



Potential impediments to long-term and low-carbon investment: the international accounting standards at stake

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ABSTRACT

This paper aims to understand the role of today's accounting requirements for financial intermediaries (banks and insurers), to be aware of their limitations and to underscore the need for reform in order to foster long-term and then low-carbon capital spending in Europe. The paper shows that International Financial Reporting Standards (IFRS) can affect long-term asset allocation of banks and insurance companies. International accounting standards do not differentiate between low and carbon intensive investment and do not take into account climate risks beforehand. To tackle these issues, we make some recommendations to promote long-term and low-carbon investment.

Keywords:

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Accounting standards;
Banks;
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1. Introduction

While capital investment, both private and public, is supposed to have a powerful knock-on effect on economic growth, we observe a falloff in the global rate of investment (gross fixed capital formation) during these past three decades. This rate dropped from 26.1% of world GDP (Gross Domestic Product) in 1974 to 21.8% in 2009, representing a cumulative decline of roughly \$20 trillion [1]. The decline, which was concentrated in developed countries, has accelerated since the 2007 crisis. For example, investment in the euro zone decreased from 26% of GDP in 1970 to 18% in 2013. The European Commission estimates that between 2010 and 2020 the European Union will need to invest approximately €1.6 trillion in infrastructure for cross-border transport of goods, people and energy. The energy transition will likewise involve spending from 2% to 3% of GDP

over a ten-year period. In the case of Europe, that will mean spending roughly €3 trillion in the course of a decade [Roadmap, 2050]. This decline in investment has proven to be a drag on economic growth. From 2000 to 2008, output grew 2% in the developed countries against 5.3% in the years from 1960 to 1970 [1]. Both the OECD (Organization for Economic Co-operation and Development) and the IMF (International Monetary Fund) have in fact stressed the sluggish pace of investment recovery in Europe. Capital investment and low-carbon investment in particular can be considered a prerequisite to a return to strong, sustainable, job-rich growth [2].

Indeed, climate change is one of the most important issues facing developed and emerging countries. According to the Intergovernmental Panel on Climate Change (IPCC) report (2014) each of the last three decades has been successively warmer at the earth's surface than

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any preceding decade since 1850. The increased energy stored in our warming atmosphere has the potential to have enduring economic, social, and financial consequences. The IPCC also states that some regions will experience more extreme heat while others may cool slightly. This could result in flooding, drought and intense summer heat, violent storms and other extreme weather events. Moreover, our current understanding of the potential financial risks posed by climate change to companies, investors, and the financial system is still at an early stage. The large-scale and long-term nature of the problem makes it challenging, especially in the context of long-term economic decisions. There is a need for define long-term investing beforehand.

What makes defining long-term investment such a crucial issue is that there is no legal, much less universal, definition of the term. The definition we will retain for long-term investing is based on three complementary facets of the concept of long-term investing [3]. A definition of long-term investing based on these three complementary facetsⁱ will form the analytical framework for identifying potential short-term bias in the accounting rules that apply to banks and insurance companies. The first facet related to the nature of the investment project rests on the assumption that long-term investment involves investing in capital assets (carbon and low-carbon investment) to be distinguished from financial capital. The second facet can be apprehended through the nature of savings and nature of long-term financing instrument. Long-term savings should rank highest, as they involve lower liquidity constraints for providers of funds. Long-term vehicles should be promoted for financing long-term investment projects. The third facet focused on defining long-term behaviour and how it differs from short-term behaviour via countercyclical investment strategies (as opposed to momentum management) and low portfolio turnover and via the promotion of partnership-based governance, both for asset management purposes of the companies in which they invest their own funds (instead of shareholder value governance).

This decrease in investment can be attributed to changes in the demand and supply of capital. Long-term investment and low-carbon investment depend on both available funding and corporate decisions. In terms of capital demand, the key challenge today is to achieve the kind of innovation (radical and incremental) that will contribute to a successful energy transition (above all to a low-carbon economy). In terms of capital supply, the contrast between weak investment and plentiful savings can be analysed as inefficient allocation of savings, resulting from the short-term bias of market participants and the most important financial intermediaries. On this point, there has been a rough consensus for some time in academic literature, along with growing awareness among finance professionals (like Larry Fink, the Chairman and Chief Executive of BlackRockⁱⁱ), regulators (Paul Volcker, former Chairman of the US Federal Reserve or Lord Adair Turner, former Chairman of the UK's Financial Services Authorityⁱⁱⁱ) and academics. The latter questioned the economic usefulness of financial innovations [4] or the positive correlation between the size of the financial services sector and economic growth [5–9].

