Original Search

Conditional accounting conservatism: Exploring the impact of changes in institutional frameworks in four countries

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A B S T R A C T

This study examines the links between conditional conservatism in financial accounting and certain changes in the institutional frameworks in Australia, France, Japan and the United States of America (US) during the period 1981–2008. We identify specific time periods where changes in market regulation and financing structure; harmonisation and convergence of accounting standards; and corporate governance occurred. We find that conditional conservatism, measured using the Basu (1997) model, decreased in all four countries over the study period. Indeed, by the end of the period studied, there was little support for the existence of conditional conservatism in any of the four countries. However, it is important to note that the pattern and timing of the changes varied across the four countries.

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1. Introduction

We examine the effects of variations in institutional framework on conditional conservatism in four different countries. Conditional conservatism is considered a fundamental quality of financial accounting, but is known to change over time and differ across countries. We select four countries with different institutional frameworks. We then identify significant changes in institutional frameworks over the period 1981–2008 for each of these countries.

Conservatism is a long-standing quality of accounting information and has traditionally been explained as a response to agency relationships that exist between managers, shareholders and debt providers. Conditional conservatism focuses on the asymmetry that exists between the verification of gains versus the verification of losses, and has been widely studied following the work of Basu (1997). It has been noted that conservatism is linked to the broader institutional framework for financial accounting. In this paper "institutional framework" refers to the institutions and practices of a particular country that affect financial reporting practices. These include accounting standards, litigation risks and taxation for example (Watts, 2003a). In this paper we explore the impact of changes in country-level institutional frameworks on conditional conservatism. To do this, we identify periods of change in institutional framework for each country in our sample and we then test to see whether conditional conservatism in that country changes as predicted with the change in institutional framework.

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We select Australia, France, Japan and the United States of America (US) for our study. First, we consider Australia and France. These two countries differ in legal system, culture and language and yet both countries adopted International Financial Reporting Standards (IFRS) in 2005. Inclusion of these countries in the sample provides an opportunity to test the impact of an important change in institutional framework, adoption of IFRS, on the level of conditional conservatism when given countries with very different institutional frameworks. Secondly, we consider the US and Japan. These two countries have different institutional frameworks to that of Australia or France. While neither of the two countries adopted IFRS, there were important changes in institutional framework that may have affected conditional conservatism during the study period. Finally, examining four different countries provides some insight into the relative importance of the adoption of IFRS compared with recent changes in generally accepted accounting principles (GAAP) with respect to conditional conservatism.[1]

The study period is broken down into three sub-periods (1981–1996; 1997–2004; 2005–2008) for France, Australia and Japan. A further sub-division is created for the US, with the middle period being split into 1997–2001 and 2002–2004. The study period selected for this study, 1981–2008, saw significant globalisation and harmonisation in both institutional and regulatory frameworks across the world, culminating in the adoption of IFRS in a large number of countries in 2005. We end our analysis in 2008, which allows us sufficient time post-IFRS adoption to consider the effect of IFRS on the four countries while avoiding the worst of the Global Financial Crisis, which cast the world's economies into recession. There are certainly signs that globalisation stalled in the post 2007 period (The Economist, 2012, 2019). Further analysis of the impact of the Global Financial Crisis and the years following this on institutional framework and accounting conservatism is left to future research.

There are three key findings in this study. First, there was an increase in conditional conservatism following significant regulatory reforms in Japan in 1996 while there is no evidence that conditional conservatism increased during the significant Sarbanes Oxley Act (U.S. House of Representatitives, 2002) (SOX) reforms in the US in 2002–2004. Secondly, there was a decrease in conditional conservatism observed in the US and Australia following periods of increased use of fair value measurement accounting (1997–2001 for the US and post-2005 for Australia). Fair value accounting did not coincide with a decrease in conditional conservatism in France post-2005, however. Finally, a key contribution of this paper is the discovery of a decline in conditional conservatism across all four countries over the study period. Our findings suggest that the introduction of more robust impairment rules had a limited influence on conditional conservatism and that a decrease in conditional conservatism as a result of fair value accounting was the more dominant effect. Indeed, conditional conservatism is undetectable towards the end of the study period for the four countries in this study.

André et al. (2015), Zeghal et al. (2012) and Ahmed et al. (2013) all report a decrease in conditional conservatism post-IFRS adoption, however none measure the overall level of conditional conservatism post adoption. We are thus the first to report a statistically significant decline in conditional conservatism in the four countries examined to the extent that conditional conservatism is not detectable by the popular Basu (1997) model in the final sub-periods used in this study. This suggests that, over time, financial reporting of gains and losses has become more balanced in the four countries we study. It is possible that this decrease in conditional conservatism is caused by an increase in unconditional conservatism, although we do not explore changes in unconditional conservatism in this study.

While other studies have considered the effect of institutional framework on conditional conservatism, they generally focused on particular aspects of the institutional framework and examined differences in a cross-section of countries at a specific time. For example, André et al. (2015) and Ahmed et al. (2013) examined the effects of IFRS adoption around 2005, Ball et al. (2000) compared conservatism in code law countries relative to common law countries and Ball et al. (2008) considered the impact of the relative importance of debt and equity markets on conservatism. Bushman and Piotroski (2006) studied a range of institutional factors, but only in the cross-section. The contribution of this study is in its exploration of the inter-relationships existing between change in institutional framework and variation in conditional conservatism. Thus, rather than consider a particular change in institutional framework in isolation at a particular time, we explore the effect on conditional conservatism of important changes in institutional framework that have taken place over our study period. To this end, we conduct four separate longitudinal analyses, one for each of the four countries. We do not directly compare the countries, but presented together the results provide an opportunity to contrast the effects of the changes that have occurred. We thus respond to Wysocki's (2011) observation that it is difficult to attribute observed differences in accounting outcomes, like conditional conservatism, to particular institutional frameworks when the analysis focuses on just one point in time. Each country in our study follows a unique path in the evolution of their institutional framework. Our evidence thus contributes to our understanding of the influence of various institutional factors on accounting earnings quality. The results of this study are of interest to capital market participants including standard setters and regulators as they highlight the importance of institutional frameworks to financial reporting.

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[1] Note that we do not perform a direct statistical comparison of the four countries. These four countries allow us to compare and contrast the effect of different and similar institutional changes in different environments over the time period examined.

2. Background and hypotheses

2.1. Conditional conservatism and institutional framework

Accounting conservatism is defined as 'asymmetrical verification requirements for gains and losses' (Watts, 2003a). Conservatism arises from accounting policy choices (i.e., recognition and measurement decisions) that result in an understatement of firm book value. However, these choices are constrained by a country's institutional framework, which includes the country's accounting standards (Ball et al., 2000; Bushman and Piotroski, 2006; Chan et al., 2011; Mora and Walker, 2015). Indeed, we define a country's institutional framework as comprising the institutions and regulations that shape financial reporting, including the legal, financial and regulatory systems, accounting standards, corporate governance rules and economic features and conditions (including litigation risk and taxation).

Two types of conservatism are referred to in the literature, conditional (also income statement, earnings or ex-post) conservatism, and unconditional (balance sheet or ex-ante) conservatism (Pope and Walker, 2003). Conditional conservatism is dependent on news, and reflects how quickly bad news is incorporated into accounting earnings as opposed to good news (Basu, 1997). An example of conditional conservatism is the immediate recognition of downward changes in the value of assets while upward changes are not recognised in the accounts. Unconditional conservatism relates to the concepts of prudence and asset undervaluation. For example, immediate expensing of internally generated intangible assets illustrates unconditional conservatism.[2] The application of unconditional conservatism (not recognising a research and development asset, for example) will generally pre-empt the need for conditional conservatism as there is no need to write down the unrecognised asset. Thus, a negative relationship generally exists between conditional and unconditional conservatism (Beaver and Ryan, 2005; Garcia Lara and Mora, 2004; Pope and Walker, 2003). This study focuses on conditional conservatism, but given the interrelationship between conditional and unconditional conservatism some of our discussion and predictions focus on expected changes in unconditional conservatism and the resultant impact on conditional conservatism.

