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Title:

The co-performation of financial economics in accounting standard-setting: A study of the translation of the expected credit loss model in IFRS 9

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The co-performation of financial economics in accounting standard-setting: A study of the translation of the expected credit loss model in IFRS 9

Abstract

This paper adds to the literature on the role of financial economics in accounting standard-setting by analyzing the co-performation of an economic theory – the Efficient Market Hypothesis (EMH) – in the construction of a new approach to accounting for credit losses in financial reporting. Inspired by actor-network theory and its notions of performativity and translation, the paper draws on interview data and documents to reconstruct the process by which the devalued "incurred loss" impairment model was replaced with a more forward-looking "expected loss" approach under IFRS in response to the 2008 financial crisis. This comprised of a series of experiments and negotiations, including an unsuccessful effort to establish an "ideal"-type model and the failure of a joint initiative between the IASB and the FASB. Alongside extensive considerations over how to make the approach operational, the influence of the EMH regarding the relationship between loan pricing and initial expectations of credit losses is elucidated. We show how a standard-setting objective grounded in financial economics is translated through a process of *approximation* as it forges linkages with other matters of concern. This process sheds light on the transformations involved in finding tolerable solutions when utilizing financial economics in the setting of accounting standards.

Keywords: IFRS; Financial instruments; Impairment; Efficient Market Hypothesis; Performativity of economics; Translation

First of all, forcing banks to recognise expected lifetime losses on the day they make the loans clearly does not reflect the economics. Booking a loan on market terms does not cause the bank to suffer a loss immediately. Day-one losses based on lifetime expected losses could be quite substantial, especially for long-term loans such as 30-year mortgages. Booking a loss on Day one would cause loans to be on the books at amounts substantially below their true value, thus creating a distorted picture.
– Speech by Hans Hoogervorst, IASB Chairman, 15 September 2015

1. Introduction

As the preceding quote exemplifies, accounting standard-setters are often influenced by a desire to accurately reflect the underlying economics of business activity. Drawing on the precepts of financial economics, standard-setters are equipped with potentially powerful tools which aim to propel the standard-setting process towards its "correct" conclusion (Himick & Brivot, 2018). As Hopwood (1992) posits, "Economics … is seen as a means for helping accounting to become what it should be, but what currently it is not" (p. 128). Along these lines, previous research highlights the increasing influence of financial economic thought on accounting standards (Bougen & Young, 2012; Ravenscroft & Williams, 2009; Young, 2014) and conceptual frameworks (Erb & Pelger, 2015; Power, 2010; Pelger, 2016; Young, 2006). Nevertheless, as Power (2010) points out, the application of financial economics in financial accounting remains "partial, impure and pragmatic" (p. 209). One explanation for this is that the theories of financial economics, such as the Efficient Market Hypothesis (EMH) stimulated by Fama (1965), are both abstract and empirically uncertain (Whitley, 1986). In addition to challenges to the notion of market efficiency from within the discipline of economics (e.g., Shiller, 1981), pragmatism in the realm of financial accounting often generates obstacles to the application of the doctrine (Power, 2010). In light of this and the dearth of research on the operationalization of financial economic theory in standard-setting, we propose that the manner in which the EMH co-performs accounting standards is an important empirical question.

There is a recent interest in the performativity of economics across the social sciences (Callon, 2007; Ferraro, Pfeffer, & Sutton, 2009; MacKenzie, Muniesa, & Siu, 2007; Pollock & D'Adderio, 2012), in finance studies (Mackenzie, 2006; MacKenzie & Millo, 2003; Vollmer, Mennicken, & Preda, 2009; Warren & Seal, 2018), in accounting (Cushen, 2013; MacKenzie, 2009; Andon, Baxter, & Chua, 2007; Skærbæk & Tryggestad, 2010) and in financial reporting (Huikku, Mouritsen, & Silvola, 2017; Robson & Young, 2009; Robson, Young, & Power, 2017). Whilst the 2008 financial crisis stimulated criticism of financial economic theory (Arnold, 2009; Cooper, 2015; Gendron & Smith-Lacroix, 2015), the apparent lack of a coherent alternate philosophy suggests that its influence in accounting standard-setting may persevere (Power, 2010). This case points to a significant post-crisis scenario in which a model inspired by the EMH is subjected to several transformations as opposed to being passively transported into accounting standards. This underscores that financial economic theories must be translated into specific accounting standard-setting networks to facilitate their tolerability.

While the relaxation of fair value accounting requirements constituted the most highly-publicized accounting event in the wake of the 2008 financial crisis (André et al., 2009; Bengtsson, 2011; Carruthers, 2017; Laux & Leuz, 2009, 2010; Plantin, Sapra, & Shin, 2008), arguably the most significant financial reporting response to the crisis relates to the redevelopment of the impairment requirements for financial assets. Due to its apparent inability to anticipate many of the sizable loan defaults experienced by financial institutions during the financial meltdown, the incurred loss model for loan loss provisioning was attributed with the label of "too little too late" (European Union, 2015). This represented a significant component of the apportionment of blame towards accounting standards for exacerbating the crisis; claims that were subsequently supported by evidence on the reluctance of banks to report loan losses facilitated by "discretion in the accounting rules" (Laux & Leuz, 2010, p. 113). Accordingly, the IASB and the FASB were besieged with calls for a more "forward-looking" approach to

impairment (G20, 2009; Lagneau-Ymonet & Quack, 2012) to reduce procyclicality (FSF, 2009b). Drawing on an analysis of consultative documents and interview data, this paper follows the efforts to reconstruct the financial asset impairment model in IFRS over a six-year period from 2009-2014 which included a convergence attempt with the FASB.

To frame our study, we draw on Callon (1998b, 2007) who posits that economics co-performs the economy often with considerable support from accounting tools. Callon equates the formulae produced by accountants with economics in terms of their capacity to format the economy as "[a]ny tinkering with the formula can have considerable consequences because it changes the world that the formula is supposed to activate" (Callon, 2007, p. 334). Thus, we endeavor to better comprehend how economic rationales permeate the standard-setting process and affect its outcomes. To trace these alterations and their stability, we make use of the sociology of translation (Callon, 1986; Callon, Lascoumes, & Barthe, 2009; Callon & Latour, 1981). From this perspective, we regard accounting standard-setting processes as efforts involving an extensive number of actors to problematize, experiment, evaluate, and decide on proposed solutions that may more or less smoothly result in the issuance of a new standard. Particularly, we highlight the role of tolerability in the provisional stabilization of proposed accounting standards that draw on the discipline of financial economics.

The paper contributes by illuminating the transformations associated with enacting the doctrine of financial economics in accounting standard-setting. Whilst the literature has depicted how economic principles are utilized to rationalize accounting standard-setting projects (Ravenscroft & Williams, 2009; Young, 2014; Young & Williams, 2010), extant research has largely pointed to instances in which financial economic metrics have been successfully deployed. A prominent exception is the work of Himick and Brivot (2018) which analyzes the efforts of an epistemic community inspired by financial economics that was eventually

unsuccessful in persuading an accounting standard-setting organization to adopt its proposed approach. Nonetheless, studies on accounting standard-setting have not shed much light on how "pure" solutions based on financial economic theories transform as part of a process of negotiation. In this case, although the IASB's initial attempt to apply the EMH in an idealized form was ineffectual, its eventual model provisionally linked the economic theory to other matters of concern by means of *approximating* the outcome of its ideal-type approach. Meanwhile, tasked with a similar mandate, the FASB did not make use of an EMH-inspired objective despite its purportedly strong affiliation with financial economic thought. We thus provide a rich field study to show how financial economics interacts with more pragmatic concerns to form distinctive – and "impure" – standard-setting solutions. In addition, the paper elucidates a prominent example of the failure of the IASB–FASB convergence initiative due to a number of disparate concerns across two networks which were unable to be reconciled. This sheds light on the struggles involved in constructing tolerable accounting standards for a geographically diverse constituency.

The remaining sections of the paper are structured as follows. In the next section, research pertaining to the influence of economics on financial reporting is highlighted followed by an outline of the theoretical framework adopted in the paper. Subsequently, the research methods employed in the study are delineated. The paper then proceeds to analyze the IASB project to reform loan loss provisioning in the wake of the global financial crisis. The paper concludes with discussion and conclusion sections which recap the contributions of the study.

2. Financial economics, accounting and standard-setting

Irrespective of the valuation-usefulness objective stipulated in the joint IASB–FASB conceptual framework (IASB, 2010b) which allegedly situates present-day financial reporting squarely in the purview of financial economics (Müller, 2014), accounting in itself does not

encompass an intrinsic purpose (Hopwood, 1992, 2007; Miller, 1998). Accordingly, in addition to the "faithful reporting of financial information" (Solomons, 1991, p. 293), the literature has outlined a multitude of possible roles of accounting in society (Burchell, Clubb, Hopwood, Hughes, & Nahapiet, 1980; Tinker, 1991; Walker, 2016). Nevertheless, although accounting often derives its directionality from wider economic objectives (Hopwood, 1992), the specific formulation of purposes classified as 'economic' has been observed to vary in the literature. Along these lines, studies have depicted the transition in this relationship from the influence of economic theories on accounting income to a view of accounting as an information commodity (Robson & Young, 2009). Moreover, it has been demonstrated that accounting may be mobilized in the attainment of particular economic objectives. For instance, this may be discerned by reference to the usage of discounted cash flow techniques first described by Miller (1991) and the impact of concerns over economic growth on inflation accounting illuminated by Robson (1994). This suggests that the "internal accounts" generated in accounting have "external origins" which link accounting with distinctive contexts (Hopwood, 1983, p. 301). Thus, it has been argued that accounting is not a static apparatus since it transforms alongside economic and social change (Chapman, Cooper, & Miller, 2009).

Whilst the preceding literature posits that the influence of economics on accounting is multifarious and context-dependent, recent studies have tended to draw attention to the increasing application of financial economic thought particularly in the domain of accounting standards. As Hopwood (2009a) argues, "accounting has been in the process of becoming similar to economics and particularly financial economics" (p. 892). Ostensibly, "accounting's fundamental substance has changed" (Bayou, Reinstein, & Williams, 2011, p. 114) from "accounting as history" to "accounting as economics" (Barker & Schulte, 2017, p. 2). As such, it has been suggested that accounting standard-setters are steered by "the underlying logic of neoclassical economics" (Young & Williams, 2010, p. 519). This may be discerned by the rise

of neoclassical valuation theories in the promotion of discounted cash flow and fair value measurements in financial reporting (Chiapello, 2008). Particularly in light of the 2008 financial crisis, there is a growing fascination with fair value accounting (Hopwood, 2009b) and its grounding in "the cultural authority of financial economics" (Power, 2010, p. 201).

The influence of financial economics in financial reporting has also been attributed to the capacity of individual actors to enact decisions based on this philosophy (Miller & Power, 2013). As such, studies have demonstrated that the precepts of rational economic theory associated with "Chicago neoliberalism" particularly resonates with U.S. based accounting standard-setters (Pelger, 2016, p. 58). For instance, studies have illustrated the deployment of financial economic thought in regards to the development of the accounting standard on employee stock options by the FASB. Following Ravenscroft and Williams (2009), this standard was grounded in the presumption – consistent with financial economic theory – that options granted to employees are a form of compensation that can be quantified using a "mechanical model" (p. 782). To justify its necessity, the FASB utilized arguments based on economic theory and referred to several economists who supported the standard (Young, 2014).

Moreover, the conceptual frameworks of financial reporting provide a foundation for accounting standard-setters' attempts to depict an objective social world (Hines, 1991). For instance, the objective of decision-usefulness adopted in the joint IASB–FASB conceptual framework is predicated upon mainstream economic theory focused on the information needs of the investment community (Williams & Ravenscroft, 2015). This rationale was successfully deployed by members of the FASB to reject the inclusion of stewardship as a separate objective of financial reporting (Pelger, 2016) whilst providing an impetus for the transformation of 'reliability' to 'faithful representation' (Erb & Pelger, 2015; Power, 2010). Furthermore, it has been posited that the construction of the "rational economic actor" as the user of financial

statements allows accounting standard-setters to regard conduct that is at odds with financial economic theory as irrelevant (Young, 2006, p. 592). Although this suggests that accounting standard-setters have achieved a notable degree of success in mobilizing the precepts of financial economics, the outcome of such endeavors on accounting standards is uncertain (Himick & Brivot, 2018). This is particularly salient in the case of financial instruments, given the persistence of a mixed measurement model (Georgiou & Jack, 2011; Power, 2010). Nevertheless, our understanding of this partial application of financial economics is less developed.

As one of the central tenets of financial economics, it may be expected that the EMH has significant implications in the domain of accounting standard-setting. The phrase 'efficient market' was first coined in 1965 by Eugene F. Fama to denote "a market where prices at every point in time represent best estimates of intrinsic values" (Fama, 1965, p. 94). While a substantial number of studies provide support for the EMH (e.g., Fama, 1970, 1998), its validity has been disputed (Basu, 1977; Dempsey, 2013; Fox, 2011; Mouck, 1998; Shiller, 1981, 2000). While Fama's work would go on to win a Nobel Prize in Economic Sciences in 2013 (Fama, 2014), he shares this honor with two other economists including Robert J. Shiller (Nobel Foundation, 2013) who was paradoxically recognized for underscoring the inefficiency of markets (Shiller, 2014). Arguably, this emphasizes the suggestion put forth by Whitley (1986) that "[t]heoretical models of asset pricing in "efficient" markets are not so much concerned with how assets are actually priced … as with the nature of the equilibrium state if they were "perfect"" (p. 176). Nonetheless, the theory has demonstrated a remarkable degree of resilience (Hines, 1988b) particularly in light of the deficiencies highlighted during the global financial crisis (Ball, 2009; Gendron & Smith-Lacroix, 2015; McNicholas & Windsor, 2011; Moosa, 2013; Soufian, Forbes, & Hudson, 2014). Consequently, irrespective of the actual

(in)efficiency of markets, the EMH remains one of the concepts that "dominate[s] the field of academic accounting as well as the field of accounting practice" (Cooper, 2015, p. 64).

The role of the EMH may be discerned in the shift towards information-usefulness in accounting (Ravenscroft & Williams, 2009), forming part of the intellectual basis for the expansion of fair value accounting (Power, 2010). While fair value applies to a relatively small number of financial statement items under IFRS, it is often used to assist in the determination of initial capitalization amounts (Cairns, 2006; Nobes, 2015). In the context of loan assets to be measured at amortized cost, the presumed efficiency of loan pricing mechanisms may influence the design of impairment models. If loan pricing reflects all available information including an estimate of the probability of nonpayment (Beaver, Eger, Ryan, & Wolfson, 1989), present values are only affected "when interest rates and expected losses change" (Laux, 2012, p. 251). Consistent with this theory, the recognition of expected credit losses at the time of loan origination is regarded as 'double-counting' (Beaver et al., 1989). Nevertheless, while "IFRS are placing much more emphasis on the use of fair values to record transactions and to allocate the initial amount of transactions among its constituent parts" (Cairns, 2012, p. 23), our knowledge of the role of the EMH within these procedures is limited. We thus argue that the redesign of financial asset impairment methodology constitutes a fascinating site for the study of performativity, particularly considering the role of the EMH in this process and the significance of this endeavor as part of the IASB's response to the global financial crisis.

