. At global systemically important banks based in the US and Europe, trading book assets

26. For example, the obligation to trade securitised assets on regulated exchanges, requiring the originating bank to keep part of the risk on its books, loans to SMEs should be a primary focus

27. The historical data for European SME ABSs shows a default rate of 0% on senior tranches and of 0.41% on all tranches between 2007 and 2013. Over the same time span, the default rate on all European securitisations was 1.5%, compared with 18.4% in the United States (Villeroy de Galhau [2015]).

28. The trading book comprises all assets held for short- or medium-term trading.

practically doubled in importance — from 20% to 40% — between 2000 and 2007. This growing weight of the trading book is associated with extremely high leverage ratios at the world’s biggest banks. In Europe, the loan book makes up a higher share of total assets at small and medium-sized banks (roughly 70%) than at large banks (50%). In contrast, financial assets held for trading account for approximately 25% of assets at large banks, versus 3% at medium-sized banks. Their weight at small banks is negligible (ECB [2012]).

5.4. Results: Negative effects on the insurance sector and their causes

We found that, among the respondents who believed Solvency II would have a negative impact to the Public Consultation on the Green Paper act: 73.8% felt the programme’s approach to valuing assets and liabilities would be detrimental to long-term investment, while 49.2% of them emphasised the penalising effect of the risk weights assigned to specific long-term assets (Table 5). For insurers, two lines of arguments were put forward: one relating to the method for calculating prudential requirements; the other to the prudential treatment of specific long-term assets. Insurance industry practitioners did not question the rationale behind the various measures, which they deemed both warranted and necessary.

Table 5. Responses to the question 10 about the effects of insurance prudential standards

Are there any cumulative impacts of current and planned prudential reforms on the level and cyclicity of aggregate long-term investment and how significant are they? How could any impact be best addressed?	Solvency II affects negatively LTI	No answer to question 10	
% of the sample	59.2%	60%	
Arguments	The programme’s approach to valuing assets (full fair value) and liabilities penalizing long-term assets	The penalizing effect of the risk weights assigned to specific LT assets (infrastructure, real estate, private equity) VaR 1 year	
% of the sample	73.8%	49.2%	
Alternatives to address these issues	Countercyclical mechanisms to address full fair value issues	Recalibration of prudential requirements	
% of the sample	19.4%	25.2%	

These results of the GP analysis are corroborated by the French interviews of the different stakeholders (Appendix 6).

The first set of arguments underscores the interconnection between the accounting and prudential requirements for insurers, given that the same valuation-related effects (higher volatility, greater procyclicality, shorter investment horizons, a preference for less risky and less volatile assets (government bonds) to the detriment of higher-risk assets like equity, private equity, infrastructure...). An obvious explanation for this is that one of the main changes introduced by Solvency II is to require all assets to be valued at market value so that the securities held can be immediately identified. Under Solvency II, an insurance company's prudential balance sheet will therefore have to be completely different from the balance sheet under its national accounting standards. It will be modelled in part on the balance sheet prescribed by IFRS, but will go further by requiring insurers to remeasure at fair value the items still carried at cost under IFRS. The contention has been advanced that, unlike the IFRS standards, Solvency II has moved to a full fair value paradigm. Some insurance practitioners have moreover raised questions about the way in which regulatory capital is calculated under the new accounting framework. In their view, the prudential approach in Solvency II reasoned up until now in terms of strategic allocation over several years, and not in terms of instant market value at a given closing date (which leads to thinking in terms of liquidation value). Regarding the second set of effects, objections focus on the key instrument of prudential regulation, *i.e.*, the regulatory capital risk weights assigned to specific long-term assets. Among those effects are powerful disincentives to finance infrastructure investments and invest in quoted and unquoted equity instruments, leading to a preference for government bonds and short-term strategies.

5.5. Discussion of stakeholders' arguments and recommendations

Our analysis highlights roughly two potential effects attributable to the method for calculating prudential requirements (based on full fair value) and to the prudential treatment of specific long-term assets. Based on our critical analysis of the theoretical underpinnings of fair value accounting, we consider the case for all these effects to be well-founded. All the recommendations made in the accounting section 4.3 therefore apply here as well. They aimed at rendering investment strategies less procyclical and less volatile and are consistent with the third facet of the concept of long-term investment (long-term investment strategies of funding providers).