A country's institutional framework includes its legal structure, tax and securities laws, governance norms, political economy and tax regimes (Bushman and Piotroski, 2006). Accounting is an element of the institutional framework (Leuz, 2010; Wysocki, 2011). There are similarities and differences in features of the institutional frameworks in each of the four countries selected for this study. The four countries exhibit specific variation in their institutional framework and this provides a setting within which we study the impact of variation in institutional framework, in each country over time, on conditional conservatism. The analysis of just four countries over a long time period allows us to observe variations in institutional framework that is not feasible when using large numbers of countries in a simple one period, cross-country study.

Ball et al. (2000) and Bushman and Piotroski (2006) investigated the link between various institutional factors and conservatism during the period 1985–2001. They found that common law, strong investor protection, strong public enforcement, low risk of expropriation and low state ownership all contribute to higher levels of conditional conservatism. In this study we focus on critical changes in institutional framework and the impact of these changes on conditional conservatism. One important example that has been noted in the literature is the introduction of IFRS in 2005. In considering the effect of IFRS on European firms, Zeghal et al. (2012), Ahmed et al. (2013) and André et al. (2015) reported a decrease in bad news timeliness following the adoption of IFRS. While Ahmed et al. (2013) reported a more significant decrease in strong enforcement countries, André et al. (2015) found higher levels of conditional conservatism in countries with stronger enforcement and stronger governance. An interesting contrast are the results of Madah Marzuki and Abdul Wahab (2016). They found an increase in conditional conservatism after the adoption of IFRS in Malaysia, a developing country. This emphasizes the importance of analyzing countries individually and considering the particular institutional context of that country. Rather than focusing on the impact of one particular change in accounting regime, we are able to explore the impact of a range of changes in institutional framework for our sample over the period from 1981 to 2008. We then link these changes back to variations in conditional conservatism for each of the four countries.

2.2. Hypotheses

Institutional frameworks change over time, particularly in relation to governance requirements and changes in accounting and auditing standards. Table 1 highlights some major changes in the four countries' institutional frameworks over the study period. The table indicates three major periods of institutional change across France, Australia and Japan, with one additional period in the US. We have labelled these periods as Period 1 (1981–1996), Period 2 (1997–2004) and Period 3 (2005–2008) for France, Australia and Japan. For the US we refer to Period 1 (1981–1996), Period 2a (1997–2001), Period 3a (2002–2004) and Period 4 (2005–2008). We examine how changes in conservatism over time in the four countries are linked to changes in institutional frameworks.

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[2] Several authors suggest that unconditional conservatism is captured in the intercept of the Basu (1997) model (Basu, 1997; Garcia Lara and Mora, 2004; Giner and Rees, 2001).

Table 1
Major changes in the institutional framework in the four countries.

Period (Australia, France, Japan)	Period (US)	Major Event/s	Associated changes in each country			
			Australia	France	Japan	US
Period 1 (1981–1996)	Period 1 (1981–1996)	The period 1978–1983 saw EU Directives for Financial Reporting adopted.		Fourth directive implemented into law 1983. Seventh directive implemented into law 1985.		
Period 2 (1997–2004)	Period 2a (1997–2001)	1996/1997 saw major restructuring begin on the institutional frameworks due to problems identified. Progress on international harmonisation of accounting standards.	CLERP 1 paper issued in 1997. Process of harmonisation with IAS begins. CLERP 1: Legislation enacted 1999; new institutional arrangements from 1 January 2000.	1996 reform of the CNC, CRC, and harmonisation to international standards. 1996/1997 debate to allow IAS for financial reporting instead of local FGAAP.	1997 financial reform and the accounting 'Big Bang' in response to Japan's domestic financial and accounting troubles.	Private Securities Litigation Reform Act (1995) in force in this period. SFAS 133 requiring fair value measurements of some financial instruments applicable from 1998.
		Prominent accounting scandals in 2001. Reform of the IASC in 2001.	New Corporations Act 2001 enacted.	Amendment of the Fourth directive to include IAS 39 fair value requirements so firms can comply with IAS and EU directives in 2001.	Restructuring of the accounting standards setters. Formation of new accounting bodies. Move process to private sector in 2001.	The year 2001 saw a number of important activities including: The Enron and the Dot.com bubble collapse. Rules versus principles debate ignites again.
	Period 3a (2002–2004)	IFRS gains major support worldwide to be used in many countries.	3 July 2002: Announcement by the FRC that reporting entities will adopt IFRS from 1 January 2005.	12 March 2002: EU announcement of IFRS mandatory adoption for consolidated accounts of all listed firms.		18 September 2002: Announcement of the Norwalk agreement of IFRS and US GAAP convergence. Aim to remove differences between IFRS and US GAAP.
		2002–2004 saw various accounting scandals that led to the introduction of new corporate governance regulations and recommendations. Further developments in progress in accounting standards.	Howarth Corporate Governance Report on Corporate Governance Codes of Best Practice implemented in 2003. CLERP 9 became law from 1 July 2004.	2003 more amendments to allow more extensive use of fair values and fewer incompatibilities with IASB standards.		2002 Introduction of the Sarbanes-Oxley Act. Introduction of standards with more fair value measurement (SFAS 142 for goodwill impairment).
Period 3 (2005–2008)	Period 4 (2005–2008)	In 2005, IFRS becomes mandatory for some entities in the EU, Australia and in other countries. Major convergence projects continue. Global Financial Crisis starts in 2007.	Australia adopts IFRS for reporting entities in 2005.	France adopts IFRS for accounts of listed consolidated entities in 2005.	Convergence Project to IFRS launched January 2005.	FASB working with IASB on Convergence Program.
					Tokyo agreement between the ASBJ and IASB entered into August 2007. 2008 was set as the target date for eliminating major differences between IFRS and JGAAP.	In 2007, stock market returns decrease, capital funding is tightened (debt and equity).

2.2.1. France

Traditionally, the state controlled the accounting framework and its regulation in France. From 1947 the main source of accounting rules was the National Accounting Plan (Plan Comptable Général). Taxation and accounting profits rules were not substantially different (Nobes and Parker, 2004) and the emphasis of reporting was on tax-aligned accounting. Examples of this included a preference, in practice, for expensing interest costs on capital projects and using the completed-contract method for recognising profits on longer term contracts. In addition, for firms to benefit from accelerated depreciation and other specific tax allowances they had to recognise the expenses in their accounting records (Lamb et al., 1998). The alignment with the tax system thus seems to lead to an emphasis on unconditional conservatism. We use the period 1981 to 1996 (Period 1) to capture this stage in the development of the institutional framework in France. Conditional conservatism is assumed to exist during this period, however the level may be relatively low in France due to the influence of the tax system and the existence of a more stakeholder-based governance model[3] (Ball et al., 2000). We predict that conditional conservatism will increase in the period 1997 to 2004 (Period 2) from that evident in the previous period, due to a growing internationalisation of the French market. Major reforms occurred in France from 1996. Reformation of the French National Accounting Council (CNC) and the foundation of a new Accounting Regulation Committee (Comité de la Réglementation Comptable (the CRC)) were instigated in 1996 (Ding and Stolowy, 2006). As a result of these reforms, the influence of the state was diminished and that of the accounting profession and the private sector was increased (Colasse and Standish, 1998). The changing nature of shareholders over this period (more international and outsider shareholders) would also have placed pressure on enterprises to produce financial reports that promote efficient contracting (Ding and Stolowy, 2006). By 1998 French accounting regulators allowed the reporting of consolidated reports under IFRS or US GAAP if they were consistent with EU Directives. Being consolidated accounts, they were not affected by the tax regulations that applied to parent company accounts. Thus, greater flexibility in accounting choice was then available to enterprises in the way they constructed their consolidated financial reports (Stolowy and Ding, 2003).[4] This increased flexibility in consolidated accounting meant that firms were able to meet demands from outside investors to report in a conditionally conservative manner. It is important to note that other elements of the institutional framework in France remained little changed during this period (e.g. legal origin, protection and enforcement rules, litigation risk). Analysis of France over this period allows us to look at whether this movement away from Government control over annual reports had an impact on conditional conservatism. We can then compare our results for France with what happened to conditional conservatism in the US and Australia over the same period.