3. The performativity thesis and the translation of accounting standards

In order to frame our study, we draw on two notions from actor-network theory (ANT); namely, Michel Callon's work on the performativity of economic theories and the sociology of translation. Whilst the propensity of economic theories to shape the economy as opposed to merely observing it has been demonstrated in fields such as finance (Mackenzie, 2006;

MacKenzie, & Millo, 2003) and risk management (Millo & MacKenzie, 2009; Themsen & Skærbæk, 2018), our understanding of how economics co-performs accounting standards is relatively under-researched. Whilst on the surface the performativity thesis is seemingly equivalent to the presumption of the constitutive potential of accounting (Hopwood, 1983), Callon (1998b, 2007) emphasizes the predominance of economic theory, the necessity of examining the manner in which performativity transpires, and the instability of such effects. In doing so, Callon (1998a, 2007) underscores that accounting tools are central to the realization of the performativity of economics. In studying the performativity of the EMH in this case, we first examine how actors mobilize the theory during the standard-setting process; and second, we ascertain how this made a difference in the resulting accounting standard.

One way in which economics becomes performative is by means of a process of purification. Tryggestad (2005) reports on one instance where the neo-classical production function participated in performing a manufacturing system by purifying it and adding legitimacy to the assumptions it relies on. MacKenzie (2006) on the other hand shows how a specific economic model used by practitioners was purified when Merton and Scholes were awarded the Nobel Prize in economics in 1997. However, we call attention to the experimental struggles (Christensen, Skærbæk, & Tryggestad, 2019) involved in enabling the performativity of abstract theories. According to Callon (2007), a heterogeneous network of "elements that have been carefully adjusted to one another" (p. 319) provides the framing in which theoretical statements have an opportunity to survive, albeit temporarily.

Specifically, the operationalization of an economic theory involves socio-technical arrangements "endowed with the capacity of acting in different ways depending on their configuration" (Callon, 2007, p. 320). While this indicates that theories often face obstacles which hinder their ability to shape reality, it also signifies that theories do not act alone in

performing the world. Callon (2007) refers to the notion of co-performation in which he emphasizes the collective character of performativity. In this way, performativity involves a sense of tolerability that is not directed at economic theories in isolation, since "everyone does economics with different means" (Callon, 2007, p. 335). This suggests that ostensibly pure financial economic theories encompass an obligation on the part of instigating actors to translate them into networks – a process which may be expected to lead to transformations.

In our case, economic theories, accounting standards and their issuing standard-setting bodies emerge as obligatory points of passage (Callon, 1986) for those who need to prepare an annual report or otherwise use it for different purposes. When utilized in accounting contexts, the notion of translation allows us to explore how networks succeed or fail; i.e., what contributes to their stability (Robson & Bottausci, 2017). Arguably, the model of translation put forward by Callon (1986), Callon and Latour (1981) and Callon et al. (2009) represents a useful mechanism to analyze these aspects in the context of a controversial convergence project between the IASB and the FASB. Translation is both a theory and an approach to study how programs of action are made possible. It is an approach that similar to the performativity thesis and most of Callon and Latour's writings assumes a 'free' association between humans and non-humans. This implies that non-human actors, such as economic theories, have (equal) importance in being analyzed for what they do and implicate, an approach also adopted by Carruthers (2017) in referring to Hutchins (1995). In this way, Callon and other ANT theorists have drawn on Hutchins' idea of how devices mediate human interactions by distributing cognitions, as human cognition is stimulated by external inputs called cognitive devices (Çalışkan & Callon, 2010; Callon, 1998b; Callon et al., 2009; Callon & Muniesa, 2005).

In Callon's early work (Callon, 1986) the translation model implies four moments of interest referred to as problematization, interessement, enrolment and mobilization. Problematization

involves the researcher identifying those instigators who seek to justify change by pointing out the problems that relate to an existing state of affairs. Having achieved support from the problematization, a project sets out to investigate alternative solutions to be experimented with and evaluated. This comprises of a reduction of the real world of lending practice to a series of *in vitro* experiments (Callon, 2009) within a standard-setting project. Firstly, the intricacies of the real-world are transported into the laboratory where they are transformed to produce a more manageable set of circumstances (Callon et al., 2009). This comprises of a "definition of the problem" as well as the arrangement of the necessary evidence (Mahama & Chua, 2016, p. 31) which may include the setting of objectives and the formation of expert groups.

Nonetheless, in order to stabilize the project the research collective is required to "produce interest and get the adhesion of influential actors" (Callon et al., 2009, p. 61). This process of "interessement" aims to instill a sense of indispensability in regards to the solution devised by the research collective (Callon et al., 2009, p. 62). According to Callon (1986), "The range of possible strategies and mechanisms that are adopted to bring about these interruptions is unlimited" (p. 209). This extends beyond rhetorical strategies; it necessitates that a palpable connection is established between what was produced in the laboratory and the diverse outside world (Callon et al., 2009). At the stage of enrolment, stakeholders of the standard-setting process subject the possible implications of a proposed standard to a trial in which the extent to which actors tolerate the proposed configuration becomes discernable. In consideration of whether enrolment turns out satisfactorily due to the achievement of necessary compromises, a decision is made regarding whether to mobilize the network in order to start using the new standard, or to revert the solution to the laboratory for further experiments.

We thus view accounting standard-setting as a collective process in which financial economic theories are translated due to associations forged within distinct networks. Accordingly, we

elaborate on the following question: How does financial economic theory co-perform with other forces in shaping accounting standard-setting outcomes?

4. Methods

To accomplish this task, a combination of document analysis and interview data is relied upon. The documents used in the study predominantly encompass the relevant materials released by the IASB in relation to IFRS 9 Phase II. These documents were downloaded from the IASB website and read. Table 2 (appendix) details the documents utilized in the analysis. In addition to our analysis of the relevant documents produced by the IASB and the FASB, we analyze the 683 comment letters submitted by constituents over four rounds of public consultation.[1] This facilitated our ability to trace the key arguments employed by actors to shape the standard-setting project. Subsequently, as part of a supplementary analysis of the comment letters, each letter was re-read and categorized according to the nature of the responding entity, its geographic location, and the degree of support expressed. In this way, we draw on a portion of the approach taken by McKee, Williams, and Frazier (1991) by classifying each comment letter as 'Support', 'Oppose', or 'Undecidable' with reference to the proposal under scrutiny which assists us in summarizing the relative stability of the various proposals. Tables 3–6 (appendix) illustrate the outcome of the supplemental comment letter analysis.

Additionally, interviews with key actors in the European context were conducted. According to Patton (2015), although the triangulation of methods often produces dissimilar results, this may promote the strengthening of insights into the empirical domain. As Cooper and Robson (2006) note, researchers examining standard-setting processes should guard against an over-reliance on formal documents due to the possibility that decisions may be enacted on an

[1] Comment letters cited in the analysis are prefaced with the abbreviation 'CL'.

informal basis. Consequently, interviews are carried out not only to reinforce the scrutiny of publicly available information but also to further illuminate the activities surrounding the standard-setting project.

A total of 22 interviews were conducted from March of 2014 to June of 2016 in five different countries; namely, Denmark, Sweden, Germany, Belgium, and the U.K. The interviewees comprise of a wide range of individuals with either a direct involvement in the financial instruments project at the IASB, experience in the development of comment letters within this process or a specialization in financial instruments in accordance with IFRS. The interviews were semi-structured and centered on the relevant personal experiences and views of the interviewees. The interviews also served as a mechanism to corroborate the researchers' understanding of the pertinent IASB documents and the comment letters submitted by the interviewee's organization.[2] Other than the interviewees who are currently or formerly associated with the IASB and the European Financial Reporting Advisory Group (EFRAG), generic descriptions representing the position and industry sector of the interviewees are outlined in Table 1. The interviews were recorded and transcribed, with the exception of two interviews in which notes were taken. All interviews were carried out in person, except for interviews 13 and 15 which were conducted by telephone.

An underlying premise utilized in carrying out this research is "keep the analytic question mark firmly in view" (Woolgar & Lezaun, 2015, p. 465). This approach involves a commitment to "follow the actors themselves" (Latour, 2005, p. 12) which requires the researcher to engage with accounting standard-setters and constituents on pertinent and complex issues. Nevertheless, this research comprises of two interrelated limitations. First, the research

[2] The interview data gathered from individuals affiliated with the IASB and EFRAG represent their personal observations and should not be regarded as the official positions of these organizations.

commenced in early 2014 – several years after the inauguration of the IASB's financial asset impairment project in 2009. Second, although four relevant members of the IASB staff were interviewed, these individuals were not employed by the IASB for the entire duration of the standard-setting project.

Table 1: Interview list

Interviewee	Employment sector / Position	Date	Duration (min.)
1	EFRAG Board Member	28 March 2014	85
2	EFRAG Board Member	23 November 2014	94
3	Accountant, Information Technology sector	31 October 2014	55
4	Accountant, Banking industry representative group	19 November 2014	41
5a	Accountant, Banking industry representative group	19 November 2014	42
5b	Accountant, Banking industry representative group	19 November 2014	42
6	EFRAG TEG Member (former)	19 November 2014	76
7	Partner, Big Four accounting firm	24 November 2014	34
8	Partner, Big Four accounting firm	19 December 2014	42
9	IASB Staff	6 March 2015	23
10	IASB Staff	6 March 2015	41
11	IASB Staff	6 March 2015	54
12	Accountant, Banking industry representative group	9 July 2015	78
13	EFRAG TEG Member	14 July 2015	47
14	Accountant, Accounting professional association	23 July 2015	50
15	Accountant, Banking industry representative group	6 August 2015	38
16	IASB Staff (former)	28 September 2015	75
17	Accountant, Financial services industry	7 March 2016	65
18	Partner, Big Four accounting firm	24 May 2016	49
19	Accountant, Insurance industry representative group	24 May 2016	54
20	Accountant, Financial services industry	25 May 2016	65
21	Accountant, Financial services industry	1 June 2016	38
22a	Accountant, Government agency	13 June 2016	43
22b	Accountant, Government agency	13 June 2016	43

5. The efficient market hypothesis and the translation of the IASB's expected credit loss model

This section includes our empirical analysis. It commences with the problematization of the need for change during the global financial crisis and then proceeds to analyze three translations comprising of the interrelated attempts of the IASB to construct an expected credit loss model as the solution to the problem pointed out. In conjunction with a number of other forces, we

illustrate how the EMH played an important role in the translations by forming the basis for the IASB's overall objective for the project to reflect the presumed linkage between loan pricing and initial expected credit losses.

5.1 Problematization: The global financial crisis and the request for revised standards on loan loss provisioning

The approach to loan loss provisioning included within IAS 39 *Financial Instruments* was initially released in 1998 by the International Accounting Standards Committee (IASC), the predecessor organization to the IASB (IFRS Foundation, 2016). In addition to the time pressure it faced in submitting its standards to IOSCO in 1998 (Camfferman and Zeff, 2007; Zeff, 2012) and the European Union in time for the 2005 adoption of IFRS (Whittington, 2005), the IASB's decision to publish what is now referred to as an incurred loss approach to impairment was largely based on a desire not to significantly deviate from U.S. GAAP (Camfferman, 2015; Walton, 2004). At the time of its development, concerns raised in the U.S. over the potential for earnings management associated with an expected credit loss approach lent further credence to the incurred loss approach (Camfferman, 2015). According to former IASB Chairman Sir David Tweedie, the incurred loss model was predicated on a desire to reflect the economics of lending whilst curbing the potential for manipulation.

> The whole idea of the model we have at the moment, the incurred loss model, is to stop people whacking in a big bath provision in good times and feeding it back in the bad times, so you just lose the reality of the actual economics in the two years – the one where the big provision goes through and the second one where it comes back in. We are simply trying to show what actually happens and then explain it (Tweedie, 2012).

The incurred loss approach in IAS 39 stipulates that impairments be grounded on the observance of a loss event. IAS 39 considers impairment losses to be 'incurred' "if, and only if, there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset" (IASB, 2008a, p. 2045). Particularly, IAS 39 prohibits

the immediate recognition of credit losses since this would be inconsistent with the requirement to initially measure financial assets at fair value. This consideration of fair value at the point of loan origination presumes that loan pricing incorporates initial expectations of credit losses which is consistent with the EMH.[3] Moreover, under IAS 39, impairment losses cannot be based on anticipated future events. Taken together, the incurred loss model generally defers the recognition of loan losses in comparison with expected loss approaches (IASB, 2013a).

At the advent of the global financial crisis, numerous actors problematized the criteria for the recognition of impairment losses on financial assets for exacerbating the calamity. This was known as the problem of "too little too late" associated with incurred loss models (European Union, 2015, p. 9). Such concerns were pronounced by prominent groups such as the G20, the Financial Stability Forum (currently the Financial Stability Board), and the Basel Committee on Banking Supervision (BCBS) who called for more 'forward-looking' approaches to impairment. This constituted part of a wider objective to reform the financial architecture of the global economy to promote greater financial stability in an era in which economists were criticized for their inability to foresee the crisis (Desai, 2015). In an accounting context, the controversy was initially grounded on the notion of 'procyclicality' which suggests that "Certain aspects of accounting frameworks and capital regulation tend to enhance the natural tendency of the financial system to amplify business cycles, affecting both the degree of credit expansion in benign conditions and the degree of credit contraction in the downturn" (G20 Working Group 1, 2009, p. v).

Accordingly, the incurred loss approach was labelled as untenable amid calls for reform. In particular, reports criticized the model by proclaiming that an "Earlier recognition of loan

[3] The presumption that fair values incorporate initial expected credit losses is implied by the following description in the *Implementation Guidance* on IAS 39: "For a loan asset, the fair value is the amount of cash lent adjusted for any fees and costs (unless a portion of the amount lent is compensation for other stated or implied rights or privileges)" (IASB, 2010c, p. 2269).

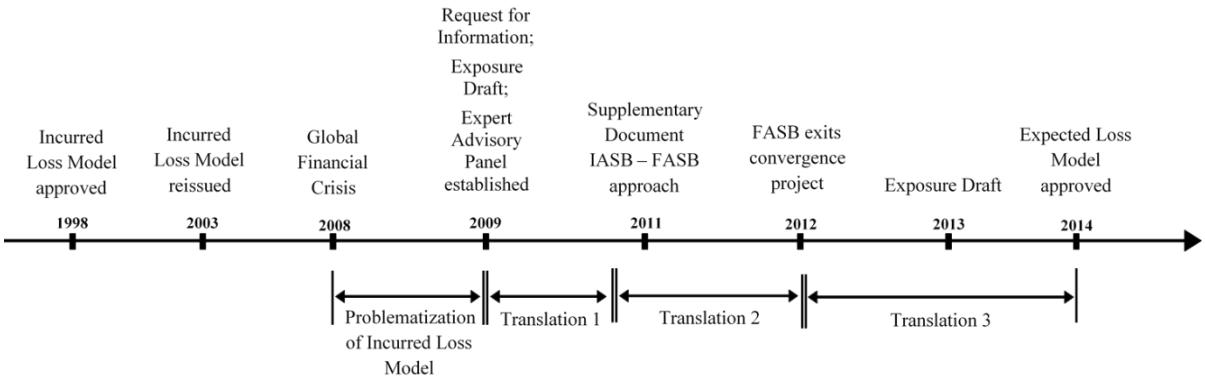
losses could have dampened cyclical moves in the current crisis" (FSF, 2009a, p. 4). Along these lines, it was declared that a lesson learned from the crisis is that loan losses in financial reporting must be recognized earlier (BCBS, 2009). The matter was specifically addressed at the G20 London Summit on the 2nd of April 2009. This resulted in an official declaration of support for the suggestions put forward by the Financial Stability Forum while calling on accounting standard-setters to achieve convergence and "strengthen accounting recognition of loan-loss provisions by incorporating a broader range of credit information" (G20, 2009, p. 5). Moreover, an advisory group established to council the IASB and the FASB on their response to the crisis urged the development of a more 'forward-looking' approach to financial asset impairment (Financial Crisis Advisory Group, 2009). Nevertheless, the dynamics between the prudential objective of reducing procyclicality and the standard-setters' objective to faithfully represent economic reality sets the stage for a standard-setting process fraught with tension.