Regarding the second set of effects, objections focus on the regulatory capital risk weights assigned to specific long-term assets. We endorse special prudential treatment for these assets. Investments in infrastructure are precisely the kinds of long-term assets referred to the Facet 1 of the long-term investment concept (investment in tangible assets), which should be encouraged in order to bring about a return to sustainable growth. The same goes for unquoted equity instruments, provided that the explicit pur-

pose of purchasing them is to channel financing to innovative companies, as in the case of private equity funds of funds (with programmes to invest in intangible assets). Equities, yet another vehicle for financing such investments, could also be given special, lighter prudential treatment. But here too, funding providers would need to fulfil the behavioural requirements set out in Facet 3: (i) they would have to keep portfolio turnover low or limit it to rebalancing so that financing with stocks traded on liquid markets meets the requirements of Facet 1; or (ii) they would have to practice buy-and-hold asset management, an approach that insurers deem unworkable for them because of the current valuation methods. Similarly, the assignment of lower weightings to structured products backed by collateral or by long-term guarantees should be contingent on the use of high-quality collateral.

The picture that emerges from the comments of French and European practitioners is that Solvency II is designed to maintain financing stability and protect the insured, while long-term investors in insurance companies are given short shrift. The stakeholders surveyed stress the contradiction between regulatory constraints that turn investors away from higher-risk and long-term assets and the societal role that the insurance sector is supposed to play in financing the economy. In essence, they object to the short-term bias of Solvency II, which they believe will inevitably drive companies to re-orient their business models towards the least volatile and most liquid assets. The new requirements suggest that the prudential authorities do not give priority status to the role of insurance companies as long-term investors. We subscribe to the view of those stakeholders, but with the proviso that insurance companies act as long-term funding providers who engage in long-term management of the kind described in the third facet of our definition of long-term investment.

6. Conclusion

Our findings highlight that IFRS accounting and prudential standards affect funding for long-term investment in a variety of ways, depending on the activities in which banks and insurance companies engage. Based on our analysis, we argue that the impact of those standards can be either: neutral (as is the case for lending); adverse (as is the case for equities and alternative investments), with gains and losses on equity instruments not recycled to profit or loss and the more restrictive cash flow criterion for amortised cost and Fair Value — OCI accounting (to be introduced by IFRS 9); or beneficial (as is the case for bonds), with easier cost accounting for bonds, simplified hedge accounting and an expected loss provisioning model. We also highlight the negative impacts of the existing standards IAS 39 and IFRS 4 phase 1 (volatility, shorter investment horizons, and procyclical and short-term behaviour patterns). To address these factors and make accounting standards more supportive of long-term investment, we propose using the asymmetric prudence principle and creating an accounting category that allows certain types of investments with a long time horizon (stocks, private equity and infrastructure investments) to be measured at cost.

The paper also shows that current prudential rules are likely to prove even more detrimental to long-term investment financing. Moreover, they have limitations due to their tendency to accumulate and interact, to their increasingly complex and technical nature, to their instability and to the growth of shadow banking. At the same time, we note that prudential requirements (solvency, liquidity and leverage ratios) have a negative impact on portfolios of loans and high-risk securities such as quoted and unquoted equity instruments and infrastructure investments, although that impact should not be overstated. We have found that the cumulative negative effects of existing accounting and prudential standards make high-risk investments less attractive than government paper. To give banks adequate incentives to finance long-term undertakings without sacrificing traditional bank intermediation and financial stability, risk weightings for long-term assets should be reduced and a wider range of assets should be made eligible for the liquidity buffer, such as investments that finance the real economy (capital spending on tangible and intangible assets).