Initiatives in France to open up accounting regulations were followed by the European Commission's decision in 2002 to adopt IFRS from 2005. Appendix B provides a detailed list of the differences between local accounting standards and IFRS just prior to the adoption of IFRS in France and Australia (details for the US and Japan are also provided for comparative purposes). While IFRS adoption in France was a more significant change to accounting standards than in Australia (Bae et al., 2008), it is not obvious what the effect of IFRS would have on conditional conservatism in these two countries. In France, adopting IFRS resulted in less flexibility around the use of the pooling of interests method, more restrictive rules relating to on-acquisition provisions and the capitalisation of acquired development costs. This all results in a less conservative post-acquisition balance sheet, suggesting an increased need for conditional conservatism. The implementation of more rigid impairment requirements under IFRS for goodwill and other long-term assets provided a formal mechanism for conditional conservatism. However, restricting the instances in which provisions can be created and mandatory discounting of provisions would reduce avenues for exercising conditional conservatism. This would be compounded by the use of fair value accounting for certain financial instruments and investment properties under IFRS (prior to IFRS fair value accounting was only used in very limited circumstances). Of course, pressures from globalisation may increase the demand for conditional conservatism in line with efficient contracting arguments.[5] For the purpose of our empirical tests, and consistent with the findings of Zeghal et al. (2012), Ahmed et al. (2013) and André et al. (2015), we predict that conditional conservatism will decline following the adoption of IFRS.

Our hypothesis for France is thus stated as:

H1: In France, the level of conditional conservatism increases in period 2 relative to period 1 and decreases in period 3 compared to period 2.

2.2.2. Australia

Given its institutional framework, Australia is expected to have a high level of conditional conservatism in the period from 1981 to 1996 (Ball et al., 2000; Bushman and Piotroski, 2006). During the 1990s, major efforts to harmonise with International Accounting Standards (IAS) occurred (see Table 1), with input from the Australian Accounting Standards Board (AASB), the professional bodies and the Australian Stock Exchange (ASX) (Brown and Tarca, 2001). The AASB announced a harmonisation policy program with international standards in 1996 (AASB, 1996). There were further proposals to adopt

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[3] A "stakeholder governance model" is typical of code-law countries and companies tend to be governed by stakeholder representatives. Accounting standards in these countries were generally established by government bodies. This is in contrast to a "shareholder governance model" where governance is dominated by shareholders and accounting standards tend to codify accepted practice in common-law countries. See Ball et al. (2000) for details.

[4] We use consolidated data from DataStream for France in our study.

[5] The Paris Bourse merged with the Amsterdam, Lisbon and Brussels exchanges in 2000 to form Euronext NV to create Europe's second largest exchange (next to the London Stock Exchange). In 2007, Euronext merged with the NYSE. The increased regulation and global exposure may provide another incentive to report in a more conditionally conservative way to investors.

IAS as the national accounting standards in 1997, however, this legislation was never enacted. Nevertheless, the pressures of harmonisation were accelerated and the AASB continued with its harmonisation policy. We predict no change in Period 2 in Australia. We argue that the institutional changes in Australia in this period, while important, were not of a magnitude that would lead to overall changes in the level of conditional conservatism. The Australian environment was already based on a shareholder governance model and there was a strong accounting focus on external capital providers. Finally, relevant studies in Australia have shown that conditional conservatism was present and reasonably stable over the period 1993–2005 (Balkrishna et al., 2007; Lai et al., 2013).

In 2002, the official announcement was made by the FRC that Australia would adopt IFRS in line with the EU from 2005 (FRC, 2002). Consequently, IAS not covered in AGAAP would be introduced, including standards for financial instruments, intangible assets and post-employment benefits (Nobes and Parker, 2004; Picker, 2007). Appendix B provides a detailed list of the accounting standard changes resulting from IFRS adoption. A notable change was removing the ability to amortise goodwill and replacing it with an annual impairment test. This reduced managers' discretion in determining the useful life of the goodwill, but increased the need to respond to deteriorating market conditions (or other bad news) via an impairment charge. In contrast, more stringent rules were applied to the capitalisation of research and development costs. Recognising fewer assets increases unconditional conservatism and reduces the need for conditional conservatism. Increased application of fair value measurement for financial instruments and investment properties would have also eroded avenues for conditional conservatism. Overall this suggests a decrease in unconditional conservatism over the period. While IFRS adoption in Australia was a less significant change than in France, consistent with the findings of Lai et al. (2013) conditional conservatism is predicted to decrease in Period 3.

The hypothesis for Australia is formally stated as:

H2: *In Australia, the level of conditional conservatism is similar in periods 1 and 2 and decreases in period 3 compared to period 2.*

2.2.3. The US

Conditional conservatism has been observed in the US and has been ascribed to contracting, litigation, regulation and taxation incentives (Basu, 1997; Beaver et al., 2012; Khan and Watts, 2009; Watts, 2003a, 2003b). Thus, there should be fairly strong evidence in support of the conditional conservatism in the period prior to 1995. In the later part of the 1990s, the Financial Accounting Standards Board (FASB) started to introduce more fair value measurement in US accounting standards. One example was Statement of Financial Accounting Standards No. 121: Accounting for the Impairment of Long Lived Assets and Long Lived Assets to be Disposed of (FASB, 1995).[6] This standard requires assets to be written down to fair value with the expense recognised in current earnings. This is an example of the application of conditional conservatism because the standard recognises losses, not gains, as they occur (Bandyopadhyay et al., 2010). On the other hand, SFAS 133,[7] issued in 1998, which also requires fair value measurement for certain financial instruments, reports both gains and losses as they occur. Conditional conservatism has little role to play in the application of this standard.

Previous studies have shown a link between litigation risk and conservatism (Basu, 1997; Watts, 2003a). In 1995 the Private Securities Litigation Reform Act reduced litigation risk facing managers and the accounting profession by introducing more rigorous requirements for private parties (e.g. shareholders) when filing securities lawsuits. Liu et al. (2013) found a decrease in conditional conservatism after the enactment of this Act. Given the legislative change that has decreased conditional conservatism and the introduction of some new accounting standards that increase conditional conservatism, it is possible that conditional conservatism saw little change in the late 1990s.

Further significant changes occurred in 2001. Statement of Financial Accounting Standards No. 141: Business Combinations (FASB, 2001a)[8] banned the use of pooling of interests. Purchase accounting results in less conservative balance sheets, and thus the need for more conservative income statements (Basu, 2001). Statement of Financial Accounting Standards No. 142: Goodwill and Other Intangibles (FASB, 2001b), issued in June 2001,[9] imposed a mandatory annual impairment test for goodwill and disallowed amortisation. Less balance sheet conservatism coupled with a requirement to write down goodwill when impaired suggests increased conditional conservatism.

The issue of these standards coincided with the introduction of SOX in 2002 by the SEC. It has been argued that the SOX changes may lead to higher conservatism stemming from incentive changes in auditor liability and other regulatory changes (Lobo and Zhou, 2006, 2010). The SOX also called for the SEC and FASB to examine the merit of principle based standards (Zeff, 2005) and convergence projects with the International Accounting Standards Board (IASB) were strengthened. In October 2002, the Norwalk Agreement was issued where the IASB and FASB signed a Memorandum of Understanding pledging their commitment to convergence between US GAAP and IFRS.

The year 2002 is chosen as an additional break in the US to represent the overall changes in conservatism arising from a combination of several initiatives, including SOX (see Period 3a in Table 1). We predict an increase in conditional conservatism arising from the accounting standard changes that occurred during this period along with the introduction of SOX.

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[6] Effective for fiscal years beginning after December 15, 1995.
[7] Statement of Financial Accounting Standards No. 133 – *Accounting for Derivative Instruments and Hedging Activities* (FASB, 1998) (SFAS 133)
[8] Effective for all business combinations initiated after June 30, 2001.
[9] Effective for fiscal years beginning after December 15, 2001.

In Period 4, we predict that conservatism levels remain the same as Period 3a, because there are no major changes occurring after 2004 that would directly affect the level of conditional conservatism in US accounting practices.[10]

This leads to the US hypothesis, which is formally stated as:

H3: In the US, the level of conditional conservatism is similar in periods 1 and 2a, increases in period 3a compared to period 2a and is similar in periods 3a and 4.