Among the explanations advanced for short-termism^{iv} is that regulatory requirements may encourage financial intermediaries (banks, insurers...) who might otherwise finance long-term investments, to adopt a short-term bias. Indeed, they are submitted to a regulatory framework that imposes varying degrees of requirements that evolve over time. Among these requirements, there are IFRS accounting standards (International Financial Reporting Standards). If they are supposed to enhance transparency needed to improve the resilience of the financial system, the question is the following: could the accounting requirements be in danger of hindering long-term investment and low-carbon financing?

The aim of this paper is to offer a different slant on this issue by seeking to identify short-term bias in the accounting standards that apply to banks and insurance companies – the primary providers of corporate funding. Because it is particularly hard to quantify the impact of

i The European Commission 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.

ii American global investment management manager.

iii UK financial watchdog.

iv 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.

a given accounting requirement, we have opted for a qualitative approach to identify the direct and indirect impact of those reforms on the intermediation activity of banks and insurance companies (lending and asset allocation).

Section 2 presents the international accounting requirements of financial intermediaries. Section 3 introduces the various research methods used in the paper and the nature of qualitative data collected. Section 4 presents the main negative effects of IFRS on long-term investment funding by banks and insurance companies. Section 5 concludes.

2. International accounting requirements and theoretical framework

2.1. International accounting requirements

Since 2005, all quoted European firms must apply IFRS standards to present their financial statements. These standards replace national accounting rules (which stay in application for unquoted and small firms). IFRS standards are based on a conceptual framework that encompasses all the major principles that must guide the development of accounting standards. This framework stipulates that the financial statements must comply with the information needs of current and potential investors [10]. In order to produce financial statements that are in line with investors' needs, the IASB (International Accounting Standard Board- International standard setter) promotes accounting combining valuations at cost and fair value, but it is this second model that appears to be preferential. This predominance of fair value accounting in the IFRS model is particularly significant in terms of both short and long-term investment valuations. The IFRS standards are intended to be applied by all companies regardless of their sector of activity in order to provide the reader relevant and comparable information for economic decision-making.

The valuation and accounting of long-term investments is primarily governed by the financial instruments standards. IAS 39 is applicable for financial years beginning before January 1, 2018, but after this date IFRS 9 applies, except for the insurance sector which obtained an exemption until 2021, given the importance of investment portfolios. Generally speaking, these two standards propose a mixed approach of accounting valuation: namely the historical cost and the fair value. However, in practice, they have an approach that favours valuation at fair value in order to

disseminate relevant information for investors. The main difference between these two standards is based on the conditions of application of one or the other method. While IAS 39 allows a very restrictive use of the historical cost method, IFRS 9 allows more flexibility in the choice of the valuation model. It should be noted that, whatever the standard, the standard setter considers that only assets with a defined maturity (such as bonds) can be considered in the medium or long term; other assets (listed shares, private equity, infrastructure shares) are considered as short-term assets in connection with the fair value measurement. Regarding loans granted by banks, IAS 39 allows for their exclusive recognition at historical cost, whereas IFRS 9 requires that the characteristics of the loan (duration and type of interest rate) be taken into account in order to determine the valuation method.