> [T]he FSB, BCBS, and CGFS, working with accounting standard setters, should take forward, with a deadline of end 2009, implementation of the recommendations published today to mitigate procyclicality, including a requirement for banks to build buffers of resources in good times that they can draw down when conditions deteriorate (G20, 2009, p. 2).

This statement from a G20 Leaders' Statement points to the possibility that an objective of dampening procyclicality may conflict with the objectives of standard-setters. This occurs to the extent that the construction of 'buffers' is deemed not to faithfully represent economic reality based on a presumption of the efficiency of loan pricing in taking initial expected losses into account. In addition to the potential incompatibility of objectives, the proposed solutions to the deficiencies of the extant model introduce an array of operational difficulties (e.g., Deloitte, 2014; Ernst & Young, 2012; KPMG, 2015; PWC, 2014). This included the extension of requirements to forecast future economic conditions (IFRS Foundation, 2015) which is consistent with the 'forward-looking' nature of the model requested by the G20.

The following sections retrace the process in which the IASB constructed the expected credit loss model over a six-year period comprising of three translations. The first translation commences in 2009 with a Request for Information (IASB, 2009a) and an Exposure Draft (IASB, 2009c). In translation two, the IASB embarked on a convergence project with the FASB leading to the publication of a Supplementary Document in 2011 (IASB, 2011). Nevertheless, the FASB exited the convergence project in 2012 (FASB, 2012a). This led to a third translation process surrounding the IASB's 2013 Exposure Draft (IASB, 2013a) which culminated in a state of provisional stability. *Figure 1* provides a timeline of significant events.

Figure 1: Timeline of events

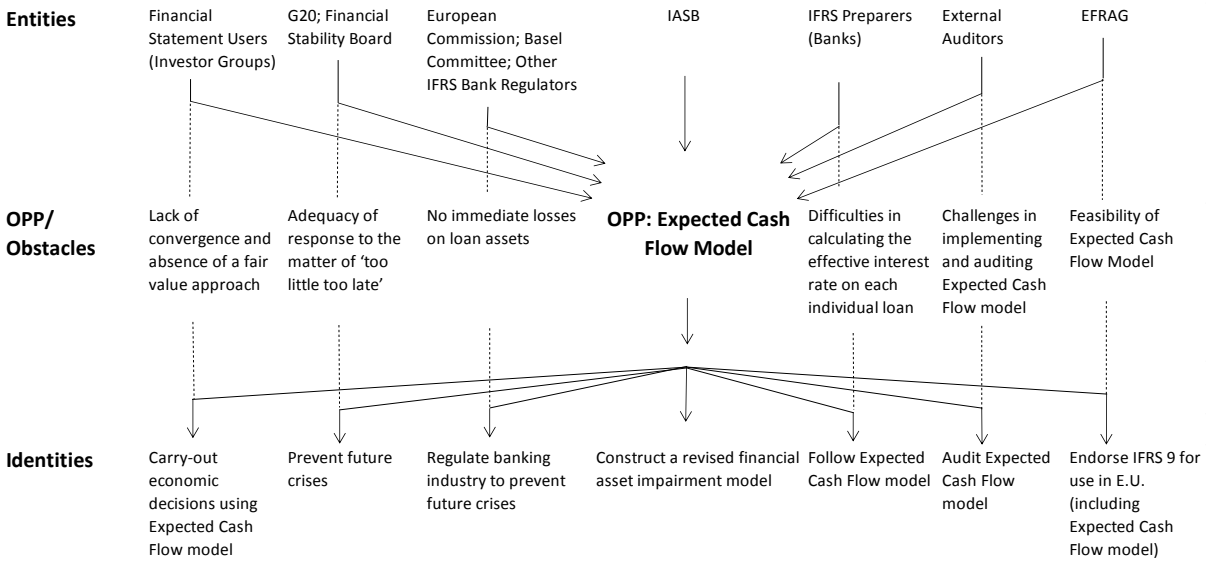


5.2 Translation 1: The intolerability of the EMH-inspired ideal-type model

In the backdrop of the problematization of the incurred loss impairment model, the IASB board met in London from the 17th to the 21st of November 2008 where it formally added a Financial Instruments project on recognition and measurement to its agenda (IASB, 2008b). From the outset, the IASB staff stipulated its presumption that the initial pricing of loan assets "includes a component that compensates the lender for expected losses" (IASB Staff Paper, 2009b, p. 9). This is consistent with the EMH-inspired notion of an efficient loan pricing mechanism as it "assumes a market in which the lenders can pass on expected losses as a component of the pricing for their lending activities" (IASB Staff Paper, 2009b, p. 9).

Subsequently, the IASB issued a Request for Information on 25 June 2009 on the feasibility of an expected loss model (IASB, 2009a). The model put forth in the document departs from IAS 39 by eliminating the need for an observable loss event prior to the recognition of provisions while basing interest revenue on the cash flows expected to be received (IASB, 2009a, p. 3). Effectively, this approach expands the calculation of expected cash flows to include each individual loan asset, discounted at its effective interest rate at origination. However, similar to its treatment under the incurred loss approach, the board decided to preclude the immediate recognition of credit losses because of its presumption in the efficiency of loan pricing whereby "expected losses are implicit in the initial measurement of the asset" (IASB, 2009a, p. 2). Thus, the proposed formulation aims to produce a more forward-looking model as called for by the G20 by enhancing the information needs of capital providers whilst maintaining the fair value presumption of the embeddedness of initial expected credit losses in loan pricing. At this point, the IASB sought feedback from its constituents which included financial statement users, preparers and auditors, along with groups such as the G20, the Financial Stability Board, the EU, the BCBS and EFRAG (see *Figure 2*).

Figure 2: The Translation 1-Network



In response to the request, a total of 88 comment letters were received by the IASB (see Table 3, appendix) in which "a large majority of respondents" noted substantial challenges with respect to operationalizing the model (IASB Staff Paper, 2009a, p. 3). Constituents anticipated major difficulties associated with a substantial increase in forecasting length (IASB Staff Paper, 2009a, p. 7) along with expectations of "very significant" implementation costs (IASB Staff Paper, 2009a, p. 9), casting doubt on the feasibility of the expected cash flow model.

5.2.1 Justifying the ideal-type model and defining the network

The IASB board met in September 2009 to discuss the feedback to its Request for Information and commence the development of an Exposure Draft on the impairment of financial instruments (IASB, 2009b). In this meeting, the IASB staff recommended the formation of an Expert Advisory Panel (EAP) to aid in the operational aspects of the model along with reaffirming its prohibition on the recognition of initial expected losses (IASB Staff Paper, 2009c) which was ratified by the board (IASB, 2009b). Reiterating its position on the efficiency in which loan pricing incorporates initial expected credit losses, a staff paper states that

recognizing such losses "would usually result in a non-faithful representation" since "there is no economic loss if the expected losses are reflected in (and covered by) the margin (pricing) on the instrument" (IASB Staff Paper, 2009c, p. 8). Shortly afterwards, in November of 2009, the IASB issued the Exposure Draft *Amortised Cost and Impairment* (IASB, 2009c).

In defining the pertinent actors to be enrolled in the network and program solution, the IASB outlines the concerns of various groups and what they desire. At this point, it is acknowledged by the standard-setter that the commencement of the project has been precipitated by feedback obtained from the G20 and the Financial Stability Board while users are defined as necessarily interested in evaluating an entity's credit risk (IASB, 2009c). Although the IASB has broadly defined the identities of pertinent actors, it is during the moment of interessement that it attempts to stabilize the role of these entities within the proposed formulation. While the IASB aims to enroll the G20 and the Financial Stability Board through the development of a more forward-looking model, it attempts to demarcate the goals of reducing procyclicality and reflecting the economic reality of lending. Accordingly, the board states that an essential characteristic of the information provided by the model is that "it must be neutral and portray the economic characteristics of the recognised financial assets" (IASB, 2009d, p. 9). Along these lines, the IASB draws on the notion of market pricing from financial economics which presumes that "expected losses are implicit in the initial measurement of the asset" (IASB, 2009a, 2). According to the IASB, this approach "faithfully represents the underlying economics included in the pricing of financial instruments" (IASB, 2011, p. 41). This sentiment was also reiterated by a number of interviewees. A former member of the IASB staff emphasizes that "[the 2009 version of the] model was theoretically and business wise, in many ways, the right model" (Interviewee 16). The following statement from an interviewee – an accountant based in the financial services industry – suggests that the proposed model rightly prohibits the immediate recognition of losses:

> You could say [the initial expected loss] is included in the pricing or you could say it is the general accounting concept that you recognize things at their initial fair value. If I'm perfectly happy to issue this loan at its current fair value, why should I immediately say it's worth less than its initial value? (Interviewee 21)

Furthermore, a Partner in a Big 4 Audit firm states that the presumption that the pricing of financial assets includes initial expectations of losses is grounded in actual lending practices.

> If you advance somebody a loan on arms-length terms and with a specified interest rate, that level of interest rate has been negotiated in a way that the bank making the loan would expect to recover, on average, interest income that would more than compensate it for the level of credit losses it would expect to incur. It ties back to notions of market pricing. (Interviewee 18)

Nevertheless, the Exposure Draft maintains many of the main characteristics of the expected credit loss model outlined earlier in the year which an overwhelming majority of preparers and audit firms regarded as unworkable. In doing so, the IASB casts doubt on the concerns voiced by preparers regarding the challenges involved in estimating amounts (IASB, 2009d).

5.2.2 Further testing of the ideal-type model for enrolment

During the first half of 2010, public comments to the exposure draft were submitted by constituents in the form of 194 comment letters (see Table 4, appendix). Several respondents favored an expected loss impairment methodology as it "better reflects the economics of a lending transaction than an incurred loss impairment approach" (IASB Staff Paper, 2010c, p. 3). However, financial statement users did not uniformly concur with the proposed approach's depiction of the economics of lending. While the Corporate Reporting Users' Forum (CL CFUF, 2010) concurs that "Expected losses are priced, implicitly or explicitly, into loans" (p. 2), the CFA Institute (CL 2010) disputes the accuracy of the model in periods subsequent to inception due to its preference for a fair value approach. Moreover, concerns regarding the effect of the model on procyclicality persisted (IASB Staff Paper, 2010c). This reflects a belief that "the [Expected Loss] approach proposed in the [Exposure Draft] might result in an

allowance account whose balance is not adequate at all times to cover the expected credit losses in a portfolio of financial assets measured at amortised cost" (CL BCBS, 2010, p. 1). Accordingly, a letter submitted by the European Commission (CL 2010) emphasizes that "considerations of financial stability should be further strengthened, mitigating as much as possible the pro-cyclical nature of the current rules on loan loss provisioning" (p. 1). Due to the prohibition of immediate losses, it is alleged that the proposal fails to adequately address the problem of "too little too late" (CL HSBC, 2010, p. 2).

Furthermore, the feasibility of the proposal was called into question by a majority of respondents. For instance, the desire for convergence (CL Deloitte, 2010; CL EY, 2010; CL Grant Thornton, 2010; CL KPMG, 2010) as well as the difficulties involved in verification (CL Deloitte, 2010; CL KPMG, 2010) and implementation (CL Deloitte, 2010; CL EY, 2010; CL Grant Thornton, 2010; CL KPMG, 2010; CL Mazars, 2010; CL PWC, 2010) contributed to an absence of enrolment within the audit community. The inoperability of the proposal was also stressed by several interviewees. For example, an accountant representing a group of European banks insists that while the proposed model has theoretical merits, its application in practice would not have been feasible: "The expected cash flow model from a theoretical view is a very good model, but because of the operational difficulties there was no real [possibility that it could be] implemented by banks (Interviewee 4)." This was reiterated by a member of EFRAG: "The problem with their initial proposal was that you should make an estimate for each, single loan when the expected loss was expected to occur, and that is actually completely impossible in fact" (Interviewee 13).

It may be observed in Tables 3 and 4 (appendix) that opposition to the ideal-type approach was remarkably widespread. Although the approach was far more 'forward-looking' in comparison with the incurred loss model, the IASB's efforts to stabilize the standard-setting network were

largely guided by a presumption that loan pricing mechanisms efficiency incorporate initial expected losses. While this idealized approach attempts to 'faithfully represent' the underlying economics of lending, it principally involved interessement mechanisms at the hypothetical level of the general-purpose financial statement user. Ultimately, the proposal was broadly regarded as intolerable because of the reality it was expected to produce for actors. First, a lack of enrolment has been observed on the part of financial statement users such as the CFA Institute who prefer a converged approach based on fair value. Second, the regulatory community stood in opposition to the proposal which it deemed as insufficiently forward-looking to help prevent future crises. Third, as reiterated by the EAP and a number of interviewees, most banks rejected the proposal over serious concerns regarding its practical implementation which was echoed by several significant audit firms. Crucially, the latter point signifies that there are important limits to the application of models inspired by financial economics in accounting standards. Even when such models are widely considered as 'ideal' solutions, they may be deemed as intolerable in practice. As observed in this translation, preparers, auditors and expert groups possess a capacity to halt the advancement of 'ideal-type' approaches by convincing standard-setters of the reality of their unworkability.

At this point, the task ahead involved the seemingly unattainable translation of the IASB's idealized objective in consideration of various operational and regulatory matters of concern. Nevertheless, the complexity of the initiative was set to further intensify with the inclusion of the FASB and its constituents.

5.3 Translation 2: The intolerable IASB–FASB joint model

In consideration of the IASB's commitment to the convergence of financial asset impairment models (IASB, 2009c), its initial reconstruction efforts in 2009 represent an exploratory process to form the basis for subsequent discussions with the FASB. Prior to the joint

deliberations, however, the IASB met in July and August 2010 to contemplate how to react to the feedback received thus far (IASB Staff Paper, 2010a). At its meeting in September of 2010, an IASB Staff Paper (2010b) reiterates the staff's position on the efficiency of loan pricing by stating that "the pricing of a financial asset inherently includes some estimate for initial [expected loss]" (p. 5). Accordingly, in this board meeting the IASB retained its position on the allocation of initial expected credit losses over the life of the asset as opposed to recognizing the entire loss in the initial period (IASB, 2010a). In contrast, the initial direction taken by the FASB constitutes a drastically dissimilar reduction of the world of lending practice. The objective of the initial approach developed by the FASB is "to ensure that the allowance balance was sufficient to cover all estimated credit losses for the remaining life of an instrument" (IASB, 2011, p. 6). This resulted in the FASB model recognizing losses at inception that are based on initial expectations of cash shortfalls (IASB, 2011). This diverges from the IASB's objective which regards the recognition of losses at inception to be counter-intuitive. In comparison, the FASB's objective contains an added degree of concern for the exacerbation of negative economic consequences at the onset of financial crises.

> The FASB proposed this approach because the FASB believed it resolved the concern with respect to the current guidance on impairment that reserves tend to be at their lowest level when they are most needed at the beginning of a downward-trending economic cycle (the 'too little, too late' concern) (IASB, 2011, p. 6).