2.2.4. Japan

Like France, Japan is seen as originating from a more stakeholder driven governance model (Ball et al., 2000). As a result of cross-holding and bank shareholding structures, public share ownership is limited. This type of ownership structure influences incentives for conservatism because there is more demand for internal reporting and lower levels of public accountability. Additionally, investment decisions may be driven by non-financial objectives such as strong business relationships, instead of an emphasis on financial returns as occurs in the US or UK (Koga and Rimmel, 2007).

Major changes within the Japanese accounting framework have occurred since 1997 stemming from Japan's banking and financial crisis (Period 2 in Table 1). The Financial Big Bang reform of 1996 was closely followed by the Accounting Big Bang (Misawa, 2006).[11] Internationalisation of financial and accounting systems was believed necessary to make the Japanese market more competitive. To achieve these goals, the responsibility for accounting standard development was shifted to the Accounting Standards Board of Japan (ASBJ), a private sector body, in 2001.

Many new standards were issued from 1998, including standards harmonised with international standards issued by the IASB (Kikuya, 2001). Changes to the research and development (R&D) standard required expensing of R&D (from 1999). Standards on financial instruments, pensions, and foreign currency translation also changed to be more in line with international rules. Marketable securities are now measured at fair value with gains and losses going through the income statement. Pension provision expenses are provided for in full. Changes to foreign currency translation standards led to variation in the exchange rates used for valuation (Nobes and Parker, 2004). In addition, there have been many corporate governance changes in Japan in the years since 1997. They include strengthening the rules regarding external auditors, encouraging the development of corporate board committees and changing the definition of external directors to promote director independence (Toda and McCarty, 2004). While some of these changes may reduce conservatism (for example, measuring some financial instruments at fair value), like France we expect the effects of globalisation and the alignment of corporate governance changes (leading to a more shareholder governance style) to dominate. Thus, conditional conservatism is expected to increase in Japan in Period 2. This is consistent with the findings of Shuto and Takada (2010) over the period 1991 to 2005 as well as Suda and Takada (2011) and Suda (2011), who find that litigation risk to auditors greatly increased in Japan following the collapse of Yamaichi Securities in 1997.

The ASBJ has been active in liaising with the IASB and has participated in convergence talks with the IASB since 2004 (ASBJ, 2005). However, some differences still remain between IFRS and Japanese GAAP (see Appendix B). Goodwill, impairment practices, business combinations, lease transactions, inventories, provisions and extraordinary items are areas of divergence (Koga and Rimmel, 2007; Nobes and Parker, 2004, 2010). Under Japanese GAAP, goodwill (positive or negative) is amortised over its useful life compared to annual impairment testing for goodwill under IFRS and development costs are always expensed. In addition, provisions can still be made before obligations arise and do not have to be discounted (Koga and Rimmel, 2007; Nobes and Parker, 2010). Thus, in Period 3, no large changes in conservatism are expected to occur.

Our hypothesis for Japan is formally stated as follows.

H4: In Japan, the level of conditional conservatism increases in Period 2 relative to Period 1 and is similar in Periods 2 and 3.

3. Data and method

3.1. Sample selection

The countries in our study have institutional frameworks that feature a number of similarities and differences and that also change over time. We include the largest 500 listed firms in each country as shown in the Datastream Constituent Lists available for the period 1981 to 2008.[12] While this does not provide comparable samples across the four countries due to differences in their economies and markets, it is not necessary in our study as we are not performing a direct comparison of the four countries. Using the top 500 as the sample is not unusual in this type of research; see, for example, Lai et al. (2013), Laksmana (2008), Chambers et al. (2007), Guillamon-Saorin et al. (2017), and Lim et al. (2007).[13] We use large companies as they tend to be more liquid (Amihud, 2002; Stoll and Whaley, 1983). As the Basu (1997) model is a joint test of conservatism and market efficiency (Ball et al., 2000; Givoly et al., 2007), the more liquid the market, the more likely that the results can be

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[10] By the end of the period, the FASB and IASB were pursuing a convergence project to align major standards for financial instruments, revenue and leases. However, no standards resulting from this project were effective during the period.

[11] The Financial Big Bang was a major reform of the Japanese financial system. See Misawa (2005) for details on the reforms and Mizuno (2004) for a description of the changes to accounting standards.

[12] Australia All Ordinaries Index; France CAC All Shares; Japan Topix 500; US S&P500.

[13] This also gives us a reasonable coverage of the markets examined; for example, our sample represents 70%, 70%, 43% and 78% of the French, Australian, US and Japanese total market capitalisation respectively in 2008.

attributed to conservatism. Using the larger firms in each market also means we are more likely to have access to the required data for each firm. Our sample sizes for France and Australia are similar to those used in André et al. (2015), Ahmed et al. (2013), Zeghal et al. (2012), Chua et al. (2012), Ball et al. (2000) and Bushman and Piotroski (2006). Our US and Japanese samples are, however, much smaller than Ball et al. (2000) and Bushman and Piotroski (2006), who do not restrict their sample to the top 500. We then select firms with the most common financial year-end date. In Australia this is the 30 June. In France this is the 31 December. In Japan this is the 31 March and in the US this is the 31 December. This improves comparability over time for each of the countries. Table 2 shows the number of firms and observations. The sample consists of 388 firms in France (4874 firm-year observations), 398 firms in Australia (3318 firm-year observations), 357 firms in the US (7435 firm-year observations) and 421 firms in Japan (8180 firm-year observations). Data availability is lowest in the early years and increases over time. Data limitations can lead to survivorship bias, however this is common in studies similar to ours (Kothari et al., 2005).[14] The distribution of the firms across industries over the four periods is shown in Table 3. The classification is based on the FTSE Russell Industry Classification Benchmark (ICB) drawn from Datastream.[15] Generally the industrial composition of the samples is consistent across time, particularly across Periods 2 and 3.

3.2. Models

Basu's (1997) seminal paper provided a simple empirical model of conditional conservatism measuring the speed of incorporation of news into earnings. In his model, stock market returns are used as a proxy for news. It is assumed in this approach that positive returns are a proxy for good news and negative returns are a proxy for bad news. In order to distinguish between the incorporation of good news (positive returns) and bad news (negative returns) into earnings, Basu (1997) includes a dummy variable to isolate the difference between the speed of good news relative to bad news being recognised in the earnings numbers. To implement the test we regress an earnings variable on this dummy variable, a share market returns variable and a variable consisting of the product of these two variables. In this model, good news timeliness is measured by the estimated coefficient (slope) on the returns variable and incremental bad news timeliness is captured by the coefficient on the interaction variable. If the timeliness of bad news is incremental to that of good news timeliness (i.e. bad news is recognised in a more timely manner than good news), then conditional conservatism is said to exist.

Many studies use the Basu (1997) approach to measure the level of, and change in, conditional conservatism. Some have extended this model by adding variables to the basic model to analyse the underlying drivers of conditional conservatism (for example, Khan and Watts, 2009) or by exploring the impact of earnings measure choice by repeating the analysis with a range of earnings measures (Pope and Walker, 1999). Others have taken a different approach to measuring conservatism. Some use the ratio of explanatory power of good news to bad news (Givoly and Hayn, 2000). Others choose a measure based on accruals to capture conservatism (Ball and Shivakumar, 2005). Our aim is to examine a long period of time that allows for market development and internationalisation and thus allows us to assess the impact of changes in institutional frameworks. Further, the use of the Basu model allows us to more easily compare our findings with those of other studies conducted at various times over the period of our study.

While the Basu model has been criticised (Beaver et al., 2012; Givoly et al., 2007; Mora and Walker, 2015; Patatoukas and Thomas, 2011), it is still widely used and, in particular, is often used in international studies (Ahmed et al., 2013; André et al., 2015; Balakrishnan et al., 2016; Ball et al., 2000; Ball et al., 2008; Bushman and Piotroski, 2006; Giner and Rees, 2001; Grambovas et al., 2006; Jung et al., 2017; Raonic et al., 2004). Finally, it has been argued that many of the criticisms of this method can be dealt with by using firm fixed effects and robust standard errors (Ball et al., 2013; Gow et al., 2010) as we have done in our study.