But this standard do not differentiate between low-carbon and carbon investment concerning assessment of assets. Indeed actually, IFRS does not regulate the accounting of environmental risks or the disclosure of information relating to responsible investment. While some environmental or societal issues may indirectly appear in the IFRS accounts through some standards (IAS 1, IAS 37 for example), there are no specific rules in this area. Moreover, it can be noticed that the IASB texts often refer to the environment in an economic or technological context but never in the sense of natural risks. The measurement and recognition of low-carbon investment is mainly affected by IAS 36 - Impairment of assets and IAS 37- Provisions, Contingent Liabilities and Contingent Assets. These last ones are a rarity because they outlines the accounting for provisions (liabilities of uncertain timing or amount), together with contingent assets (possible assets) and contingent liabilities (possible obligations and present obligations that are not probable or not reliably measurable), for example the cost of clean-up in case of offending environmental damages or the dismantling of polluting installation (nuclear or oil). Our study emphasizes that climate risk which can be divided into physical risk and transition risk is only considered afterwards (once assets are stranded) and not beforehand (that is to say there is no specific accounting treatment not to penalize low-carbon investments).

2.2. Theoretical framework

IFRS standards are in line with the agency theory, which advocates reducing information asymmetry between

firms' shareholders and managers. In fact IFRS standards aim to provide the best information to current and potential investors in order that they take economic decisions (purchase/sale of securities). IFRS standards are also in line with the efficient market hypothesis which postulate that market prices always reflect all available information instantaneously [11]. The use of fair value measurement, based on current market price, as the primary approach to measurement assumes that market prices provide accurate information enabling the best allocation of resources. That approach is supposed to convey a transparent, verifiable information that is relevant to decision-making.

Some empirical research^v shows that fair value accounting increases the relevance of accounting information for investors, as compared with amortised cost accounting. To assess the quality of fair value information, these researches have specifically examined its impact on either a company's share price or the market value of its equity (using a statistical regression model). Most of the results, however, have only limited validity, as they are based only on portfolios of quoted equity instruments (there has been little or no research on other products such as bonds and alternative asset classes). More consequentially, the authors have been unable to prove indisputably that fair value measurement is superior to measurement at cost. Furthermore, the results are not statistically significant and explanatory variables may have been omitted. 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 [18–24]. They show that fair value accounting introduces more volatility into financial statements (through the valuation of portfolios and equity, where fair value re-measurements are recognised). This effect is particularly important for medium- and long-term investments that should normally remain on the company's books for a long period. Moreover, fair value accounting seems to induce procyclical and short-termist strategies. Faced with volatile financial information, market participants react instantly (with momentum strategies) and abandon their initial long-term strategies. We can notice that to our knowledge there is no academic research on the impact of IFRS standards or fair value accounting on low-carbon or responsible investment, certainly due to the fact that these standards ignore those issues.

3. Data and methodology

Our research is based on qualitative analysis. First, we conducted 60 semi-structured interviews^{vi} at financial institutions from April 2013 to September 2015. The diversity of the respondents led to the collection of a sufficient amount of empirical information to identify if IFRS standards are an incentive or a constraint for long-term investment. All the interviews were conducted under a confidentiality agreement on the information retained and on the identity of the interviewee; this allows a more open debate. The interviews were conducted using an interview guide. The principle of the semi-structured interview allows researchers to ask additional questions based on the progress of each conversation. 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 helps to organize and rationalize the coding process. It enables us to easily compare and find data theme in our corpus. At first, in accordance with the recommendations of [25], we made an open coding based on the themes of the interview guide, and then in the second step 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 findings synthesis corresponds to the most frequently raised theme by respondents to characterize accounting rules for long-term investment in the insurance industry context.

In addition, we have established a qualitative database from responses to the Public Consultation launched by the European Commission on its Green Paper on the long-term financing of the European economy, made public in March 2013. 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 Green Paper raised 30 questions, among them the definition of long-term investment, the role of banks and institutional investors in long-term financing, the impact on long-term investment of prudential and accounting regulation for financial intermediaries. We have consolidated the 11 categories identified by the European Commission into 5 large groups of respondents: financial intermediaries (banks, insurance companies, pension funds and other investment

v [12–17].

vi Banks (23), insurance companies (18), pension funds (11), regulators and standard-setting bodies (9), consulting and other firms (13).