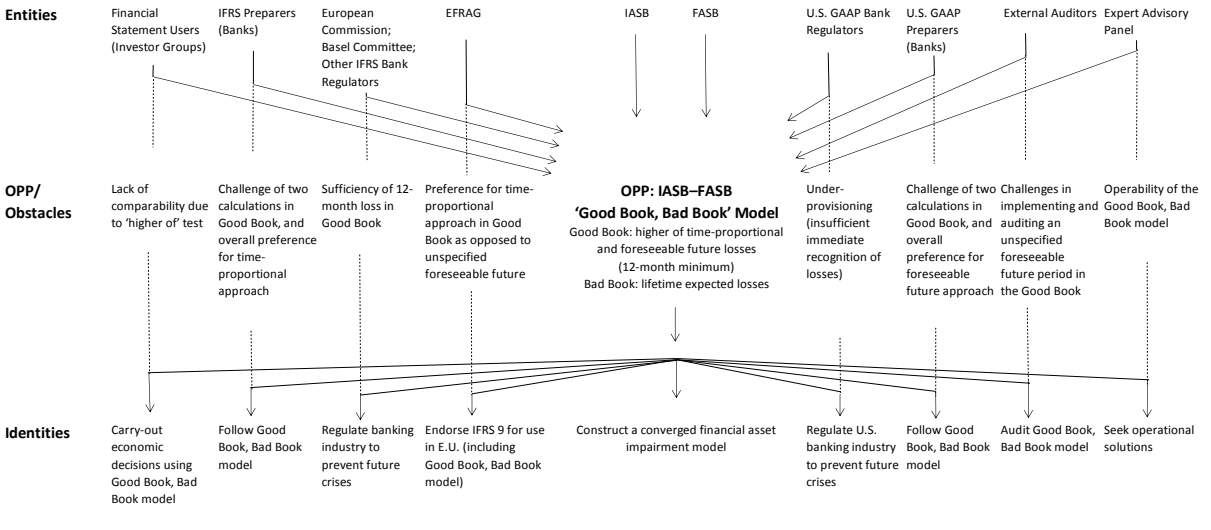
5.3.1 The work of the IASB–FASB joint project group

Whilst the joint project aims to satisfy the request of the G20 for a converged model, from the perspective of the IASB the joint effort mobilizes a range of additional actors and their associated matters of concern within the standard-setting network (see Figure 3). This led the joint IASB–FASB proposal on impairment in the 2011 Supplementary Document (IASB, 2011). In designing the joint approach, the work of the EAP proved to be influential.

> We learnt that in practice, the [Expected Cash Flow] approach would give rise to operational difficulties because financial institutions and others typically store comprehensive contractual and accounting data (in particular effective interest rate data) and [Expected Loss] data information in separate systems ('accounting' and 'risk' systems) (EAP, 2010, p. 6).

Along these lines, the EAP introduced a major operational simplification in recommending the decoupling of expected losses from the calculation of the effective interest rate. As a result, the joint approach proposes that credit losses on financial assets in the 'good books' be recorded at the higher of the time-proportional losses and the losses expected to occur in the foreseeable future – known as the 'floor' requirement – while full lifetime expected credit losses are to be recognized on financial assets in the 'bad books' (IASB, 2011). Whilst the time-proportional element attends to the IASB's objective of reflecting the efficiency of loan pricing at inception, the floor addresses the FASB's concern with the adequacy of the allowance balance. In doing so, the boards "reflected the primary objectives of both boards" (IASB, 2011, p. 49).

Figure 3: The Translation 2-Network



5.3.2 The testing of convergence efforts

In response to the Supplementary Document, a total of 212 comment letters were received from constituents (see Table 5, appendix). While a majority of the IASB's respondents to the

Supplementary Document appreciate the operational simplifications relative to the previous version (IASB Staff Paper, 2011a), opposition to the proposal remains prevalent. Firstly, bank regulators underscoring the primacy of maintaining a sufficient level of provisions expressed different positions on whether the model goes far enough in achieving this objective. For example, the response of the BCBS (CL 2011) "welcomes the approach in the *Impairment* supplement as it could promote more forward-looking provisioning" (p. 4) while the U.S. based Office of the Comptroller of the Currency (CL 2011) states that "the Agencies are concerned about the potential deferral of credit losses if a reasonable floor is not mandated" (p. 2-3).

Furthermore, the proposed model was largely unable to gather support from users and other actors concerned with the model's depiction of economic reality. For instance, the CFA Institute (CL 2011) proclaims that "we do not believe that this model reflects the underlying economics" because "we do not find any empirical evidence which demonstrates that the proposed model would reflect the pattern of how credit losses emerge" (p. 2). The matter of how expected credit losses would be recognized in the 'good books' was a particularly contentious issue (IASB Staff Paper, 2011a). Specifically, the inclusion of the 'floor' is regarded as inappropriate by proponents of the IASB's objective of reflecting the underlying economics of lending. For example, Barclays (CL 2011) does not concur with the addition of a foreseeable future floor "which relates primarily to a prudential regulatory objective". Other respondents such as EFRAG (CL 2011) stress the necessity to clarify the meaning of 'foreseeable future' whilst recommending that this be established as a twelve-month horizon. Indeed, the principles-based notion of 'foreseeable future' was generally regarded as inappropriately contributing to diversity in practice in the majority of comment letters submitted by audit firms (CL Deloitte, 2011; CL EY, 2011; CL KPMG, 2011; CL MAZARS, 2011; CL PWC, 2011).

Overall, the consultation revealed "*strong geographic leanings*" (IASB Staff Paper, 2011a, p. 11) as a majority of non-U.S. preparers expressed a penchant for the time-proportional approach whilst most U.S. preparers favored the foreseeable future method (IASB Staff Paper, 2011b). Proponents of the time-proportional approach supported the IASB's objective to depict the connection between loan pricing and initial expected credit losses as "*They believe that establishing an adequate allowance balance is a regulatory concern and that a 'day-one loss' is inconsistent with the economics of lending at market rates*" (IASB Staff Paper, 2011a, p. 11). This illustrates a link between the adherence to the notion of efficient loan pricing mechanisms and the capacity of the proposed approach to depict economic reality. Conversely, respondents backing the foreseeable future approach tended to concur with the FASB's objective of safeguarding the level of provisions (IASB Staff Paper, 2011a).

Consequently, it has been observed that two boards were unable to enroll significant actors from the regulatory, audit, and user communities to the proposed formulation, and the FASB disclosed that its constituents maintained substantial concerns regarding the "understandability, operability, and auditability" of the joint approach (FASB, 2012d, p. 5). Subsequently, the FASB board voted unanimously to pursue a different methodology (FASB, 2012a) that would establish a provision for all expected credit losses on financial assets (FASB, 2012b). In this way, the FASB casts doubt on its ability to link loan pricing and initial expected credit losses.

> [W]hile the credit spread charged on the lender's overall portfolio of individual loans may be expected to compensate the entity for credit losses for a large portfolio of assets over time, the credit spread on any individual loan is not established in a way to necessarily compensate the lender for credit losses on that individual asset. As a result, the Board believes that it is impractical to link accurately the recognition of credit losses anticipated at origination or acquisition with the compensation paid to the lender (interest) for undertaking that risk. (FASB, 2012c, p. 138)

Data gathered from interviews highlight the reasons for the failure of the joint initiative. As stated by one interviewee, who was an IASB Board Member at the time of the joint project,

the boards faced considerable challenges in forming a converged approach that would be tolerated by their constituencies.

> In one of my more emotional than logical appeals to the board, I said "Have we not spent two years together with the Americans on this? Isn't it time for us to stop this arguing and decide?" But that was impossible. There were so many grand opinions and some of the Americans said "No, it should be upfront reservations." Others said "We need to stay with this theoretical model." That was a very, very tiresome process. I even said "If we can't do this we should let the G20's finance minister take over this responsibility." It doesn't make you more popular but sometimes you have to say what you think. (Interviewee 16)

The existence of these seemingly irreconcilable views points to the difficulty involved in satisfying the G20's request for a converged approach. However, according to a number of interviewees, the failure is also partly grounded in discrepancies surrounding how capital is raised, the duration of loans and prudential regulation in the U.S. and Europe.

> In the U.S. capital is mostly provided by markets, while in Europe it is mostly provided by banks. As a consequence of that, the average banking book maturity in Europe is 7-10 years while in the U.S. it's 3-4 years. With that maturity [in the U.S.], it may be better to take the lifetime expected losses up front instead of taking 12-months and then moving to bucket two. (Interviewee 14)

> In Europe, the securitization market is not that well developed as in the U.S. and most banks actually hold their portfolios until maturity. (Interviewee 13)

Consequently, according to another interviewee – an accountant in a bank representative group in Europe – the disparity in lending environments influences the measurability of lifetime expected credit losses and profitability.

> You have to be aware that in Europe we grant credit for a long time, for example, twenty or thirty years. In the U.S. you just grant credit for about five years, for a shorter period where it is easier of course to calculate the lifetime expected loss because there are just five years. But it's very difficult to calculate a lifetime expected loss for the next thirty years. And then the second problem, it's not just the calculation, but also then when you have to calculate you have the P&L impact, and the P&L impact for thirty years is much bigger than just for five years and that was the reason why we refused the FASB model. (Interviewee 4)

In addition, the relationship between the financial reporting requirements for the impairment of financial assets and the level of bank reserves has been highlighted by several interviewees. This points to an incongruence in the objectives of prudential regulators on the matter.

> We have the feeling that some have more 'reserves' than others … American banks would have to release reserves if they change over to the IASB model. But then the IASB is in the position of many companies not having those reserves and having longer-running financial instruments. (Interviewee 6).

Analogous to a "politically unacceptable" decrease in the level of reserves in the U.S. (Interviewee 15), the "bad consequences for Europe" (Interviewee 15) of a large increase in reserve levels is also pointed out by an interviewee representing a European banking group.

> The reserves in the U.S. are much higher compared to European banks, so that's the starting point of this. It's a very important starting point. The European banks in some countries, major banks, are not in a position to move to the FASB model because if they were obliged to do that, it would not be possible for them to take it. They might have to go into liquidation or into bankruptcy. Their reserves would have to increase so much that their equity would be nil or even negative (Interviewee 12).

Thus, as encapsulated by a member of the IASB staff, the prudential regulatory environments in the U.S. and Europe played a significant role in the failure of the convergence project. From the standpoint of this interviewee, this development came at the expense of accurately depicting the underlying economics of lending in the U.S.

> I think the reason you have a difference is much more due to the regulatory environment. Basically the US regulators are pushing harder to get capital into the banks, in this respect at least. They have seen this as one mechanism for doing so. There's no logic as to why you should recognize full lifetime expected losses on Day 1. There's no economic justification for it. But what the [U.S.] regulators didn't want would be a situation where impairment or loss allowances would actually be going down when the new standard came out, potentially. (Interviewee 10)

In this translation, the theory of efficient loan pricing at inception is utilized as a tool to discredit the conceptual merit of the FASB approach. Outreach activities carried out by the IASB revealed that, in general, "IFRS constituents favor a model that focuses on presenting

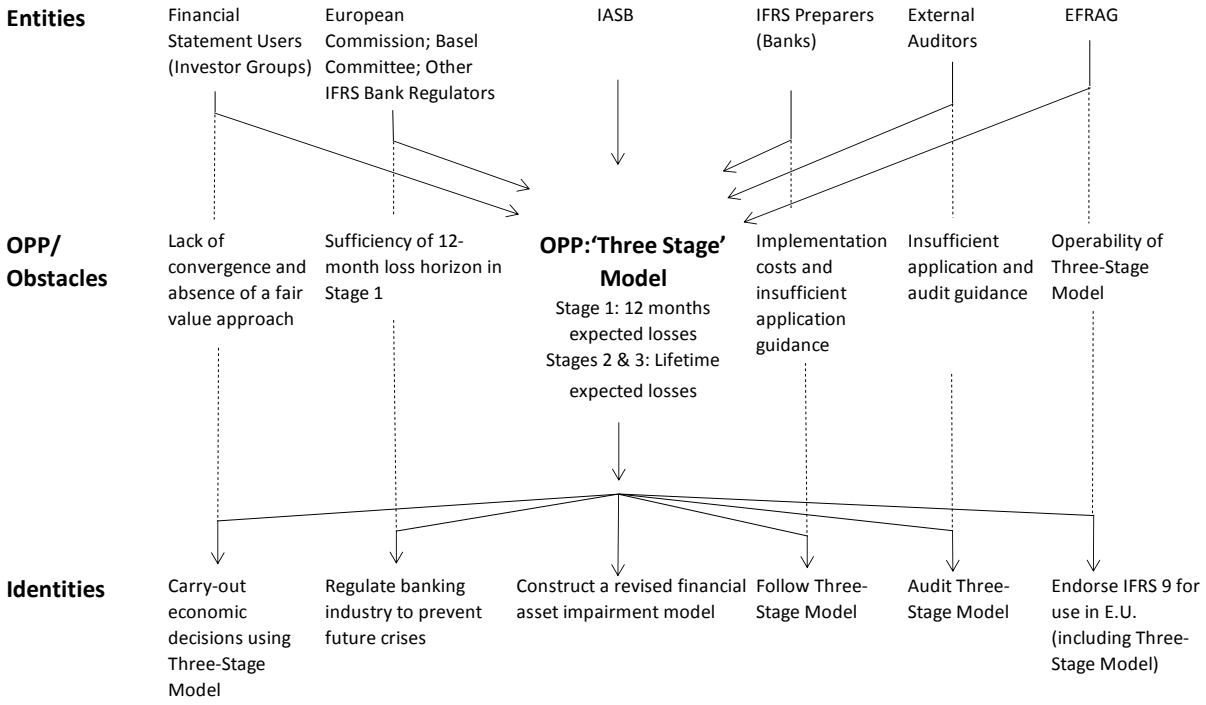
information that shows that the pricing of financial assets is linked to expected loss estimates" (IASB Staff Paper, 2011b, p. 3). Accordingly, non U.S.-based actors largely regarded the 'Good Book, Bad Book' model as an undue departure from the economics of lending due to the recognition of excessive up-front credit losses. In addition to the 'foreseeable future floor' being regarded as an inappropriate 'buffer' to alleviate the strain of future financial crises, the operationalization of the model was deemed as overly complex in terms of its requirement for two separate calculations in the 'good book' coupled with a lack of alignment with Basel provisioning rules. This demonstrates not only a dissimilar utilization of financial economic theory on the part of the IASB and the FASB, but also a different configuration of concerns which in totality produced an intolerable compromise on both ends. The intolerability of the joint approach may also be discerned in Table 5 (appendix) which depicts the geographically broad opposition from a wide-range of respondents. As such, the IASB proceeded to further experiment with its own model based on outreach with its constituents (IASB, 2012a).

5.4 Translation 3: Further IASB experimentation and provisional tolerability

> I think the model we developed is, in terms of principles, the best one to serve both the investor community and the preparer community … As for the regulators, in some countries they might find this perfect because of the macroeconomics, in others they might find that they need to complement or make adjustments, but this is life. (Interviewee 11)

The quote above from an IASB staff member deeply involved in the project depicts the provisionally stable outcome of the project in which the IASB endeavored to link its EMH-inspired objective with other matters of concern. The outcome of these experiments resulted in the IASB's 2013 version of the model which maintains the board's conviction that "the initial expectations of credit losses are priced into financial assets both when they are originated and when they are purchased" (IASB, 2013a, p. 7). In addition to this standpoint, the 2013 model was designed in such a way as to render it tolerable in the eyes of prominent constituents (see Figure 4).