Eq. (1) shows the Basu (1997) regression model.

$$X_{i,t}/ MV_{i,t-1} = a + b\,Dum_{i,t} + c\,Rets_{i,t} + dDum_{i,t} \times Rets_{i,t} + \mu_{i,t} \qquad (1)$$

where

$X_{i,t}/MV_{i,t-1}$ = Net income before extraordinary items deflated by closing market value of equity at the end of the previous fiscal year
$Rets_{i,t}$ = Buy and hold continuous returns for the firm minus the corresponding market index returns
$Dum_{i,t}$ = Dummy variable coded 1 if returns are negative, 0 otherwise

The variables are defined in greater detail in Appendix A. Thus, in the following analysis we regress scaled income on equity return, a negative equity return dummy and the interaction between these two explanatory variables. We fit this basic Basu model to the data using pooled regression, which is expected to increase the power of our estimates (Bushman et al., 2006; Li, 2010). The data is pooled over firm and year for each country. This approach provides an average measure of conditional conservatism, for each of the countries under consideration. Our main objective is to determine whether changes in conditional conservatism are related to observed changes in institutional framework for the country

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[14] We do, however, address this in our robustness tests in Section 4.4.
[15] This classification divides the markets into eleven industry groups; Technology, Telecommunications, Health Care, Financials, Real Estate, Consumer Discretionary, Consumer Staples, Industrials, Basic Materials, Energy and Utilities.

Table 2
Number of observations in each country.

Panel A: Number of observations in the individual country regressions (pooled across sub-periods)				
	France	Australia	US	Japan
Number of firms	388	398	357	421
Number of observations	4874	3318	7435	8180
Panel B: Number of observations in each sub-period				
1981–1996	1312	862	3949	4038
1997–2004	2240	1305		2628
1997–2001			1461	
2002–2004			940	
2005–2008	1322	1151	1085	1514

This table presents the number of firm-year observations in the sample. Panel A states the number of firms and the number of firm-year observations used in each individual country regression when the sample is pooled for cross-section and time-series for each country. Panel B presents the number of firm-year observations for each sub-period for each country used in each individual country regression.

of interest. To achieve this objective, we include a set of cumulative dummy variables that allows us to test for change in conditional conservatism across particular sub-periods of our sample period, 1981 to 2008. The addition of these dummy variables gives rise to the expanded model as set out in Eq. (2) below.

$$
\begin{aligned}
X_{i,t}/MV_{i,t-1} = \ & \alpha_0 + b_0 Dum_{i,t} + c_0 Rets_{i,t} + d_0 Dum_{i,t} \times Rets_{i,t} + \alpha_1 D1997 + \alpha_2 D2002 \\
& + \alpha_3 D2005 + b_1 Dum_{i,t} \times D1997 + b_2 Dum_{i,t} \times D2002 + b_3 Dum_{i,t} \times D2005 + \\
& c_1 Rets_{i,t} \times D1997 + c_2 Rets_{i,t} \times D2002 + c_3 Rets_{i,t} \times D2005 + d_1 Dum_{i,t} \times Rets_{i,t} \times \\
& D1997 + d_2 Dum_{i,t} \times Rets_{i,t} \times D2002 + d_3 Dum_{i,t} \times Rets_{i,t} \times D2005 + \mu_{i,t}
\end{aligned}
\tag{2}
$$

where *D1997, D2002 and D2005* = are cumulative dummy variables (Dxxxx), with a value of zero for the years from 1981 to xxxx – 1 and a value of one for the years xxxx onwards.

Period 1 (1981–1996) is reflected in the base variables (Intercept, Dum, Ret and DumxRet). These variables are not interacted with the cumulative dummy variables. The 1997 dummy (D1997) is coded 1981–1996 = 0, 1997–2008 = 1. The 2002 dummy (D2002) is coded 1981–2001 = 0, 2002–2008 = 1. The 2005 dummy (D2005) is coded 1981–2004 = 0, 2005–2008 = 1. The coefficient on these cumulative dummy variables shows the change in coefficient value from one sub-period to the next sub-period. There are two cumulative dummies for France, Australia and Japan, D1997 and D2005, and three for the US, D1997, D2002 and D2005.

In our analysis of the results that follow we focus on the coefficients for the interaction variables that capture the existence of a change in conditional conservatism, Dum $\times$ Rets $\times$ D1997, Dum $\times$ Rets $\times$ D2002 and Dum $\times$ Rets $\times$ D2005. For France, Australia and Japan, the coefficient on the variable Dum $\times$ Rets $\times$ D1997 (d_1) reflects the change in coefficient estimate from the sub-period 1981–1996 (Period 1) to the sub-period 1997–2004 (Period 2). Similarly, for these three countries, the coefficient on the variable Dum $\times$ Rets $\times$ D2005 (d_3) gives the change in coefficient estimate from the sub-period 1997–2004 to the sub-period 2005–2008 (Period 3).

For the US there are four sub-periods of interest and so there is a coefficient for the variable Dum $\times$ Rets $\times$ D1997 (d_1), which captures the change in the variable coefficient from the sub-periods 1981–1996 (Period 1) to the sub-period 1997–2001 (Period 2a). The coefficient for the variable Dum $\times$ Rets $\times$ D2002 (d_2) captures the change in the variable coefficient from the sub-periods 1997–2001 to the sub-period 2002–2004 (Period 3a). Finally, the coefficient for the variable Dum $\times$ Rets $\times$ 2005 (d_3) captures the change in the variable coefficient from the sub-periods 2002–2004 to the sub-period 2005–2008 (Period 4).

We use firm fixed effects regressions and market-adjusted returns[16] to cater for possible econometric problems in the Basu (1997) model, previously noted in the literature (Ball et al., 2013). Numerous sources have emphasised the importance of controlling for firm specific differences (Ball et al., 2013; Grambovas et al., 2006; Huang et al., 2012). This is necessary because firm incentives can be major drivers of conservatism. To further control for other undetermined sources of bias in the regression tests, we report clustered robust standard errors (clustered by firm). Although Gow et al. (2010) recommend using clustered robust standard errors clustered by firm and time, we include firm only clustered standard errors because our models control for time using the cumulative dummy variables as set out in Eq. (2).

4. Results

4.1. Descriptive statistics

Table 4 shows the descriptive statistics for the four countries. There are differences across the four countries and over time in the key variables of earnings, returns and proportion of negative returns (Earnings, Rets and Dum). Scaled earnings

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[16] The calculation is described in Appendix A. We examine raw returns in robustness tests.

Table 3
Percentage of observations in each industry group.

ICB		France %	Australia %	US %	Japan %
Technology	P1	7%	0%	6%	8%
	P2	18%	3%	7%	9%
	P3 (US)			8%	
	P3 & P4	21%	4%	8%	8%
Telecoms	P1	3%	0%	3%	0%
	P2	3%	1%	3%	1%
	P3 (US)			4%	
	P3 & P4	4%	2%	3%	1%
Health Care	P1	3%	8%	9%	6%
	P2	5%	6%	9%	7%
	P3 (US)			10%	
	P3 & P4	5%	5%	10%	7%
Financials	P1	10%	12%	18%	9%
	P2	9%	11%	19%	11%
	P3 (US)			20%	
	P3 & P4	9%	10%	17%	13%
Real Estate	P1	10%	5%	1%	2%
	P2	8%	11%	1%	1%
	P3 (US)			1%	
	P3 & P4	7%	10%	1%	2%
Consumer Disc	P1	23%	14%	13%	14%
	P2	22%	14%	13%	17%
	P3 (US)			13%	
	P3 & P4	21%	12%	12%	18%
Consumer Staples	P1	10%	10%	6%	6%
	P2	6%	4%	5%	6%
	P3 (US)			5%	
	P3 & P4	5%	3%	5%	6%
Industrials	P1	24%	26%	19%	33%
	P2	20%	16%	17%	29%
	P3 (US)			17%	
	P3 & P4	21%	16%	19%	27%
Basic Materials	P1	5%	19%	8%	16%
	P2	5%	22%	8%	14%
	P3 (US)			7%	
	P3 & P4	5%	25%	6%	13%
Energy	P1	3%	2%	7%	1%
	P2	2%	9%	7%	0%
	P3 (US)			7%	
	P3 & P4	2%	10%	8%	1%
Utilities	P1	2%	2%	11%	5%
	P2	1%	2%	9%	4%
	P3 (US)			9%	
	P3 & P4	1%	2%	11%	4%