Table 1: Firms and interviewees

Firms and number of interviewees			
BNPP Group (4)	SwissLife (1)	ACPR (2)	Cabinet Ricol et Lasterie (3)
BNPP CBI (1)	BNPP Cardif (3)	ANC (2)	PWC (1)
BNP Investment solutions (1)	Générali (1)	IASB (1)	Deloitte (1)
BPCE (1)	SMABTP (1)	IFRIC (1)	Premium consulting (1)
BPI France (2)	AG2R La Mondiale (1)	European Commission (3)	Fixage (1)
BSI Bank (1)	Crédit agricole Predica (2)	EFRAG (1)	Insti7 (2)
Caisse des dépôts et consignations (4)	Axa private equity (1)		AF2I (1)
Crédit agricole (1)	CNP(2)		2PM asset management (1)
European Bank of Investment (1)	French insurer Association (1)		Allen & Overy (1)
Fédération bancaire française (1)	Macif (1)		OCDE (1)
La Banque Postale (1)	AXA (2)		Paris 10 University (1)
	SCOR (1)		
	Groupama asset management (1)		
Positions of interviewees			
General directors (4)/ Professional association presidents (2)	Risks directors (3)	Professors (2)	
Financial directors (2)	Project managers (6)	Members of standard setter (3)	
Accounting directors (7)	Portfolio managers (1)	Other functions (10)	
Accounting standards directors (8)	Consultants (7)	Auditors (2)	
Accounting and prudential standards directors (2)	Lawyers (1)		
Total duration of interviews: 137h			

funds), market intermediaries (auditors, accountants, consultants, financial market participants, regulatory and oversight bodies, civil society, and non-financial companies. 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 as European sample. In this paper, we focus on the question related to the impact of fair value accounting on long-term investment (question 20).

During the study period, IAS 39 was still in force and IFRS 9 under discussion. The latter was published in July 2014 before the end of the research. Our study is therefore able to understand all the issues of these two standards in terms of long-term investment for stakeholders (banks and insurance companies).

We have examined the responses of the full range of stakeholders (e.g., investors, banks, insurance companies, and regulators), clearly rendering their opinions and analysing them against the findings in the academic literature. 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 and low-carbon investment.

Table 2: Descriptive statistics of the qualitative database

Question 20 of the Green paper: 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? (Number of respondents)

Received by the European Commission	292
Treated (available in English or French)	257
That answered to question 20	144
– from financial intermediaries (bank, insurance...)	66
– from market intermediaries	26
– from European institutions	31
– from French institutions	28
– from British institutions	24
– from German institutions	13

4. The impact of accounting standards on long-term and low-carbon investment

We find broad consensus on the idea that long-term investing and financing are primarily affected by fair value accounting promoted by IFRS. Indeed, both responses to the Green Paper and semi-structured interviews have brought to light the common impacts to both sectors, as well as those that are specific to banking and to insurance sectors.

Table 3: Descriptive statistics related to the accounting question 20 of the Green paper

To what extent do you consider that the use of fair value accounting principles has led to short-termism in investor behaviour?	Fair value is short-termist	Fair Value is not short-termist	No response	Total
Financial intermediaries (Banks, insurance, Investors, Pension funds)	42	11	13	66
Market intermediaries	10	12	4	26
Regulator and standard setter	4	9	2	15
Other sectors	22	4	11	37
Total	78	37	29	144

On the one hand, among financial intermediaries (banking, insurance, pension and other investors), non-financial corporations and non-professional account readers, the majority believe that fair value is short-term. On the other hand, the position of market intermediaries (regulators and consultants/analysts/auditors/accountants) is more divided with those who consider non-short-term fair value having a slight advantage.

The support of the standard setters and accounting regulators can be understood in terms of relevant objectives and transparency of information, the latter considering that the reference to an observable market value is more difficult to manipulate and more useful for the decision-making than value at amortized cost that may be influenced by managerial decisions. This point of view is also consistent with the theoretical anchoring of current accounting standards that favour the investor as a recipient of accounting information in their conceptual framework, and that are based on the supposed efficiency of the markets. The attractiveness of fair value for business accounts readers, understood as the market value, can be explained by their desire to have comparable and reliable financial information between companies, and the use of a single reference for all companies can meet this requirement. As for the preparers of accounts, their opposition to fair value accounting can be explained by the difficulty of valuing certain assets and especially the inadequate representation of their performance.