Figure 4: The Translation 3-Network



5.4.1 Compromises to secure enrolment

This version of the model reduces the deterioration of loan assets into three successive stages. Upon the purchase of a financial asset, it enters the first stage in which "12-month expected credit losses are recognised" (IASB, 2013a, p. 6). The asset reaches Stage 2 if it has "deteriorated significantly in credit quality since initial recognition" (IASB, 2013a, p. 6) whereby lifetime expected credit losses are recorded. A similar treatment of lifetime expected credit losses is conducted in Stage 3 for "assets that have objective evidence of impairment at the reporting date" (IASB, 2013a, p. 6). However, while interest revenue is calculated based on the asset's gross carrying amount in Stages 1 and 2, in Stage 3 "interest revenue is calculated on the net carrying amount (i.e., reduced for expected credit losses)" (IASB, 2013a, p. 6). Moreover, to address the operational anxieties of model outlined in the 2011 Supplementary Document, the 2013 Exposure Draft does not include the foreseeable future floor. The

elimination of the foreseeable future floor thus removes a significant operational concern along with the subjectivity involved in interpreting the meaning of 'foreseeable' (IASB, 2013a).

At its December 2012 board meeting, the IASB decided that its financial asset impairment methodology should be re-exposed for comment (IASB, 2012b). The exposure draft was published in March of 2013 leading to the receipt of 189 comment letters (see Table 6, appendix). Some respondents revealed a lingering concern over the adequacy of the revised model in addressing the matter of procyclicality (e.g., CL BCBS, 2013; CL ING, 2013; CL Standard Chartered, 2013). For instance, the BCBS (CL 2013) recommends that the Stage 1 horizon of 12-months "would result in allowances not building sufficiently before a payment default occurs" (p. 5). Furthermore, a concern over the insufficiency of interpretation guidance was voiced by some constituents (IASB Staff Paper, 2013). For example, the European Banking Federation calls for additional clarification of the proposed model (CL EBF, 2013) while EY (CL 2013) asserts that "interpretation issues will result in considerable diversity of application that is best avoided by the issue of further guidance" (p. 2). This included calls from the audit community to clarify how assets are transferred from Stage 1 to Stage 2 (CL EY, 2013; CL Mazars, 2013; CL PWC, 2013). Overall, however, there was a general sense that the IASB had struck a workable compromise.

> The vast majority of respondents support the proposals in the [Exposure Draft] as an appropriate balance between faithful representation of credit losses on financial instruments, and the costs of producing that information. Most specified that they agree with the IASB that initial credit loss expectations are priced into assets when originated or purchased, and continue to support an approach that considers deterioration in credit quality in deciding the extent to which expected credit losses should be recognised. (IASB Staff Paper, 2013, p. 3)

In general terms, the responses to the Exposure Draft revealed the considerable alliances formed with prominent actors. For example, EFRAG (CL 2013) characterizes the approach as a "reasonable proxy" of the 2009 model and believes that "in the absence of a better model … it is time that the IASB should finalise its impairment requirements" (p. 1) subsequent to

relatively minor revisions. Interview material from a Big 4 audit partner also reveals that although the 2013 version of the model may not have been ideal, it constitutes a tolerable compromise that needed to be rendered as a response to the financial crisis.

> It's been a huge issue about whether impairment was coming too late, whether the current impairment loss model didn't capture the things that we've seen which stands clear when you look in the back mirror. So I think we have also accepted that you need to do something, and where they ended up now is probably not the best, perfect solution but it's also not so bad that we can see this as a good compromise. (Interviewee 7)

Consequently, at the IASB's January 2014 board meeting, "clarifications and enhancements" to its 2013 exposure draft were finalized (IASB, 2014a, p. 6) and the model was published in July of 2014 as part of *IFRS 9: Financial Instruments* (IASB, 2014b). To a large extent, the workability of the IASB's eventual expected credit loss model was achieved through the formation of the 12-month expected credit loss requirement for loans in Stage 1. From the perspective of the IASB, "the recognition of 12-month expected credit losses is a pragmatic solution to achieve a balance between faithfully representing the underlying economics of a transaction" – which would preclude credit losses in Stage 1 – and "the cost of implementation" (IASB, 2014c, p. 133). The 12-month window has also been observed to partially align with existing regulatory requirements.

> All firms, big and small, have to calculate their regulatory capital on a 12-month expected loss basis. The regulatory measure of expected loss is not the same as the accounting measure of expected loss but at least they have the components in place. (Interviewee 20)

> People are already calculating 12-month expected loss. Why don't you use that as the mechanism to defer some revenue? So you recognize a loss on every loan you issue but it's not the lifetime loss it's just the 12-month loss essentially based on stuff you're already doing now. (Interviewee 21)

Whilst the above mechanisms of interessement aim to facilitate the enrolment of preparers, auditors, and prudential regulators, the model's representation of economic reality remains an important matter of concern. The IASB's justification for not recognizing lifetime expected credit losses in Stage 1 is explained in reference to its presumption regarding the association

between the purchase price and initial expectations of credit losses. The consequence of this would purportedly include "the double-counting of expected credit losses that are priced into a financial asset" and "a loss of information about the changes in credit quality" (IASB, 2013b, p. 13). Whilst the IASB believes that its core principle of depicting the economics of lending is maintained in the 2013 edition of the model, it concedes that this would have been best reflected by the approach taken in its 2009 Exposure Draft.

> In the IASB's view, expected credit losses are most faithfully represented by the proposals in the 2009 [Exposure Draft]. Those proposals reflected the economic link between the pricing of financial assets and the expected credit losses at initial recognition, and required the immediate recognition of the effects of changes in expected credit losses subsequent to initial recognition. (IASB, 2013a, p. 10)

This economic rationale also partly explicates the IASB's own position that the 12-month expected credit loss horizon is an "operational simplification" with "no conceptual justification" (IASB, 2013a, p. 104), a stance that is reiterated by a number of financial analysts who claim that this criterion has no economic foundation (CL CFA Institute, 2013). While this results in an initial valuation that is below fair value, the loss serves "as a counterbalancing effect to recognising the full interest [revenue]" (IASB Staff Paper, 2013, p. 3). In this way, it "act[s] as a proxy for the recognition of initial expected credit losses over time as proposed in the 2009 Impairment Exposure Draft" (IASB, 2014c, p. 119). By approximating the outcome of its ideal-type model, the IASB preserves a semblance of its long-standing objective to reflect the efficiency of loan pricing whilst seeking to incorporate other matters of concern.

> In both the [Supplementary Document] and the current proposals, the IASB has sought to approximate the outcome of the 2009 [Exposure Draft], in order to reflect the economic relationship between the pricing of financial instruments and credit loss expectations, while seeking to overcome the operational challenges of those proposals. (IASB, 2013a, p. 8)

Nevertheless, the alternative view to the 2013 Exposure Draft provided by one IASB board member, Stephen Cooper, draws on the notion of a purified, efficient market to criticize the

approximation strategy. Along these lines, it is argued that there is no conceptual basis for recognizing immediate credit losses "when a financial asset is priced on market terms and where, consequently, no economic credit loss exists" (IASB, 2013a, p. 142). The alternate view specifically questions the ability of the 2013 model to approximate the outcome of the 2009 approach: "Mr Cooper does not agree that this is true" as this would only happen "by chance" (IASB, 2013a, p. 143). This stance is reiterated by an interviewee who proclaims that "[the approximation mechanism] isn't actually a very good mimic for the effect you'd get from doing a proper effective interest rate calculation, but it was a compromise that people were willing to accept" (Interviewee 21). However, most respondents concur that despite the theoretical advantages of the 2009 version of the model, the approach put forth in the 2013 Exposure Draft is tolerable because "they do not think that there is a better alternative available that will achieve the same balance of benefits versus cost" (IASB Staff Paper, 2013, p. 6).

> Many respondents, including users of financial statements acknowledge that the model proposed in the IASB's 2009 Exposure Draft *Financial Instruments: Amortised Cost and Impairment* was conceptually more pure and therefore superior to the proposed model, but they also acknowledge that the operational complexities of that model would have resulted in the costs of implementation outweighing the benefits of the information provided. (IASB Staff Paper, 2013, p. 6)

This sense of tolerability is also illustrated in Table 6 (appendix) which shows that only 30% of respondents explicitly oppose the 2013 proposal. This stands in stark contrast with the previous three consultations which garnered levels of opposition of 90%, 93%, and 80%, respectively (see Tables 3, 4, and 5, appendix). This coincided with realizations on the part of some actors that loan pricing mechanisms may not efficiently incorporate expected losses.

5.4.2 Accounting for pricing imperfections

Whilst the 12-month window in Stage 1 appears to represent a boundary in terms of its departure from the ideal-type approach, interview data suggests that perceived imperfections

in loan pricing further justify this configuration. In this regard, a number of interviewees state that the loss horizon in Stage 1 is acceptable despite the absence of theoretical foundation as "it could cover for any imperfections" (Interviewee 15) since, in contrast to what the EMH assumes, "the market is not perfect" (Interviewee 22a) due to the economics of portfolios and competitive market forces. This sentiment is articulated in the following statement by a key IASB staff member involved in devising the final proposal.

> We understood that there is room for Day 1 provisioning limited to 12 months because of the economics of portfolios. In other words, the bank knows your credit risk and my credit risk but because we are in the same portfolio, in terms of facilitating the process they will charge exactly the same interest rate in a loan provided to both of us. However, in a huge portfolio they do know someone will fail. So the interest rate risk, theoretically, in economic terms there is a limitation that it won't really capture all the expected losses at that time. This is only one aspect. There are aspects like competition in some markets. So if I know that I should charge you a 10% interest rate but all my competitors are charging 7.5% for this type of loan, this type of portfolio. Well, I should decrease it to 7.5% otherwise I wouldn't have any business in this line. So this could happen as well. So the pricing is not that perfect. There are imperfections in the pricing process in terms of economics and there is literature in economics that explores the price imperfection aspect in this business. So I'm comfortable to defend the 12-month provisioning, but I'm less comfortable to defend the same for the whole life of the instrument because after 12 months you have more evidence of the behavior of that portfolio. (Interviewee 11)

As a result, embracing the imperfections in the idealized model of loan pricing generates leeway in which initial expected losses may be recognized, but only up to a point. As opposed to the prohibition of such losses based on a strict adherence to loan pricing efficiency, in this situation the EMH acts to limit the horizon for the recognition of credit losses on 'good' loans to 12-months. It was apparent that exceeding the 12-month horizon in Stage 1 "would be too conservative" (IASB Staff Paper, 2013, p. 32) and would not have been tolerated by actors concerned with depicting the incorporation of initial expected losses in loan pricing. With its 12-month horizon, the IASB has constructed an impure, yet tolerable compromise in which its EMH-inspired approach is approximated to facilitate operational and regulatory concerns. This resulted in a model that was considered to be a workable solution by several different actor

groups such as preparers, regulators, auditors from the Big 4, users, and non U.S.-based respondents more generally (see Table 6, appendix).

Not only has the theory been observed to influence the expected credit loss model produced by the IASB, overlooking the EMH in this instance has facilitated the recognition of relatively large immediate credit losses in the approach subsequently developed by the FASB. Through its lack of emphasis on reflecting the presumed relationship between loan pricing and initial expected credit losses, the FASB model "would require that at each reporting date an entity recognize an allowance for all expected credit losses" (FASB, 2012c, p. 6). Accordingly, the FASB regards the 12-month horizon of the IASB to be "potentially misleading to investors" (FASB, 2012c, p. 139) and U.S.-based respondents expressed the lowest degree of support for the IASB's 2013 model relative to other geographic areas and actor classifications (see Table 6, appendix). This underscores the significance of how collectives operationalize financial economic theories which not only involves a selective application, but also a distinctive application as the theory co-performs along with other forces. The following assertion from a Big 4 audit partner specializing in financial instruments under IFRS points to the significance of how actors apply financial economic theory in this standard-setting project.

> The more that you can throw some mud at an efficient market theory that says the Day 1 price is somehow sacrosanct, the more you can then start saying that well let's put lots of losses up front because things aren't very transparent or observable. (Interviewee 18)

6. Discussion

This paper builds on existing studies by showing how financial economics co-performs the construction of a novel approach to impairment for loan assets through a process of translation. While the performative character of theories has been observed in the literature, the impermanence and varying strengths of performativity are also salient. MacKenzie and Millo's (2003) work on the influence of the Black-Scholes model on option prices shows how theories

help shape reality as opposed to merely describing it. Although this tendency has been regarded as a strong, 'Barnesian', form of performativity (MacKenzie, 2007), the neglect of the model during the stock market crash of 1987 highlights the instability of the theory. Arguably, the performativity of the EMH is of a different nature which may be partially attributed to the difficulty of testing the theory (Ball, 2009; Whitley, 1986). Rather than necessarily making markets more efficient, it acts as a cognitive tool that actors often draw on when making decisions. As Ball (2009) points out, in spite of its limitations, "the notion that prices efficiently incorporate information is an indispensable foundation for how we organize the world" (p. 15). This suggests that the cognition distributed by the EMH entails performative effects.

One example of this is the seemingly ubiquitous accounting practice of discounting future cash flows to their present value. Discounting relies on a fundamental law of economics referred to as 'the law of one price' (Lamont & Thaler, 2003) which assumes that "In an efficient market all identical goods sell for an identical price" (Ball, 2009, p. 16). According to Ball (2009), "[discounting] has not been abandoned presumably because it is a useful—though clearly not a perfect—guide for our thinking and calculations when valuing assets, liabilities, and entire companies" (p. 16). Whilst paradoxical, it is perhaps unsurprising that the G20's request for a more 'forward-looking' impairment model has led to an expansion in discounting despite the criticism directed towards the notion of efficient markets during the global financial crisis. As opposed to disengaging from the market as was the case on the matter of fair value accounting in 2008 (Carruthers, 2017), this change in accounting moves financial institutions closer to it.

While at a general level, expected credit loss models make use of a wider array of available information to predict the future, at a lower level of abstraction we have analyzed the contrasting objectives of the IASB and the FASB in their respective projects. The EMH made a significant difference in the standard-setting process by influencing the construction of the

IASB model and the legitimacy of the approach proposed by the FASB. Integrating the theory within the calculation of credit losses echoes what MacKenzie (2007) refers to as 'effective performativity' which occurs when "economic processes incorporating the aspect of economics … differ from their analogues in which economics is not incorporated" (p. 60).

We contribute to the literature in three main respects. Firstly, we highlight the co-performation of financial economics in the standard-setting process resulting in an "impure" solution which aims to account for market imperfections. Secondly, we shed light on a specific translation strategy – referred to by the IASB as "approximation" – which transformed an "ideal-type" approach into a tolerable outcome. Lastly, we elaborate on the struggles involved in setting accounting standards for a worldwide constituency which includes disparities in the application of financial economics.

6.1 Financial economics is indispensable but not sufficient

The case under study adds to the accounting standard-setting literature by exemplifying how economic theories co-perform accounting standards. It has been observed that the IASB's objective of reflecting the relationship between loan asset values and expected credit losses upon origination presumes that pricing mechanisms efficiently incorporate information in regards to the risk of default. This resonates with the realist standpoint towards the pricing of financial assets (Zuckerman, 2012) known as the Efficient Market Hypothesis (Fama, 1965). Whilst this coincides with the rising influence of financial economics in accounting standard-setting which has embraced a presumption of idealized markets in the valuation of assets (Power, 2010), we show that performativity in this case was far from a straightforward process. This echoes the standpoint of Callon (2007) on the performativity of economic theories: "it is not the formula itself that can cause that world, a socio-technical agencement, to exist. Other forces are involved, other interests" (p. 323).