This table presents the percentage of firm-year observations in each industry group for each period. P1 = 1981–1996, P2 = 1997–2004 and P3 = 2005–2008 for France, Australia and Japan. For the US P1 = 1981–1996, P2 = 1997–2001, P3 = 2002–2004 and P4 = 2005–2008. The industries are drawn from the first level (Industry) of the FTSE Russell Industry Classification Benchmark (ICB).

for the sample are mostly positive, with a maximum of 8.9% in Period 1 for the US and a minimum in Period 2 for Australia of −1.2%. Many of the periods have experienced negative average returns. The proportion of negative share returns ranges from 43% in Period 4 for the US to 59.8% in Period 3 for France. The variables describing firm characteristics relevant to conditional conservatism illustrate some of the differences across the markets, with Australian firms exhibiting lower leverage and the American firms being much bigger than the rest. Generally, there are no distinct patterns in the characteristics of the firms across periods. With the exception of a significant and monotonic increase in MTB in Australia and France, the composition of the sample in each country seems reasonably stable in the dimensions of Size, Lev and MTB.

Standard deviation is also reported in Table 4 for each of the variables. These values are large, suggesting the possibility of extreme values. Graphical analysis of the data (not reported separately) supports this contention. It should be noted that extreme values are common in earnings-based ratios and returns calculated using a large sample of listed companies. Previous studies generally apply either winsorizing or filter rules to deal with this issue. Given the size of the sample and the assumptions implicit in the winsorizing approach, we use a filter rule in this study. As a result, data used in the following

Table 4
Descriptive statistics – four countries.

		France		Australia		US		Japan	
		Mean	Std dev	Mean	Std dev	Mean	Std dev	Mean	Std dev
Earnings	P1	0.064	0.122	0.075	0.129	0.089	0.059	0.030	0.027
	P2	0.018	0.151	−0.012	0.214	0.049	0.042	0.032	0.040
	P3 (US)					0.055	0.047		
	P3/P4	0.034	0.125	0.000	0.177	0.058	0.045	0.041	0.035
Dum	P1	0.553		0.501		0.492		0.520	
	P2	0.496		0.496		0.511		0.455	
	P3 (US)					0.434			
	P3/P4	0.598		0.508		0.504		0.490	
Rets	P1	−0.033	0.287	−0.004	0.308	−0.001	0.212	−0.002	0.202
	P2	−0.034	0.398	0.010	0.390	−0.024	0.314	0.026	0.240
	P3 (US)					0.024	0.241		
	P3/P4	−0.091	0.338	−0.004	0.405	−0.011	0.248	0.014	0.210
MV	P1	1020	2066	965	1690	5215	9783	517	1187
	P2	2650	9495	1687	6907	19,400	38,700	630	1629
	P3 (US)					20,700	39,100		
	P3/P4	3632	12,000	2068	8349	27,500	48,100	878	1738
Size	P1	19.308	1.902	19.829	1.356	21.625	1.200	26.334	0.972
	P2	18.864	2.211	18.933	2.103	22.740	1.048	26.298	1.015
	P3 (US)					22.850	1.006		
	P3/P4	19.155	2.171	19.381	1.846	23.164	0.988	26.658	0.939
Lev	P1	0.763	0.954	0.391	0.509	0.646	0.928	0.613	0.668
	P2	0.672	1.010	0.329	0.477	0.482	0.711	0.837	0.998
	P3 (US)					0.619	0.843		
	P3/P4	0.530	0.823	0.254	0.459	0.446	0.624	0.502	0.687
MTB	P1	1.787	1.396	1.819	1.470	2.335	1.660	2.546	1.307
	P2	2.298	1.997	2.180	1.798	3.838	2.576	1.795	1.060
	P3 (US)					3.185	2.151		
	P3/P4	2.486	1.784	2.960	2.243	3.171	1.836	1.853	0.947

This table presents the mean and standard deviation for the primary variables used in Eq. (1), (2) and (3) for each period and country. MV = Market value in millions of EUR, AUD and USD and billions of YEN respectively at previous fiscal year end. Other variables as defined in Appendix A.

Table 5
Differences of means with Bonferroni adjustment.

(1)	(2)	(3)	(4)
Panel A: Earnings			
	France	Australia	US
Australia	−0.020***		
US	0.038***	0.057***	
Japan	−0.002	0.018***	−0.040***
Panel B: Rets			
	France	Australia	US
Australia	0.050***		
US	0.045***	−0.005	
Japan	0.059***	0.008	0.014**
Panel C: Dum × Rets			
	France	Australia	US
Australia	0.022***		
US	0.066***	0.044***	
Japan	0.080***	0.058***	0.014***

This table shows the differences between the means for each variable in the Basu regression using Bonferroni adjustments. Variables as defined in Appendix A. The countries in column (1) are compared to countries in columns (2), (3) and (4). ***significant at $p < 0.01$, **significant at $p < 0.05$.

regression analysis is subject to a 2% filter rule. Further, we use robust standard errors in statistical tests in order to minimise the impact of distributional issues arising from large values on our reported results.

Table 5 reports the individual comparisons (differences between means) based on the one-way ANOVA with Bonferroni adjustment. The difference is calculated by deducting the number for each country in the columns from the number for the countries in the rows. For example, the number in the top left-hand cell of Panel A, −0.020 is calculated by deducting the mean earnings number for France from that of Australia (0.15–0.035). While Australia has significantly lower mean earnings than the other three countries, the US has significantly higher mean earnings compared to the other three countries. Japan

and France, however, do not differ significantly from each other in earnings. For returns, France has significantly lower mean returns compared to the other three countries and Japan has significantly higher mean returns than the US.

4.2. Level of conservatism

Before looking at changes in level of conservatism, we first examine whether conservatism exists in each of the four countries for the full period of the study, 1981–2008. Table 6 reports two pertinent coefficients estimated within the Basu regression framework for each country as set out in Eq. (1). The estimated coefficient for the interaction term provides an estimate of the impact of negative equity returns, relative to positive equity returns, on earnings for the firm. When this coefficient is insignificantly different from zero there is no evidence to support conditional conservatism. Alternatively, when the interaction term coefficient is statistically significant and positive conditional conservatism is evident in the data. There is support for the existence of conditional conservatism for France, Australia and the US, with a statistically significant positive coefficient on the interaction term (DumxRet) in each of these three models. There is no support for the existence of conditional conservatism in Japan over the full study period, 1981–2008. While not reported separately here, the R^2 estimates from these regressions are similar in magnitude to those reported in Ball et al. (2000).

Table 7 presents an analysis of how conditional conservatism has varied in each of the four countries over the study period. This analysis is based on the model described in Eq. (2) where a set of cumulative dummy variables are included to test for incremental change in conditional conservatism across various sub-periods of the full study period, 1981–2008.

The F-statistics from the regressions reported in Table 7 support the statistical significance of each of the models. The R-square values increase with the addition of the cumulative dummy variables, as we move from the model set out in Eq. (1) to Eq. (2). The adjusted R-square statistics for these models range from the maximum for the US of 14.96% to the minimum for Japan of 4.07% (Table 7).

4.3. Results of hypothesis testing

Hypothesis testing focuses on tests of changes in conditional conservatism and this is captured by tests of the coefficients on the interaction terms, Dum × Rets × D1997, Dum × Rets × D2002 and Dum × Rets × D2005.

For France, we hypothesised an increase in conservatism in Period 2 followed by a decrease in Period 3 as indicated in the Pred. column in Table 7. The hypothesis H1 is not supported by the results reported in Table 7. In Period 2, incremental bad news timeliness showed no evidence of a statistically significant change. It would seem that increasing globalisation and shifts to a more UK/US governance style had little effect on the level of conditional conservatism in France, contrary to our expectations. It seems that conditional conservatism was evident over Period 1 and continued through Period 2, consistent with the results of Ding and Stolowy (2006).