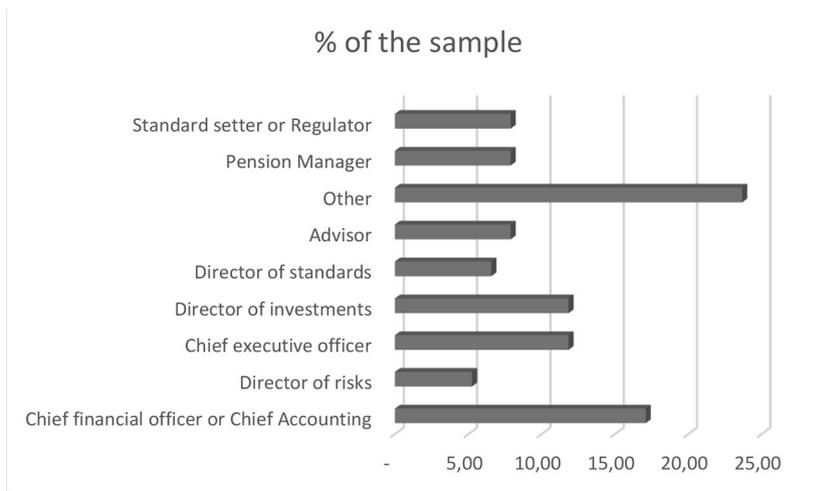
Appendix 1: Panel of semi-structured interview

Insurance	Bank	Regulator and standard setter	Pension	Others
AG2R La Mondiale	BNPP CBI	ACPR (2)	AG2R La Mondiale	2PM Asset management
AXA (2)	BNPP Affaires institutionnelles	ANC (2)	Argic-Arco	AF2I
Axa Private Equity	BNPP groupe (5)	European Commission (3)	BNPP Retraites Epargne Entreprise	Allen & Overy
BNPP Cardif (3)	BNPP Investment solutions	EFRAG	Caisse de Retraite des Médecins Français	Atos Origin
CNP (2)	BPCE	IASB	CRPN	Cabinet Ricol et Lasterie (3)
Crédit Agricole Predica (2)	BPI France (2)	IFRS Interpretations Committee	ERAFP	Deloitte
Generali	BSI Bank		Knight Vinke (2)	Fédération Bancaire Française
Groupama Asset Management	Caisse des dépôts et consignations — CDC (5)		Réunica	Fédération Française des Sociétés d'Assurance — FFSA
Macif	CDC Infra		Union Mutualiste Retraite	Fixage
SCOR	Crédit Agricole (2)			Insti7 (2)
SMABTP	European Bank of Investment			OCDE
SwissLife	La banque Postale Asset Management			Premium Consulting
	Société Générale			PWC
				Université Paris 10

Due to confidentiality reasons, only names of institutions and the number of interviews are reported in parenthesis.

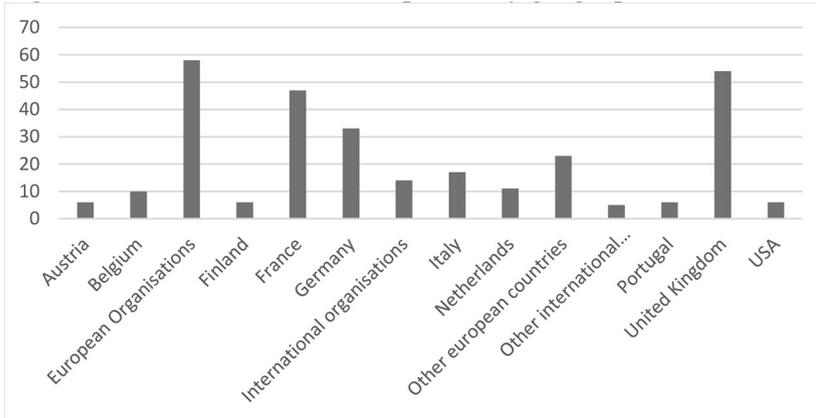
In a first step, we conducted 74 semi-structured interviews with financial institutions between April and November 2013, then we did 3 long interviews in December 2014 in order to assess the effects of the IFRS 9 accounting standards on financial instruments, finally in September 2015, we organized a research meeting with 2 representatives of the French accounting regulator (ANC), 3 of a private bank-insurer and 3 of a public bank, in order to discuss our research findings.