4.1. General negative impacts on long-term investment

To begin with, we find that IAS 39 (financial instruments) has not affected long-term financing activity by banks. The standard calls for measuring loans and receivables at amortised cost (similarly to French GAAP), which makes possible long-term management of such portfolios.

Table 4: Short-termism of FV accounting: the arguments of respondents

Why Fair value (FV) accounting is short-termist?	% of respondents to the question 20
FV increases volatility	55%
FV reduces attractiveness for investors/Managers	55%
FV increases procyclicality effect	32%
FV increases difficulties for FV measurement	27%
FV does not suit for long-term asset/backed to long term liabilities	26%
FV is correct for short-term business	18%
FV does not suit for infrastructure/Real estate assets	6%

- o “Regarding the accounting of loans according to IAS 39: there is no subject” (Member of the French standard setter).

In the case of long-term investing by banks and insurance companies, we observe 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.

For example we identify impacts of accounting rules on the behaviour of market and investment managers. Indeed IFRS standards driven by fair value accounting have three negative effects, which is particularly emphasize by the professionals interviewed:

First the introduction of higher volatility in the financial statement (balance sheet and income statement) due to the variation of investment measured by fair value that reflect market variations. This volatility is detrimental for the ownership of long-term assets, indeed their price vary at each closing date without reflecting their long term value. Those re-measurements reflect changes in the market rather than in the actual performance of long-term investments.

- o “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)
- o “Completely fair value and therefore volatile performance measures leads, would lead, and will lead insurers to reduce the amount of risky investments (especially stocks), so as not to be subject to stock market fluctuations” (Insurance, association professional).
- o “We must be positioned on assets where we control volatility, we must reposition ourselves on assets whose market value may ultimately be better controlled” (Insurance, Deputy Chief Accounting Officer).

The increase in volatility is particularly detrimental for long-term environmental investments because they have particularly long deadlines (dismantling power station). An annual assessment of their instantaneous value does not make sense and on the contrary could lead readers of the accounts to misunderstand the quality of the investment.

Then investors and managers adopt a short-term behaviour: 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.

- o “The philosophy of IFRS, is based on the following question: “if I scrap the business today, how much is it worth?” So it’s instantaneous value. It’s not taking into account future events, what’s going to happen in the future, it’s really today’s scrap value, and they do not take time into account. (Insurance, Director General)
- o “We have an asset realization schedule that takes time into account and this vision of fair value in the very short term narrows our horizon and constrains us” (Bank-Insurance, Head of Accounting and Prudential Standards)
- o “Fair value accounting leads to a considerably shorter time horizon” (Insurance, Investment Director).

Shortening investment horizons for institutional investors may have implications for financial investments where physical and low-carbon investments may be longer-term and riskier than traditional investments.

At last fair value accounting create a procyclical^{vii} effect that conduct to bubble phenomenon: 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.

- o “The biggest problem with fair value accounting standards is clearly the risk of procyclicality. Having accounting standards without buffering leads to a lot of procyclicality, that is, as soon as there is an imbalance between assets and liabilities, this leads the actors to take immediate action “(Insurance, Director of Investments).
- o “A good system of financial regulation should be counter-cyclical, transactions ought to be registered with even more care so that the measures would be euphoric” (Consultant).

Interviewees and respondents of the Green Paper consider that this valuation model reduces overall attractiveness for investors that is to say decreases their willingness to invest in long-term assets.

Indeed investors, having information biased by instantaneous market fluctuations, are led to adopt momentum decisions that disregard the initial holding horizon and the real performances of the firms. Moreover they adopt a behaviour related to market variations that leads to procyclicality.

- o “The issue now is that financial security should be guaranteed and that there is a need to develop mechanisms which avoid aggravating the amplification of the system. But if you support sustain fair value liabilities, then they have to live within the time: there, you add to the procyclicality” (Assurance, Director General).

It appears that, for green paper respondents and interviewees, fair value accounting is aimed at current and potential investors in order to enable them to make relevant economic decisions in the immediate future, which does not correspond to the needs of long-term investors.