The lack of a statistically significant coefficient for Period 3 (Dum × Rets × D2005) is surprising. Other studies that examined the impact of adoption of IFRS in multi-country settings found evidence of changes in conditional conservatism following the introduction of IFRS (Ahmed et al., 2013; André et al., 2015; Zeghal et al., 2012). It seems that the introduction of IFRS in France had less impact on conditional conservatism than in other countries included in these prior studies.

The level (rather than change in level) of conditional conservatism in each sub-period is reported in Table 8. The cumulative Dum × Rets coefficient is reported for each period. For France we find that the coefficient for Period 1 is 0.093, which is positive and statistically significant, consistent with the existence of conditional conservatism during this sub-period. This coefficient then decreases to 0.062 (0.093–0.031) in Period 2. In the third and final sub-period, which is the post-IFRS period, this coefficient decreases again to give a value of 0.015 (0.062–0.047). While neither of these reductions in coefficient value is statistically significant on its own, the final coefficient value of 0.015 for the last sub-period is not statistically significantly different from zero (see Table 8). Thus, in France over the full period, support for the existence of conditional conservatism ranges from strong statistical support in 1981–1996 through to no statistical support post IFRS (2005–2008).

For Australia, we hypothesised no change in conservatism in Period 2 followed by a decrease in Period 3. Hypothesis H2 is supported. In Period 2, incremental bad news timeliness showed no significant increase from the previous period, that is, overall conservatism remained at a similar level over the two sub-periods. In Period 3 incremental bad news timeliness showed a statistically significant decrease.

Table 7 shows that Australia did not exhibit statistically significant conditional conservatism (incremental bad news timeliness) in the base sub-period, 1981–1996. There is a positive though statistically insignificant increase in incremental bad news timeliness in Period 2 (this finding is consistent with Balkrishna et al., 2007). In Period 3, the incremental bad news timeliness coefficient (Dum × Rets × D2005) is both statistically significant and negative. Our results in Table 8 show that by the end of 2008 Australia, like France, did not exhibit conditional conservatism in financial reporting with the incremental bad news timeliness coefficient dropping from 0.080 in 1981–1996 to 0.044 (0.080 + 0.111–0.147) for the period 2005–2008.

For the US, we hypothesised no change in conservatism in Period 2a, an increase in Period 3a, and no change in Period 4. Table 7 shows that the US exhibited conditional conservatism (incremental bad news timeliness) in the base period. It

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[17] This result is consistent with Grambovas et al. (2006).

[18] Although the decrease in incremental bad news timeliness is not coupled with an increase in good news timeliness which would normally be expected as a result of the fair value measurement rules in SFAS 133.

Table 6
Levels of news timeliness for France, Australia, the US and Japan.

Timeliness	Variable	Coefficient	France	Australia	The US	Japan
Good news effect	Rets	β_0	0.046***	−0.011	0.016**	0.021***
Incremental bad news – (conditional conservatism)	Dum × Rets	β_1	0.069***	0.121***	0.047***	0.006
Total bad news effect	Rets + Dum × Rets	$\beta_0 + \beta_1$	0.115***	0.110***	0.063***	0.027***

This table presents selected coefficient estimates for good news (Rets) and incremental bad news (Dum × Rets) taken from the Basu firm fixed effects regression for each country. The total bad news effect is calculated using these two estimated coefficients. Panel data fixed firm effect regressions are used with clustered robust standard errors (by firm). Only firm-year observations with end of December fiscal year end dates are included for France and the US; June fiscal year end dates for Australia; March fiscal year end dates for Japan. The dependent variable in the regression set out in Eq. (1) is earnings (X_t/$MV_{t−1}$). Earnings (X_t/$P_{t−1}$) and Returns (Rets) are censored at the top 2% and bottom 2%. Dum = Dummy variable coded 1 if returns are negative, 0 otherwise. Rets = Market-adjusted returns measured at −9 to +3 months around fiscal year end date. × denotes interaction between variables. ***significant at $p < 0.01$, **significant at $p < 0.05$.

decreased significantly in Period 2a,[17] but there is no evidence of statistically significant change in this coefficient in any of the subsequent periods. Thus, hypothesis H3 is partially supported in this study. The legislative changes and the introduction of SFAS 133[18] appear to dominate the increase in conditional conservatism caused by changes in impairment rules. Further to this, we predicted an increase in bad news timeliness in Period 3a. An increase was observed in this sub-period but the change is not statistically significant. The change in bad news timeliness is statistically insignificant in Period 4. Overall, most of the change in conservatism occurred in Period 2a. Our results show that by 2001 the US did not exhibit conditional conservatism in financial reporting (see Table 8), which suggests financial reporting became more neutral earlier in the US than in France and Australia.

For Japan we hypothesised an increase in conservatism in Period 2 and no further change in Period 3. The hypothesis H4 is supported in the results reported in Table 7. In Period 2, incremental bad news timeliness increased significantly. Efforts to align Japanese accounting and corporate governance with international best practice increased conditional conservatism. In Period 3 there is no significant change in bad news timeliness. Thus, conservatism increased in Period 2 with no further significant change post 2004. Looking at levels of conservatism across the three periods, Table 8 shows that Japan exhibited conditional conservatism (incremental bad news timeliness) only in Period 2. Similar to the other three countries, Japan does not exhibit statistically significant conditional conservatism in Period 3 with a coefficient value of just 0.014 (-0.019 + 0.051–0.017).[19]

As we noted in our opening comments, conditional conservatism has long been seen as a fundamental quality of financial reporting. A decline in conditional conservatism is thus an important finding. To further validate this result, we conduct a number of robustness tests.

4.4. Robustness tests

For reasons previously explained, our study is based on the Basu (1997) measure of conditional conservatism. A number of more recent studies use the Khan and Watts (2009) (KW) measure (for example, André et al., 2015; Goh and Li, 2011; Jayaraman, 2012; Madah Marzuki and Abdul Wahab, 2016; Young, 2018), which is a firm specific measure that allows researchers to control for the effects of firm characteristics on conditional conservatism. While the foci of our study are the institutional effects on conditional conservatism at the country level, using a modified KW measure may control for potential differences in conservatism caused by changes in firm characteristics rather than institutional changes that took place over the study period, 1981–2008. We thus replicate our tests including control variables that measure firm size, leverage and market-to-book ratio and remove the firm fixed effects. We differ from KW in that we do not run the regression for each year because we are interested in the results for each of our sub-periods, which have been chosen in order to capture the impact of change in institutional frameworks. Our KW model does include interaction terms between the cumulative period dummy variables, Dum × Rets and the three additional control variables. It, thus, also controls for changes in conditional conservatism in the three (or four) periods related to changes in size, leverage or market-to-book ratio. This model, which is essentially Eq. (2) multiplied by the set of three additional control variables, is summarised in Eq. (3)[20]:

$$X_{i,t}/MV_{i,t-1} = (\alpha_0 + b_0 Dum_{i,t} + c_0 Rets_{i,t} + d_0 Dum_{i,t} \times Rets_{i,t} + D1997 (\alpha_1 + b_1 Dum_{i,t}$$
$$+ c_1 Rets_{i,t} + d_1 Dum_{i,t} \times Rets_{i,t}) + D2002 (\alpha_2 + b_2 Dum_{i,t} + c_2 Rets_{i,t} + d_2 Dum_{i,t} \times$$
$$Rets_{i,t}) + D2005 (\alpha_3 + b_3 Dum_{i,t} + c_3 Rets_{i,t} + d_3 Dum_{i,t} \times Rets_{i,t})) \times (\varepsilon_1 + \varepsilon_2 Size_{i,t} +$$
$$\varepsilon_3 Lev_{i,t} + \varepsilon_4 MTB_{i,t}) + \mu_{i,t}$$

(3)

where the variables are as defined for Eq. (2) and

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[17] This result is consistent with Grambovas et al. (2006).

[18] Although the decrease in incremental bad news timeliness is not coupled with an increase in good news timeliness which would normally be expected as a result of the fair value measurement rules in SFAS 133.

[19] Some rounding differences occur due to reporting to the nearest three decimal places.