Appendix 2: Interviewees' positions



Appendix 3: Descriptive statistics on Green paper

Of the 292 replies made public by the EC in 2013, we treated 257. These last ones answered at least one question; 8 comment-letters were not published and 27 (written in Dutch, Italian and German) were not treated. Among the 257 respondents, 55% came from financial sector, and 45% from non-financial sector. More precisely, respondents are non-financial firms (18.8%), institutional investors (27.2%), banks (12.3%), auditing and consulting society or accountancy office accounting cabinet (16%), civil society (18.5%) and regulators (7.2%). The breakdown by country shows the importance of respondents in Britain (18%), French (16%) and German (11%), in addition to organizations active on a European scale (19%). Given the number of respondents, the range of sectors in which they operate and their diverse national backgrounds, our database can be considered a representative European sample.



The breakdown of responses by geographic area

Appendix 4: Verbatims about impacts of accounting standards on long-term investment

Main results (interviews)	Verbatims
IFRS standards have technical impacts that discourage to recognize investment as long term	"IFRS long-term category is rarely used because it is detrimental". (French regulator, Project manager)
Fair value accounting promotes by IFRS standards increase volatility of results and long term portfolios	"When the IASB only proposes fair value as an evaluation method, we are against it, because we consider that, as we have a long-term activity, we cannot take into account in our income statement, the impact of real-time market valuation, as it does not reflect our activity; to the extent that we manage contracts over the long term, we do not have to be subject to these market fluctuations" (Insurance, Accounting Manager)
Fair value accounting promote by IFRS standards conduct momentum and to procyclical behavior	"Current standards lead to shorten significantly the time horizon (Insurance, Director of investments). "The biggest issue with fair value accounting standards is clearly the procyclical. Having accounting standards without safeguard leads to a high procyclical" (Insurance, Director of Investments).
Fair value is not suitable for long-term investment	"It is a philosophy that is totally inappropriate for buy and hold strategy" (Professional association)"
IFRS 9 will heavily penalize investments in equities	"The main accounting rule for equities portfolio is a recognition of value variations by P&L. This is a big issue for the valuation of equities hold on the long run" (Director of accounting standards, Bank)

Main results (interviews)	Verbatims
IFRS 9 will penalize investments in alternative assets (private equity, infrastructure investments)	"The systematic valuation of equities at fair value leads to consider that financial institutions have only a short-term equities portfolios management" (French Standard-Setter, Project manager)
IFRS 9 will boost investment in bonds	"Thanks to IFRS 9, banks will be able to value their bonds portfolios at cost. For bonds and loans of the banking book, there is no issue for us" (Director of accounting standards, Bank)
Short-term investments will be unaffected	"Fair value conveyed by IFRS 9 fit perfectly for short-term investments" (Director of accounting standards, Insurance)

Appendix 5: Verbatims about impacts of prudential standards on banking activities

Main results (interviews)	Verbatims
A reduction in long-term financing	"The LCR will force banks to invest collected savings in very liquid assets and then decrease available funding to real economy. The NSFR will affect the banks' capacity of maturity transformation (to borrow in the short run and lend in the long run)... That is why we decided to deleverage <i>i.e.</i> reduce balance sheet size and then credit..." (Bank, CFO)
Higher financing costs and a tighter supply of financing	"Higher solvency requirements represent an additional cost for banks because they have to remunerate their shareholders. Then banks must underwrite a higher profitability ..." (Bank, Director of prudential standards)
Less higher-risk investment	"Leverage ratio denies risk diversification principle. For the Basel committee, equities are more risky than a bond and then solvency requirement must be higher". (EC, project manager)
A threat to the economic viability of securitisation	"Unfortunately, these new prudential rules related to securitization could dry up this market or reduce the possibility to issue new securities". (Director of prudential standards)

Appendix 6: Verbatims about impacts of prudential standards on insurance activities

Main results (interviews)	Verbatims
Higher volatility	"One the main issue of solvency ratio is its extremely volatility". (Consultant)
Higher procyclicality	"The supposedly prudential requirements mean that in bull market everything is all right and then you can adopt riskier investment strategy but in bear market it is the contrary not to deteriorate the solvency ratio. I think prudential and accounting standards are the root of financial crises". (Consultant)
Short-termist investment behavior	"Solvency II participates in a short term vision because actually we only analyze market shocks over one year" (Consultant)
Less higher-risk investment	"Private equity suffers from high solvency ratio. That is why insurers disinvest in this asset class" (Consultant)

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