Thus, rather than attempting to isolate the effect of financial economics, this paper emphasizes the collective process involved in operationalizing theories in accounting standard-setting. As depicted in Translation 1, the IASB's 2009 proposal was unable to survive despite being largely viewed by constituents as an "ideal-type" formulation. The main points of contention at this point pertained to the expected difficulties to be faced by preparers in calculating the effective interest rate of each and every loan as well as the adequacy of the model in guarding against future crises. In particular, with considerable assistance from the Expert Advisory Panel, the European banking community proved the unworkability of the ideal-type model. However, rather than abandoning its objective, the IASB and its Expert Advisory Panel carried out numerous experiments, evaluations, and decisions on how to make this objective operational. In this way, the EMH played a significant role in specifying a direction for the IASB's subsequent efforts by limiting the potential recognition of immediate losses. This may be observed in Translation 2, where the FASB model was widely rejected by non-U.S. constituents on the basis of its apparent departure from an EMH-based conception of economic reality in addition to persistent operational concerns. Despite the failure of the models put forth in the first two translations, the objective to reflect the efficiency of loan pricing at origination remained a core element of many of the discussions taking place throughout the process. It was only in Translation 3 that the IASB's EMH-inspired objective was translated in a manner deemed to be tolerable.

This extends the work of Himick and Brivot (2018) who highlight the efforts of groups equipped with financial economic theory in the standard-setting domain along with studies depicting the influence of financial economics on accounting standards (Ravenscroft & Williams, 2009; Young, 2014). We elucidate how financial economics is associated with other, more pragmatic concerns which in our case encompassed an obligation to be reconciled.

Whereas previous studies tend to shed light on stronger forms of performativity (e.g., MacKenzie, 2007; MacKenzie & Millo, 2003), we highlight the propensity of economic theory to be translated in accounting standard-setting projects. In this case, the epistemic commitment of accounting standard-setters towards the domain of financial economics (Barker & Schulte, 2017; Durocher & Gendron, 2014; Power, 2010) was subjected to considerable experimentation as it shaped the standard-setting process. Following Callon's (2007) emphasis on performativity as a joint activity, we conclude that "economics as such is necessary but not sufficient" (p. 338) in determining accounting standards. This points to the potential instability of 'ideal-type' solutions that are not translated within standard-setting networks, irrespective of their perceived conceptual merit. Financial economics is thus limited by a broad notion of tolerability that is not solely attributable to its apparent decision-usefulness.

In doing so, we offer an empirical example of Power's (2010) insightful assertion that whilst the application of financial economics in accounting is impure, it entails significant implications. In our case, the EMH constituted a cognitive force that actor groups were framed by which played an important role in connecting and disconnecting agents. From the perspective of the IASB and a majority of its constituents, the efficiency of loan pricing with respect to expected credit losses constituted a robust cognitive force. This persisted despite the realization by some actors that the "ideal-type" approach was impossible to execute and that loan pricing itself may be imperfect. Thus, the traces of the theory did not vanish when constrained by the existence of other realities. Rather than ruling out its influence, this resulted in an "impure" application when the theory encountered the reality expected to result from its implementation. Despite this, the EMH had an immense importance in the standard-setting project by adding purity to the obligatory passage point through which other forces were required to traverse. The next sub-section discusses the specific translation strategy that has been observed to result in a provisionally stable expected credit loss model.

6.2 Forging a tolerable solution through a process of approximation

Whilst the abandonment of the proposed 'ideal-type' impairment model suggests that concessions were enacted to reach an agreement, this was not observed to result in the mere 'capture' of the standard-setting process. Rather, in finding a tolerable solution, the IASB laboriously endeavored to link its idealized approach with other disparate concerns. Accordingly, this case details a particular strategy involved in translating a standard-setting objective inspired by financial economics. Whilst the ideal-type model in Translation 1 received widespread support in terms of its theoretical foundation, we show how the IASB transformed this approach through a process of *approximation*. This involved extensive efforts to link its objective of reflecting the economic reality of lending with other matters of concern which resulted in a unique configuration. This was accomplished by means of *approximating* the expected financial statement outcomes associated with the ideal-type formulation in such a way as to result in a workable solution in the eyes of key constituents. Nevertheless, this strategy comprised of a significant degree of experimentation which initially failed during joint efforts with the FASB before reaching a state of temporary stability in the IASB's subsequent work.

Given its insistence on reflecting a purified conception of loan pricing, the IASB was tasked with devising a feasible approach that serves as a proxy for its ideal-type model. In Translation 2, the calculation of credit losses on loans in the 'Good Book' was widely considered as a poor approximation of the reality that the ideal-type model would have depicted. This was attributed to the FASB's inclusion of the 'Foreseeable Future Floor' which was expected to result in relatively large initial losses. Conversely, the IASB's construction of a 12-month horizon for determining credit losses on such loans in Translation 3 was largely seen as a bearable approximation the ideal-type model whilst coinciding to a certain degree with prudential

regulation. Thus, in addition to the voicing of support, we argue that the notion of silence (an indeterminable level of support or opposition to standard-setting proposals) is an important barometer of tolerability and provisional closure.

The approximation strategy and its attention to the notion of tolerability highlights an important finding of this study. Whereas Huikku et al. (2017) explore the performativity of an accounting standard as it is applied and translated in accounting practice, our study examines how financial economics performs the standard itself through a process of translation. In regards to the application of accounting standards, Huikku et al. (2017) point to the importance of solutions that can be tolerated by actors who consequently draw on economic averages from outside the firm to enhance the reliability of estimates. We add to this significant finding by showing that, in the context of accounting standard-setting, the tolerability of the eventual outcome in the eyes of key actors is paramount. Although experiments in accounting standard-setting can, in principle, carry on indefinitely, our case highlights the importance of the elements of time and compromise within the notion of tolerability. After six years of negotiations including a failed convergence project, the IASB was compelled to deliver a workable response to the concerns raised during the financial crisis on the matter of impairment. According to IASB Chairman Hans Hoogervorst, "it remains to be seen if an expected credit loss model in itself can predict the next crisis" considering that preceding the financial crisis "the market was not expecting the losses that were about to hit" (Hoogervorst, 2014, p. 5). Tolerability may thus be regarded as a conduit of overflowing since it does not necessarily resolve the problems identified by instigating actors. Nevertheless, it is remarkable that both the construction and application of accounting standards emphasize tolerability at the expense of ideal-types or solutions that suit all parties perfectly.

Considering the recoupling of accounting to society which occurred at the advent of the global financial crisis (Power, 2010), our understanding of how the financial economics-inspired program in accounting standard-setting links up with wider macroeconomic policies (Plantin et al., 2008) remains largely underdeveloped. We observe how financial economics serves as a malleable anchor in the standard-setting process which sets the premises for negotiations whilst limiting the extent to which outcomes can deviate from idealized perceptions of economic reality. This demonstrates that although standard-setters may draw on economic theory in their endeavors of 'getting the accounting right' (Young, 1995), the application of financial economics transforms due to associations with the external environment.

6.3 Financial economics and the struggles of setting global financial reporting standards

Following Himick and Brivot's (2018) call for research on the "who and why" elements behind transformations in accounting standards, we show that accounting change may be stimulated by a financial crisis and influential actors such as the G20 and the Financial Crisis Advisory Group can effectively problematize the need for change. Along these lines, the requests for a more forward-looking financial asset impairment model were consistent with the hypothetical needs of the "forward-looking individuals" enshrined as the users of financial reporting information in the conceptual framework (Young, 2006, p. 595). However, whilst economic crises are often followed by appeals to enhance transparency (Arnold, 2012), the aftermath of the 2008 financial crisis also included calls for standard-setters help mitigate procyclicality. This generates a degree of tension because, drawing on an EMH view of loan pricing, any forward-looking impairment model faces constraints in terms of immediate loss recognition. Paradoxically, this shows how financial economics can limit the expansion of 'forward-looking' approaches in financial accounting, albeit only for the IASB as opposed to the FASB in this case.

Despite the existence of a joint conceptual framework constructed from the perspective of "the rational economic actor" (Young, 2006, p. 592), convergence between the two boards was unsuccessful. As stated by Pelger (2016), the manner in which this rationale permeates accounting standards is uncertain. We observe that, irrespective of the primary objective of financial reporting, individual standard-setting projects may be imbued with far more specific aims. These objectives infused the process with contrasting purposes which formed the basis for the ensuing transformations which transpired in conjunction with variations in lending practice (i.e., loan durations) and prudential concerns (i.e., bank capital requirements). The consideration of these disparities appears to have resulted in relatively stable models on both ends. Hence, it is difficult to discern whether a single, global accounting standard-setting board would have been able to devise a tolerable worldwide approach.

Concurrently, this paper illuminates the capacity of actors to effectively challenge elements of financial economic theory (in the case of the FASB) along with the necessity of enacting adjustments to address market imperfections (in the case of the IASB). While the conviction that loan pricing mechanisms are largely efficient limits the acceptability of recognizing losses at inception for the IASB, an absence of adherence to this hypothesis significantly widens possibilities for the FASB in terms of immediate loss recognition. Interestingly, the FASB did not adopt a similar economic rationality despite its reputedly strong affiliation with the realm of financial economics (Pelger, 2016; Ravenscroft & Williams, 2009; Young & Williams, 2010). By disregarding and, at times, questioning the ability of firms to isolate the amount of initial expected losses, in this instance the FASB and many of its constituents stressed the adequacy loan loss provisions on the balance sheet (i.e., mitigating procyclicality) as opposed to the reflection of a 'perfect' initial valuation. This provides another example of the incoherence associated with the financialization of accounting (Ravenscroft & Williams, 2009)

by showing how the translation of the abstract theories of financial economics into accounting standards may lead to vastly different outcomes.

Whilst seemingly surprising, our focus on the sociology of translation offers a useful vantage point to understand why the combined IASB–FASB network failed to be stabilized (Robson & Bottausci, 2017) as opposed to other convergence projects that were successful (e.g., Baudot, 2018). In this way, we provide a specific example of the struggles involved in finding common ground in IASB–FASB convergence projects following the global financial crisis (Baudot, 2014). By adopting the perspective that "knowledge and action are never individual" (Callon & Muniesa, 2005, p. 1237), it may be inferred that cognition is distributed within networks. In the case of the IASB, its EMH-inspired objective persevered despite significant changes in the composition of the board which consisted of a decline in board members with "strong technical backgrounds" (Camfferman & Zeff, 2015, p. 608). Moreover, by illuminating the unworkability of this application of the EMH in the case of the FASB, we begin to explicate the inconsistency in which theories are drawn upon as a resource in standard-setting.

7. Conclusion

The perspective on accounting standard-setting highlighted in this paper aims to bridge the gap between the power of constituents to capture the standard-setting process, the influence of standard-setters and the role of theory within this procedure. According to Watts and Zimmerman (1978), accounting standards are the result of the lobbying efforts of self-interested groups with economic incentives to influence the standard-setting process. In this way, theories are deployed by interest groups as justification for particular solutions (Watts & Zimmerman, 1979) which may result in the 'ideological capture' of the process (Ramanna, 2015). Moreover, the ostensibly "aggressive top-down" nature of standard-setting has been criticized for its disregard of social norms (Sunder, 2016, p. 221). Nevertheless, the

financialization of standard-setting is limited (Müller, 2014) and the shift to fair value has not been comprehensive (Power, 2010). We build on these studies by providing a vivid example of how reality is communicated (Hines, 1988a) as financial economics co-performs in conjunction with other matters of concern. By explicating these linkages, we develop a better comprehension of how two extremes – the seemingly pure theories of financial economics and the inescapable politics of accounting standard-setting – may be interwoven. Future studies may explore how financial economics is associated with disparate concerns in other standard-setting projects. Such research may continue to progress our understanding of the selectivity and impurities involved in utilizing financial economics in financial accounting (Power, 2010).

This case represents part of the so-called 'sea change' in financial reporting towards the precepts of financial economics predicated upon future expected events. However, we highlight the nuances of this forward-looking enterprise in regards to its perceived feasibility along with divergent views on what is expected to occur in the future in comparison with what is believed to have already taken place. For instance, with respect to the inclusion of expected losses, loan pricing may be viewed from a standpoint of purity or it may be considered as an imperfect exercise. These dynamics largely resonate with the ambiguous standing of the EMH within economics (Fama, 1965; Shiller, 1981). Nevertheless, we illustrate how the EMH distributed cognition within the IASB network, framing actors by restricting what they can legitimately do. The IASB's 12-month loss horizon served as a boundary in terms of how far the solution could depart from the ideal-type approach whilst still being regarded as tolerable. Future research may shed light on how notions of market efficiency influence accounting standards in situations that consist of more explicit market imperfections, such as in instances of illiquidity.

In this case, the IASB's expected credit loss model was constructed after a series of *in vitro* laboratory experiments concerning an uncertain future which resulted in a compromise

solution. While the study points to the struggles involved in the assembly of increasingly complex 'forward-looking' models in financial reporting standards, the effects of the eventual outcome are unknown. According to Beckert (2016), "the sophistication of the econometric models used in forecasts does not improve their accuracy" (p. 226). However, a more important point may pertain to the ability of such models to generate "credible imaginaries" (Beckert, 2016, p. 245). Drawing on economic theories, these imagined futures may be expected to instill confidence among actors, yet the overflows they produce may also be substantial. Therefore, subsequent studies may analyze the *in vivo* real life effects of accounting standards inspired by financial economics, such as the expected credit loss methodologies adopted in various jurisdictions. How will these approaches to loan loss provisioning contribute to the efficiency of loan pricing? Moreover, will the predictive capabilities of these accounting models (Kinsella, 2019) mitigate procyclicality in subsequent financial crises as desired by the G20?

Furthermore, this paper highlights some of the practical difficulties involved in the realization of global financial reporting standards. It has been demonstrated that placing a primary reliance on the conceptual framework provided an insufficient basis for convergence. Hence, the paper points to the importance of translating the valuation-usefulness program of financial reporting into specific accounting standard-setting networks. This begins to answer Pelger's (2016) call to examine how the decision-usefulness program is applied in the setting of accounting standards. We find that the conflicting objectives aspired towards by each board produced conceptual tensions that were exacerbated by contrasting operational and prudential concerns across two networks. While this may resonate with Sunder's (2016) call for an enhanced attention to bottom-up approaches to financial accounting, it certainly points to a case in which the task of writing a common standard for a diverse constituency proved to be insurmountable.

The above analysis suggests that in contentious situations accounting standard-setters aim to produce tolerable standards that will "be able to survive and live in this world" (Callon et al., 2009, p. 48) albeit on a temporary basis. Rather than underscoring the deterministic success of financial economics, we draw attention to the transformations involved in making economic theories workable through a strategy of *approximation*. This indicates that the usage of economic theories in accounting standard-setting is not an 'all or nothing' proposition. We find that financial economics plays a more nuanced role in the standard-setting process, involving an arduous translation of wills resulting in impure solutions. While our study on the performativity of economic theories highly resonates with the relational and material approach of D'Adderio, Glaser, and Pollock (2019), we emphasize the role played by accountants in translating economics into the economy which reiterates the work of Callon (1998b, 2007).