These results support earlier researches to demonstrate the negative impacts of fair value accounting on financial statements and manager’s behaviour [20–22, 24].

vii procyclicality refers to the tendency of financial variables to fluctuate around a trend during the economic cycle. Increased procyclicality thus simply means fluctuations with broader amplitude.

Our study also put in evidence that IFRS standards have different effects on financial instruments which support long-term investments. What emerges from our analysis is that IFRS standards tend:

- to put stable, countercyclical investments in stocks and alternative assets at a disadvantage
 - o “Besides, it is still critical that strategic investments in equity are disadvantaged as the gains/losses being realized at sale cannot be recognised in net income; thus the so called recycling is prohibited. The adjustment of this inappropriate accounting treatment in IFRS 9 would encourage insurers to enlarge their investments in equity instruments. Thus, we suggest moving towards the IASB allowing recycling at derecognition” (extract of the answer of Standard life to the Green paper).
 - o “In fact, we are going to find a strong impact of fair value on so-called diversification categories. That is to say, especially the equity part, but also on alternatives, infrastructure, etc., and derivative instruments that for accounting purposes are significantly less profitable” (Insurance, Director of Investments).
- to put plain vanilla^{viii} and bond investments at an advantage
 - o “80% of our bond portfolio will move to cost under IFRS 9, while it was valued in fair value under IAS 39” (Chief Accountant Bank).
- to have a neutral effect on the majority of loan portfolios and an adverse effect on non-plain vanilla loans
 - o “According to IFRS 9, the banking book is at cost, so there is no subject for us.” (Accounting director).

It appears that IFRS regulation can nevertheless favour the investment in green bonds since these can be evaluated at cost according to their business model.

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. This analysis is in line with the report issued by the European Commission in July 2017. According to this report, IFRS standards may have detrimental impact on responsible investment (referring

to the potential impacts of IFRS 9). In concluding that it is important for the international standard-setter to take environmental issues into account in its framework [26].

4.2. Recommendations: the creation of a long-term accounting category

Our results highlight the difficulties created by IFRS for those managing assets held for the long-term and sustainable growth. 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. 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 the IASB, which can be equated with a neutrality principle that leads to recognition of both unrealised gains and losses. We propose to create a new accounting category for long-term and low-carbon investment. The idea of adapting IFRS standards to take greater account of long-term investment is cited by 21 respondents. They believe that taking into account long-holding periods is a prerequisite for accounting standards to convey a coherent representation of the economic reality. However, they do not offer solutions for doing this. It was during the interview phase that we were able to identify the key features of such an accounting category.

This new category could be applied to all investors but a number of conditions relating to actual investor behaviour (facet 3 of long-term investing definition) and the nature of investment could be included (facet 1).

- Measurement at cost accompanied by a provisioning model that permits recognition of unrealised losses.
- Choice of a 5-year minimum holding period.
- Priority to low-carbon investments or investments in innovative companies.
- Mandatory disclosures of the following information in the notes to the financial statements: the composition of the portfolio, the exposures in carbon investment and low-carbon investment, changes in that composition with justification provided for rebalancing and the fair value of the assets held.

This new long-term accounting category must provide an increase of long-term investment and low-carbon investment by relaxing the accounting constraints on investment.

viii Simple instrument that only corresponds to refund of principal and interest.

5. Conclusion

Our research into the impact of IFRS on long-term/low-carbon investment and financing by banks and insurance companies shows that those accounting standards affect different financial intermediaries in different ways. We would accordingly argue that the effect of those standards is not neutral (higher volatility, short-termism behaviour and procyclicality), and can even be adverse in the case of certain investments (particularly equities and alternative asset classes). Moreover the fact that accounting standards do not take into account environmental risks is a critical issue for the development of a sustainable economy. As noticed by the European commission, it is important that accounting framework evolves to reflect all financial and environmental information needed by investors [26].

To address these factors and make accounting standards more supportive of long-term and low-carbon 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, low-carbon investments) to be measured at cost. The question of low carbon investments is a crucial issue because the environmental issue and its impact on the financial statements is no longer an ecological question. By the way, the Financial Stability Board (FSB) published a set of recommendations aimed at all companies in order to improve the disclosures of financial information on the impacts of climate risks and opportunities [27].

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