Appendix

Table 2: IASB/FASB Documents Utilized in the Analysis

Year	Title	Reference/Source
2009	Agenda Paper 14 (April 2009)	IASB Staff Paper (2009b)
	Request for Information (June 2009)	IASB (2009a)
	IASB Update (September 2009)	IASB (2009b)
	Comment Letter Summary (September 2009)	IASB Staff Paper (2009a)
	Agenda Paper 12B (September 2009)	IASB Staff Paper (2009c)
	Exposure Draft (November 2009)	IASB (2009c)
	Exposure Draft – Basis for Conclusions (November 2009)	IASB (2009d)
	Comment Letters (Request for Information)	IASB website
2010	Implementation Guidance – IAS 39 (January 2010)	IASB (2010c)
	Agenda Paper 9A (July 2010)	IASB Staff Paper (2010c)
	IASB Update (September 2010)	IASB (2010a)
	Agenda Paper 13 (September 2010)	IASB Staff Paper (2010a)
	Agenda Paper 15 (September 2010)	IASB Staff Paper (2010b)
	Comment Letters (Exposure Draft)	IASB website
2011	Supplementary Document (January 2011)	IASB (2011)
	Comment Letter Summary – Supplementary Document (April 2011)	IASB Staff Paper (2011a)
	Summary of Outreach – Supplementary Document (April 2011)	IASB Staff Paper (2011b)
	Comment Letters (Supplementary Document)	IASB website
2012	Meeting Minutes (July 2012)	FASB (2012d)
	Meeting Minutes (August 2012)	FASB (2012a)
	Meeting Minutes (August 2012)	FASB (2012b)
	IASB Update (November 2012)	IASB (2012a)
	Exposure Draft (December 2012)	FASB (2012c)
	IASB Update (December 2012)	IASB (2012b)
2013	Exposure Draft (March 2013)	IASB (2013a)
	Exposure Draft – Snapshot (March 2013)	IASB (2013b)
	Comment Letter Summary – Exposure Draft (July 2013)	IASB Staff Paper (2013)
	Comment Letters (Exposure Draft)	IASB website
2014	IASB Update (January 2014)	IASB (2014a)
	Basis for Conclusions on IFRS 9 (July 2014)	IASB (2014c)

Table 3: Summary of Responses – Translation 1a (2009 Request for Information)

	Number of responses	Support (%)	Oppose (%)	Undecidable (%)
Accountancy bodies	10	10%	70%	20%
Accounting firms:				
- Big 4	3	0%	100%	0%
- Non-Big 4	1	0%	100%	0%
Financial institution preparers:				
- Companies	18	6%	89%	6%
- Representative bodies	18	0%	100%	0%
Other preparers:				
- Companies	4	0%	100%	0%
- Representative bodies	7	0%	100%	0%
Regulators	6	0%	100%	0%
Standard-setters	12	0%	92%	8%
Users	1	100%	0%	0%
Miscellaneous	8	13%	75%	13%
Totals	88	5%	90%	6%
Geographic region:				
- Europe	52	2%	92%	6%
- USA	8	0%	100%	0%
- Other	28	11%	82%	7%
Totals	88	5%	90%	6%

Table 4: Summary of Responses – Translation 1b (2009 Exposure Draft)

	Number of responses	Support (%)	Oppose (%)	Undecidable (%)
Accountancy bodies	28	11%	86%	4%
Accounting firms:				
- Big 4	5	0%	100%	0%
- Non-Big 4	5	0%	100%	0%
Financial institution preparers:				
- Companies	32	3%	97%	0%
- Representative bodies	37	0%	100%	0%
Other preparers:				
- Companies	17	6%	88%	6%
- Representative bodies	7	0%	100%	0%
Regulators	14	21%	79%	0%
Standard-setters	20	10%	90%	0%
Users	11	18%	82%	0%
Miscellaneous	18	0%	100%	0%
Totals	194	6%	93%	1%
Geographic region:				
- Europe	108	4%	95%	1%
- USA	21	0%	100%	0%
- Other	65	12%	86%	2%
Totals	194	6%	93%	1%

Table 5: Summary of Responses – Translation 2 (2011 Supplementary Document)

	Number of responses	Support (%)	Oppose (%)	Undecidable (%)
Accountancy bodies	16	25%	75%	0%
Accounting firms:				
- Big 4	4	25%	75%	0%
- Non-Big 4	9	11%	78%	11%
Financial institution preparers:				
- Companies	64	6%	83%	11%
- Representative bodies	35	3%	86%	11%
Other preparers:				
- Companies	14	14%	86%	0%
- Representative bodies	12	17%	75%	8%
Regulators	17	18%	59%	24%
Standard-setters	19	0%	79%	21%
Users	6	0%	83%	17%
Miscellaneous	16	6%	81%	13%
Totals	212	9%	80%	11%
Geographic region:				
- Europe	78	8%	78%	14%
- USA	79	10%	85%	5%
- Other	55	9%	75%	16%
Totals	212	9%	80%	11%

Table 6: Summary of Responses – Translation 3 (2013 Exposure Draft)

	Number of responses	Support (%)	Oppose (%)	Undecidable (%)
Accountancy bodies	19	63%	26%	11%
Accounting firms:				
- Big 4	4	75%	0%	25%
- Non-Big 4	7	57%	43%	0%
Financial institution preparers:				
- Companies	42	50%	33%	17%
- Representative bodies	31	45%	48%	6%
Other preparers:				
- Companies	15	33%	33%	33%
- Representative bodies	12	50%	8%	42%
Regulators	15	73%	20%	7%
Standard-setters	22	64%	9%	27%
Users	7	57%	29%	14%
Miscellaneous	15	33%	47%	20%
Totals	189	52%	30%	17%
Geographic region:				
- Europe	98	62%	27%	11%
- USA	31	19%	48%	32%
- Other	60	53%	27%	20%
Totals	189	52%	30%	17%

Primary references

BCBS (2009). Guiding Principles for the Replacement of IAS 39, Basel Committee of Banking Supervision, http://www.bis.org/publ/bcbs161.pdf

EAP (2010). Amortised Cost and Impairment. Summary of all EAP meetings, Expert Advisory Panel.

FASB (2012a). August 1, 2012 FASB Board Meeting—Accounting for Financial Instruments: Impairment, Meeting Minutes, Accounting for Financial Instruments Team, August 2, 2012.

FASB (2012b). August 22, 2012 FASB Board Meeting—Accounting for Financial Instruments: Impairment, Meeting Minutes, Accounting for Financial Instruments Team, August 29, 2012.

FASB (2012c). Exposure Draft, Financial Instruments—Credit Losses, (Subtopic 825-15), Proposed Accounting Standards Update, December 20, 2012.

FASB (2012d). July 18, 2012 FASB Board Meeting—Accounting for Financial Instruments: Impairment, Meeting Minutes, Accounting for Financial Instruments Team, July 20, 2012.

Financial Crisis Advisory Group (2009). *Report of the Financial Crisis Advisory Group*, July 28, 2009.

FSF (2009a). *Report of the Financial Stability Forum on Addressing Procyclicality in the Financial System*, 2 April 2009.

FSF (2009b). *Report of the FSF Working Group on Provisioning*, March 2009.

G20 (2009). *Declaration on Strengthening the Financial System – London Summit, 2 April 2009*.

G20 Working Group 1 (2009). Enhancing Sound Regulation and Strengthening Transparency. Final Report. March 25, 2009.

IASB (2008a). *A Guide Through International Financial Reporting Standards (IFRSs)*, International Accounting Standards Committee Foundation, July 2008.
IASB (2008b). IASB Update. Board Decisions on International Financial Reporting Standards. November 2008. IASC Foundation.
IASB (2009a). Request for Information ('Expected Loss Model') Impairment of Financial Assets: Expected Cash Flow Approach, IASC Foundation.
IASB (2009b). IASB Update. Board Decisions on International Financial Reporting Standards. September 2009. IASC Foundation.
IASB (2009c). Financial Instruments: Amortised Cost and Impairment. Exposure Draft ED/2009/12, November 2009, IASC Foundation.
IASB (2009d). Financial Instruments: Amortised Cost and Impairment. Basis for Conclusions – Exposure Draft ED/2009/12, November 2009, IASC Foundation.
IASB (2010a). IASB Update. From the International Accounting Standards Board. September 2010, IFRS Foundation.
IASB (2010b). *Conceptual Framework for Financial Reporting 2010*, International Accounting Standards Board, September 2010.
IASB (2010c). Implementation Guidance. International Accounting Standard IAS 39. Financial Instruments: Recognition and Measurement. International Accounting Standards Committee Foundation. January 2010.
IASB (2011). Supplement to ED/2009/12. Financial Instruments: Amortised Cost and Impairment, IFRS Foundation.
IASB (2012a). IASB Update. From the International Accounting Standards Board. November 2012, IFRS Foundation.
IASB (2012b). IASB Update. From the International Accounting Standards Board. December 2012, IFRS Foundation.
IASB (2013a). Financial Instruments: Expected Credit Losses. Exposure Draft ED/2013/3. March 2013, IFRS Foundation.
IASB (2013b). Exposure Draft. Snapshot: Financial Instruments: Expected Credit Losses. March 2013, IFRS Foundation.
IASB (2014a). IASB Update. From the International Accounting Standards Board. January 2014, IFRS Foundation.
IASB (2014b). IASB completes reform of financial instruments accounting, Press Release, 24 July 2014, IFRS Foundation.
IASB (2014c). Basis for Conclusions on IFRS 9 Financial Instruments, IFRS Foundation, July 2014.
IASB Staff Paper (2009a). Impairment: summary feedback analysis for the Request for Information regarding the expected cash flow approach, September 2009.
IASB Staff Paper (2009b). Measurement Methods: Amortised Cost, Agenda reference: 14, April 2009.
IASB Staff Paper (2009c). Impairment: Staff recommendations and questions to the Board, Agenda reference: 12B, September 2009.
IASB Staff Paper (2010a). Cover Paper – Education Session, Agenda reference: 13, IASB/FASB Meeting September 2010.
IASB Staff Paper (2010b). Treatment of initial expected loss, Agenda reference: 15, IASB Meeting, Week beginning 13 September 2010.
IASB Staff Paper (2010c). Comment Letter Summary. Financial Instruments: Impairment. Agenda reference: 9A, July 2010.
IASB Staff Paper (2011a). Financial Instruments: Impairment. Comment letter summary, April 2011, Agenda reference: 4D.

IASB Staff Paper (2011b). Summary of Outreach for Supplementary Document on Impairment, April 2011, Agenda reference: 4E.
IASB Staff Paper (2013). Comment Letter Summary, Agenda reference: 5C, 22-26 July 2013.
IFRS Foundation (2015). Transition Resource Group for Impairment of Financial Instruments. Meeting Summary. 22 April 2015.
IFRS Foundation (2016). IAS Standard 39. Financial Instruments: Recognition and Measurement, In *2016 IFRS® Standards (Red Book)*, pp. A1305- A1338.

Secondary references

Andon, P., Baxter, J., & Chua, W. F. (2007). Accounting change as relational drifting: A field study of experiments with performance measurement. *Management Accounting Research, 18*(2), 273-308.
André, P., Cazavan-Jeny, A., Dick, W., Richard, C., & Walton, P. (2009). Fair value accounting and the banking crisis in 2008: Shooting the messenger. *Accounting in Europe, 6*(1), 3-24.
Arnold, P. J. (2009). Global financial crisis: The challenge to accounting research. *Accounting, Organizations and Society, 34*(6-7), 803-809.
Arnold, P. J. (2012). The political economy of financial harmonization: The East Asian financial crisis and the rise of international accounting standards. *Accounting, Organizations and Society*, *37*(6), 361-381.
Baudot, L. (2014). GAAP convergence or convergence Gap: Unfolding ten years of accounting change. *Accounting, Auditing & Accountability Journal*, *27*(6), 956-994.
Baudot, L. (2018). On commitment toward knowledge templates in global standard setting: The case of the FASB-IASB revenue project. *Contemporary Accounting Research*. doi:10.1111/1911-3846.12396
Ball, R. (2009). The global financial crisis and the Efficient Market Hypothesis: What have we learned? *Journal of Applied Corporate Finance, 21*(4), 8-16.
Barker, R., & Schulte, S. (2017). Representing the market perspective: Fair value measurement for non-financial assets. *Accounting, Organizations and Society*, *56*, 55-67.
Basu, S. (1977). Investment performance of common stocks in relation to their price-earnings ratios: A test of the Efficient Market Hypothesis. *The Journal of Finance, 32*(3), 663-682.
Bayou, M. E., Reinstein, A., & Williams, P. F. (2011). To tell the truth: A discussion of issues concerning truth and ethics in accounting. *Accounting, Organizations and Society*, *36*(2), 109-124.
Beaver, W., Eger, C., Ryan, S., & Wolfson, M. (1989). Financial reporting, supplemental disclosures, and bank share prices. *Journal of Accounting Research, 27*(2), 157-178.
Beckert, J. (2016). Imagined futures. Harvard University Press.
Bengtsson, E. (2011). Repoliticalization of accounting standard setting—The IASB, the EU and the global financial crisis. *Critical Perspectives on Accounting, 22*(6), 567-580.
Bougen, P. D., & Young, J. J. (2012). Fair value accounting: Simulacra and simulation. *Critical Perspectives on Accounting, 23*(4-5), 390-402.
Burchell, S., Clubb, C., Hopwood, A. G., Hughes, J., & Nahapiet, J. (1980). The roles of accounting in organizations and society. *Accounting, Organizations and Society, 5*(1), 5-27.
Cairns, D. (2006). The use of fair value in IFRS. *Accounting in Europe, 3*(1), 5-22.

Cairns, D. (2012). The use of fair value in IFRS. In Walton, P. (Ed.), *The Routledge Companion to Fair Value and Financial Reporting* (pp. 25-39). Abingdon, UK: Routledge.
Çalışkan, K., & Callon, M. (2010). Economization, part 2: A research programme for the study of markets. *Economy and Society*, *39*(1), 1-32.
Callon, M. (1986). Some elements of Sociology of translation: Domestication of the scallops and the fishermen of St. Brieuc Bay. *Sociological Review Monograph, 32*, 196-233.
Callon, M. (1998a). An essay on framing and overflowing: Economic externalities revisited by Sociology. In Callon, M. (Ed.), *The Laws of the Market* (pp. 244-269). Oxford, UK: Blackwell Publishers.
Callon, M. (1998b). Introduction: The embeddedness of economic markets in economics. In Callon, M. (Ed.), *The Laws of the Market* (pp. 1-57). Oxford, UK: Blackwell Publishers.
Callon, M. (2007). What does it mean to say that economics is performative? In MacKenzie, D., Muniesa, F., and Siu, L. (Eds.), *Do Economists Make Markets? On the Performativity of Economics*. New Jersey, USA: Princeton University Press.
Callon, M. (2009). Civilizing markets: Carbon trading between in vitro and in vivo experiments. *Accounting, organizations and society*, *34*(3-4), 535-548.
Callon, M., Lascoumes, P., & Barthe, Y. (2009). *Acting in an Uncertain World: An Essay on Technical Democracy*. Massachusetts, USA: MIT Press.
Callon, M., & Latour, B. (1981). Unscrewing the big Leviathans: How do actors macrostructure reality. In Knorr, K., and Cicourel, A. (Eds.), *Advances in Social Theory and Methodology: Toward an Integration of Micro and Macro Sociologies* (pp. 277-303). London, UK: Routledge.
Callon, M., & Muniesa, F. (2005). Peripheral vision: Economic markets as calculative collective devices. *Organization studies*, *26*(8), 1229-1250.
Camfferman, K., & Zeff, S. A. (2015). *Aiming for Global Accounting Standards: The International Accounting Standards Board, 2001-2011*, Oxford, UK: Oxford University Press.
Carruthers, B. G. (2017). Financial decommodification: Risk and the politics of valuation in US banks. In Balleisen, E. J., Bennear, L. S., Krawiec, K. D., and Wiener, J. B. (Eds.), *Policy Shock: Recalibrating Risk and Regulation after Oil Spills, Nuclear Accidents and Financial Crises* (pp. 371-394). Massachusetts, USA: Cambridge University Press.
Chapman, C., Cooper, D., & Miller, P. (2009). Linking accounting, institutions and organizations. In Chapman, C., Cooper, D., and Miller, P. (Eds.) *Accounting, Organizations, and Institutions: Essays in Honour of Anthony Hopwood* (pp. 1-29). Oxford, UK: Oxford University Press.
Chiapello, E. (2008). Accounting at the heart of the performativity of economics. *European Sociology Newsletter*, *10*(1), 12-15.
Christensen, M., Skærbæk, P., & Tryggestad, K. (2019). Contested organizational change and accounting in trials of incompatibility. *Management Accounting Research*, in press, https://doi.org/10.1016/j.mar.2019.03.001
Cooper, C. (2015). Accounting for the fictitious: A Marxist contribution to understanding accounting's roles in the financial crisis. *Critical Perspectives on Accounting*, *30*, 63-82.
Cooper, D. J., & Robson, K. (2006). Accounting, professions and regulation: Locating the sites of professionalization. *Accounting, Organizations and Society*, *31*(4-5), 415-444.

Cushen, J. (2013). Financialization in the workplace: Hegemonic narratives, performative interventions and the angry knowledge worker. *Accounting, Organizations and Society, 38*(4), 314-331.
Deloitte (2014). *IFRS 9: Financial Instruments. Overview of the new requirements*. Retrieved from https://www2.deloitte.com
Dempsey, M. (2013). The capital asset pricing model (CAPM): The history of a failed revolutionary idea in finance? *Abacus, 49*(S1), 7-23.
Desai, M. (2015). *Hubris: Why Economists Failed to Predict the Crisis and How to Avoid the Next One*. Connecticut, USA: Yale University Press.
D'Adderio, L., Glaser, V., & Pollock, N. (2019). Performing theories, transforming organizations: A reply to Marti and Gond. *Academy of Management Review*, in press.
Durocher, S., & Gendron, Y. (2014). Epistemic commitment and cognitive disunity toward fair-value accounting. *Accounting and Business Research, 44*(6), 630-655.
Erb, C., & Pelger, C. (2015). "Twisting words"? A study of the construction and reconstruction of reliability in financial reporting standard-setting. *Accounting, Organizations and Society, 40*, 13-40.
Ernst & Young (2012). *Impairment — assessing the impact of the new proposal*. Retrieved from https://www.ey.com/Publication/vwLUAssets/Impairment_-_assessing_the_impact_of_the_new_proposal/$FILE/IFRS%20Practical%20Matters%20Impairment.pdf
European Union (2015). *The significance of IFRS 9 for financial stability and supervisory Rules*. Retrieved from http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563461/IPOL_STU%282015%29563461_EN.pdf
Fama, E. F. (1965). The behavior of stock-market prices. *The Journal of Business, 38*(1), 34-105.
Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance, 25*(2), 383-417.
Fama, E. F. (1998). Market efficiency, long-term returns, and behavioral finance1. *Journal of Financial Economics, 49*(3), 283-306.
Fama, E. F. (2014). Two pillars of asset pricing. *American Economic Review, 104*(6), 1467–1485.
Ferraro, F., Pfeffer, J., & Sutton, R. I. (2009). How and why theories matter: A comment on Felin and Foss (2009). *Organization Science, 20*(3), 669-675.
Fox, J. (2011). *The Myth of the Rational Market: A History of Risk, Reward, and Delusion on Wall Street*. Petersfield, England: Harriman House Limited.
Gendron, Y., & Smith-Lacroix, J. H. (2015). The global financial crisis: Essay on the possibility of substantive change in the discipline of finance. *Critical Perspectives on Accounting, 30*, 83-101.
Georgiou, O., & Jack, L. (2011). In pursuit of legitimacy: A history behind fair value accounting. *The British Accounting Review, 43*(4), 311-323.

Himick, D., & Brivot, M. (2018). Carriers of ideas in accounting standard-setting and financialization: The role of epistemic communities. *Accounting, Organizations and Society, 66*, 29-44.
Hines, R. D. (1988a). Financial accounting: In communicating reality, we construct reality. *Accounting, Organizations and Society, 13*(3), 251-261.
Hines, R. D. (1988b). Popper's methodology of falsificationism and accounting research. *The Accounting Review, 63*(4), 657-662.

Hines, R. D. (1991). The FASB's conceptual framework, financial accounting and the maintenance of the social world. *Accounting, Organizations and Society, 16*(4), 313-331.
Hoogervorst, H. (2014). *Closing the accounting chapter of the financial crisis*. Retrieved from https://www.ifrs.org/-/media/feature/news/speeches/2014/hans-hoogervorst-march-2014.pdf
Hoogervorst, H. (2015). *Preparing for the expected: implementing IFRS 9*. Retrieved from https://www.ifrs.org/-/media/feature/news/speeches/2015/hans-hoogervorst-icaew-sept-2015.pdf
Hopwood, A. G. (1983). On trying to study accounting in the contexts in which it operates. *Accounting, Organizations and Society, 8*(2-3), 287-305.
Hopwood, A. G. (1992). The relationship between accounting and economics. Accounting calculation and the shifting sphere of the economic. *European Accounting Review, 1*(1), 125-143.
Hopwood, A. G. (2007). Whither accounting research? *The Accounting Review, 82*(5), 1365-1374.
Hopwood, A. G. (2009a). Reflections and projections – and many, many thanks. *Accounting, Organizations and Society, 34*(8), 887-894.
Hopwood, A. G. (2009b). The economic crisis and accounting: Implications for the research community. *Accounting, Organizations and Society, 34*(6-7), 797-802.
Huikku, J., Mouritsen, J., & Silvola, H. (2017). Relative reliability and the recognisable firm: Calculating goodwill impairment value. *Accounting, Organizations and Society, 56*, 68-83.
Hutchins, E. (1995). *Cognition in the Wild*. Massachusetts, USA: MIT Press.
Kinsella, S. (2019). Visualising economic crises using accounting models. *Accounting, Organizations and Society*. doi:10.1016/j.aos.2019.01.001
KPMG (2015). *ITG discussions under way.* Retrieved from https://assets.kpmg/content/dam/kpmg/pdf/2015/04/impairment-newsletter-2015-01.pdf
Lagneau-Ymonet, P., & Quack, S. (2012). What's the problem? Competing diagnoses and shifting coalitions in the reform of international accounting standards. In Mayntz, R. (Ed.), *Crisis and Control: Institutional Change in Financial Market Regulation* (pp. 211-244). Frankfurt, Germany: Campus Verlag.
Lamont, O. A., & Thaler, R. H. (2003). Anomalies: The law of one price in financial markets. *Journal of Economic Perspectives, 17*(4), 191-202.
Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford, UK: Oxford University Press.
Laux, C. (2012). Financial instruments, financial reporting, and financial stability. *Accounting and Business Research, 42*(3), 239-260.
Laux, C., & Leuz, C. (2009). The crisis of fair-value accounting: Making sense of the recent debate. *Accounting, Organizations and Society, 34*(6-7), 826-834.
Laux, C., & Leuz, C. (2010). Did fair-value accounting contribute to the financial crisis? *Journal of Economic Perspectives, 24*(1), 93-118.
MacKenzie, D. (2006). *An Engine, Not a Camera. How Financial Models Shape Markets*. Massachusetts, USA: MIT Press.
MacKenzie, D. (2007). Is economics performative? Option theory and the construction of derivatives markets. In Mackenzie D., Muniesa, F., and Siu L. (Eds.) *Do Economists Make Markets?: On the Performativity of Economics*. New Jersey, USA: Princeton University Press.

MacKenzie, D. (2009). Making things the same: Gases, emission rights and the politics of carbon markets. *Accounting, Organizations and Society, 34*(3-4), 440-455.
MacKenzie, D., & Millo, Y. (2003). Constructing a market, performing theory: The historical sociology of a financial derivatives exchange. *American Journal of Sociology*, 109(1), 107-145.
MacKenzie, D., Muniesa, F., & Siu, L. (2007). *Do Economists Make Markets? On the Performativity of Economics*. New Jersey, USA: Princeton University Press.
Mahama, H., & Chua, W. F. (2016). A study of alliance dynamics, accounting and trust-as-practice. *Accounting, Organizations and Society, 51,* 29-46.

McKee, A. J., Williams, P. F., & Frazier, K. B. (1991). A case study of accounting firm lobbying: Advice or consent. *Critical Perspectives on Accounting*, *2*(3), 273-294.
McNicholas, P., & Windsor, C. (2011). Can the financialised atmosphere be effectively regulated and accounted for? *Accounting, Auditing & Accountability Journal, 24*(8), 1071-1096.
Miller, P. (1991). Accounting innovation beyond the enterprise: Problematizing investment decisions and programming economic growth in the U.K. in the 1960s. *Accounting, Organizations and Society*, *16*(8), 733-762.
Miller, P. (1998). The margins of accounting. *European Accounting Review, 7*(4), 605-621.
Miller, P., & Power, M. (2013). Accounting, organizing, and economizing: Connecting accounting research and organization theory. *The Academy of Management Annals, 7*(1), 557-605.
Millo, Y., & MacKenzie, D. (2009). The usefulness of inaccurate models: Towards an understanding of the emergence of financial risk management. *Accounting, Organizations and Society*, *34*(5), 638-653.
Moosa, I. A. (2013). The capital asset pricing model (CAPM): The history of a failed revolutionary idea in finance? Comments and extensions. *Abacus*, *49*(S1), 62-68.
Mouck, T. (1998). Capital markets research and real world complexity: The emerging challenge of chaos theory. *Accounting, Organizations and Society*, *23*(2), 189-215.
Müller, J. (2014). An accounting revolution? The financialisation of standard setting. *Critical Perspectives on Accounting*, *25*(7), 539-557.
Nobel Foundation (2013). *The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2013* [Press release]. Retrieved from https://www.nobelprize.org/prizes/economic-sciences/2013/press-release/
Nobes, C. (2015). IFRS ten years on: Has the IASB imposed extensive use of fair value? Has the EU learnt to love IFRS? And does the use of fair value make IFRS illegal in the EU? *Accounting in Europe*, *12*(2), 153-170.
Patton, M. Q. (2015). *Qualitative Research & Evaluation Methods* (4th ed). California, USA: SAGE Publications, Inc.
Pelger, C. (2016). Practices of standard-setting – An analysis of the IASB's and FASB's process of identifying the objective of financial reporting. *Accounting, Organizations and Society, 50,* 51-73.
Plantin, G., Sapra, H., & Shin, H. S. (2008). Fair value accounting and financial stability. *Banque de France, Financial Stability Review, 12,* 85- 94. Retrieved from https://www.banque-france.fr/sites/default/files/medias/documents/financial-stability-review-12_2008-10.pdf
Pollock, N., & D'Adderio, L. (2012). Give me a two-by-two matrix and I will create the market: Rankings, graphic visualisations and sociomateriality. *Accounting, Organizations and Society*, *37*(8), 565-586.

Power, M. (2010). Fair value accounting, financial economics and the transformation of reliability. *Accounting and Business Research, 40*(3), 197-210.
PWC (2014). *In depth. IFRS 9: Expected credit losses*. Retrieved from https://www.pwchk.com/en/indepth/indepth-ifrs9-credit-loss-aug2014.pdf
Ramanna, K. (2015). *Political Standards: Corporate Interest, Ideology, and Leadership in the Shaping of Accounting Rules for the Market Economy*. Illinois, USA: University of Chicago Press.
Ravenscroft, S., & Williams, P. F. (2009). Making imaginary worlds real: The case of expensing employee stock options. *Accounting, Organizations and Society, 34*(6-7), 770-786.
Robson, K. (1994). Inflation accounting and action at a distance: The sandilands episode. *Accounting, Organizations and Society, 19*(1), 45-82.
Robson, K., & Bottausci, C. (2017). The sociology of translation and accounting inscriptions: Reflections on Latour and accounting research. *Critical Perspectives on Accounting*. doi: 10.1016/j.cpa.2017.11.003
Robson, K., & Young, J. J. (2009). Socio-political studies of financial reporting and standard-setting, In Chapman, C., Cooper, D., and Miller, P. (Eds.) *Accounting, Organizations, and Institutions: Essays in Honour of Anthony Hopwood* (pp. 341-366). Oxford, UK: Oxford University Press.
Robson, K., Young, J., & Power, M. (2017). Themed section on financial accounting as social and organizational practice: Exploring the work of financial reporting. *Accounting, Organizations and Society, 56*, 35-37.
Shiller, R. J. (1981). Do stock prices move too much to be justified by subsequent changes in dividends? *American Economic Review, 71*(3), 421-436.
Shiller, R. J. (2000). *Irrational Exuberance*. New Jersey, USA: Princeton University Press.
Shiller, R. J. (2014). Speculative asset prices. *American Economic Review, 104*(6), 1486-1517.
Skærbæk, P., & Tryggestad, K. (2010). The role of accounting devices in performing corporate strategy. *Accounting, Organizations and Society, 35*(1), 108-124.
Solomons, D. (1991). Accounting and social change: A neutralist view. *Accounting, Organizations and Society, 16*(3), 287-295.
Soufian, M., Forbes, W., & Hudson, R. (2014). Adapting financial rationality: Is a new paradigm emerging? *Critical Perspectives on Accounting, 25*(8), 724-742.
Sunder, S. (2016). Better financial reporting: Meanings and means. *Journal of Accounting and Public Policy, 35*(3), 211-223.
Themsen, T. N., & Skærbæk, P. (2018). The performativity of risk management frameworks and technologies: The translation of uncertainties into pure and impure risks. *Accounting, Organizations and Society, 67*, 20-33.
Tinker, T. (1991). The accountant as partisan. *Accounting, Organizations and Society, 16*(3), 297-310.
Tryggestad, K. (2005). Natural and political markets: organizing the transfer of technology and knowledge. *Economy and Society, 34*(4), 589-611.
Vollmer, H., Mennicken, A., & Preda, A. (2009). Tracking the numbers: Across accounting and finance, organizations and markets. *Accounting, Organizations and Society, 34*(5), 619-637.
Walker, S. P. (2016). Revisiting the roles of accounting in society. *Accounting, Organizations and Society, 49*, 41-50.
Warren, L., & Seal, W. (2018). Using investment appraisal models in strategic negotiation: The cultural political economy of electricity generation. *Accounting, Organizations and Society*. doi: 10.1016/j.aos.2018.04.001

Watts, R. L., & Zimmerman, J. L. (1978). Towards a positive theory of the determination of accounting standards. *The Accounting Review, 53*(1), 112-134.
Watts, R. L., & Zimmerman, J. L. (1979). The demand for and supply of accounting theories: the market for excuses. *The Accounting Review, 54*(2), 273-305.
Whitley, R. (1986). The transformation of business finance into financial economics: The roles of academic expansion and changes in US capital markets. *Accounting, Organizations and Society, 11*(2), 171-192.
Williams, P. F., & Ravenscroft, S. P. (2015). Rethinking decision usefulness. *Contemporary Accounting Research, 32*(2), 763-788.
Woolgar, S., & Lezaun, J. (2015). Missing the (question) mark? What is a turn to ontology? *Social Studies of Science, 45*(3), 462-467.
Young, J. J. (1995). Getting the accounting right: Accounting and the savings and loan crisis. *Accounting, Organizations and Society, 20*(1), 55-80.
Young, J. J. (2006). Making up users. *Accounting, Organizations and Society, 31*(6), 579-600.
Young, J. J. (2014). Separating the political and technical: Accounting standard-setting and purification. *Contemporary Accounting Research, 31*(3), 713-747.
Young, J. J., & Williams, P. F. (2010). Sorting and comparing: Standard-setting and "ethical" categories. *Critical Perspectives on Accounting, 21*(6), 509-521.
Zuckerman, E. W. (2012). Market efficiency: A sociological perspective. In Knorr Cetina, K. and Preda, A. (Eds.) *The Oxford Handbook of the Sociology of Finance* (pp. 223-249). Oxford, UK: Oxford University Press.