[20] Our modified KW model thus has 48 variables for France, Australia and Japan and 64 in the case of the US.

Table 7
Cross country comparison (France, Australia, the US and Japan) – Structural break analysis.

	France			Australia			US			Japan		
	Pred	Coeff.	t-stat.	Pred	Coeff.	t-stat.	Pred	Coeff.	t-stat.	Pred	Coeff.	t-stat.
Intercept		0.057	9.07***		0.040	4.86***		0.090	46.57***		0.029	29.12***
Dum		0.019	2.13**		−0.001	−0.17		0.001	0.46		−0.001	−0.53
Rets		0.097	3.40***		0.058	2.07**		0.041	3.91***		0.024	5.02***
Dum × Rets	(+)	0.093	2.06**	(+)	0.080	1.56	(+)	0.035	2.41**	(+)	−0.019	−2.58**
D1997		−0.026	−2.90***		−0.010	−0.85		−0.042	−12.46***		0.005	2.44**
D2002								0.008	2.22**			
D2005		0.013	1.39		0.008	0.66		0.003	0.73		0.006	2.58**
Dum × D1997		−0.018	−1.38		−0.022	−1.32		0.001	0.30		0.001	0.49
Dum × D2002								−0.003	−0.46			
Dum × D2005		0.009	0.68		0.020	1.08		0.003	0.61		0.002	0.67
Rets × D1997		−0.069	−1.95*		−0.109	−2.96***		−0.012	−0.84		−0.005	−0.58
Rets × D2002								−0.010	−0.56			
Rets × D2005		0.064	1.92*		0.067	1.67*		0.023	1.10		−0.009	−0.72
Dum × Rets × D1997	(+)	−0.031	−0.57	(nc)	0.111	1.58	(nc)	−0.045	−2.52**	(+)	0.051	3.83***
Dum × Rets × D2002							(+)	0.021	0.92			
Dum × Rets × D2005	(-)	−0.047	−1.17	(-)	−0.147	−2.23**	(nc)	−0.004	−0.13	(nc)	−0.017	−0.85
R^2(%)	Within	7.22			5.81			15.13			4.20	
	Between	30.64			13.65			21.89			9.06	
	Overall	10.68			9.85			14.71			4.59	
Adjusted R^2(%)		7.01			5.50			14.96			4.07	
F value		22.11***			10.56***			60.37***			21.70***	
Number of Obs		4874			3318			7435			8180	

This table shows the structural break analysis for each of the four countries. This table reports the results from the panel data fixed firm effect regressions for France, Australia, the US and Japan for the period of fiscal years 1981 to 2008 using the model described in Eq. (2). Dummy variables are included in the estimated models to capture the impact of major changes in the institutional framework of each of the countries that have been identified in previous sections. The model uses a cumulative dummy coding approach to provide tests for change in conditional conservatism with critical changes in institutional framework. The coefficients estimated for the first period (1981–1996) are the first four coefficients reported in Table 7 (Intercept, Dum, Rets and Dum × Rets) and are not interacted with dummy variables. The D1997 dummy variable is coded 1981–1996 = 0, 1997–2008 = 1. The D2002 dummy variable is coded 1981–2001 = 0, 2002–2008 = 1. The D2005 dummy variable is coded 1981–2004 = 0, 2005–2008 = 1. Both the 1997 dummy variable and the 2005 dummy variable are included in Australian, French and Japanese models. The D1997 dummy variable, the D2002 dummy variable and the D2005 dummy variable are included in US model, consistent with identified changes in institutional framework in these countries. The remaining estimated coefficients consist of the initial four variables interacted with the set of dummy variables that relate to the country under analysis. Coefficients are reported with clustered robust standard errors (by firm). The dependent variable is earnings (X_t/MV$_{t-1}$) and the other variables are defined in Appendix A. Earnings (X_t/P_{t-1}) and Returns (Rets) are censored at the top 2% and bottom 2% quantiles. The character × denotes interaction between variables. Predicted sign for tests for conditional conservatism appear in the Pred. column in parentheses. ***significant at $p < 0.01$, **significant at $p < 0.05$, *significant at $p < 0.10$.

Table 8
Level of news timeliness in France, Australia, the US and Japan for each time period.

Period	France IBNT		Australia IBNT		US IBNT		Japan IBNT	
	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat
1981–1996	0.093	2.06**	0.08	1.56	0.035	2.41**	−0.019	−2.58**
1997–2004	0.062	2.42**	0.191	3.77***			0.031	2.81***
1997–2001					−0.009	−0.87		
2002–2004					0.011	0.55		
2005–2008	0.015	0.46	0.044	0.99	0.007	0.35	0.014	0.87

This table presents the level of IBNT (incremental bad news timeliness) in each period. The level of incremental bad news timeliness (IBNT) is derived from the Dum × Rets coefficient. The level of news timeliness for each period indicated is derived by summing the coefficients from the structural break regression (see Table 7) that relate to the incremental change for the period plus the coefficients denoting changes in prior periods. Note that rounding differences occur due to the reporting to the nearest three decimal places. When calculating the total coefficient, they are rounded at the final reporting stage. ***significant at $p < 0.01$, **significant at $p < 0.05$, *significant at $p < 0.10$.

$Size_{i,t}$ = Natural log of the market value of equity at end of the previous fiscal year
$Lev_{i,t}$ = Short term debt and long term debt deflated by market value of equity at the end of the previous fiscal year
$MTB_{i,t}$ = Ratio of the market value of equity to the shareholders book value of equity at the end of the previous fiscal year.

Table 9 summarises the results for the key variables relating to conditional conservatism (Dum × Rets and its interaction with the period dummies) for the periods under investigation using the KW approach. In contrast to our main results, the KW tests for France show a significant decrease in conditional conservatism in Period 3. This is more in keeping with the recent literature, which notes a decline in conditional conservatism following the introduction of IFRS in multi-country studies. The decline in Australia for the same period, however, is not significant in these tests though the coefficient sign remains negative. The US results show a less significant change in Period 2a and a significant increase in Period 3a; these results are consistent with our hypothesis for the US. For Japan, our hypothesis was for an increase in conditional conservatism in Period 2 and then no further change. This hypothesis is only partially supported in Table 9 as there is no significant change in either Period 2 or 3.

To confirm our results that conditional conservatism had declined in the four countries post 2004, we repeated the KW tests but run separate pooled regressions for each of the three (or four) time periods. These results (untabulated) confirm no significant conditional conservatism in France and the US post 2004. Australia and Japan have significant Dum × Rets coefficients in Period 3, and in both cases this is coupled with a significant negative Dum × Rets × Size coefficient. This suggests that a lack of conditional conservatism in larger firms in these two countries may be causing the low levels of conditional conservatism in the main model.

We included non-financial and financial firms in our main results. Some studies exclude financial sector firms because of regulatory and accounting differences (e.g. a lack of comparability of their accounting measures with non-financial firms, for example, leverage) (Garcia Lara et al., 2005; Grambovas et al., 2006). Results for non-financial firms only (untabulated) are generally consistent with those previously reported because they dominate the sample. In some instances, the results are stronger. As noted for the primary results, conditional conservatism is not evident in non-financial firms for all four countries post 2004.

As an additional test to ensure that our results are not driven by changes in the sample composition over the periods rather than changes in the underlying conditional conservatism of the firms, we have examined Table 3 to determine if there are any significant changes in the industry makeup of the four samples over the three (or four) periods. As previously observed, the industry composition is generally consistent across the periods tested, particularly in the later periods. There are, however, significant increases in the proportion of firms in the Technology industry from Period 1 to Period 2 in both France and Australia, and a significant increase in the Real Estate industry in Australia from Period 1 to Period 2. An increase in the proportion of these industries in Period 2 could cause a decline in conditional conservatism as these industries are generally associated with higher unconditional conservatism (expensing research and development as incurred in the Technology industry) or fair value accounting (as is often the case in the Real Estate industry). We have thus rerun our main results excluding the Technology industry in France and the Technology and Real Estate industry in Australia (untabulated). The results for France for Period 2 remain largely unchanged from our primary results when the Technology industry is excluded; the co-efficient for Period 2 remains negative and insignificant. The coefficient for Period 3 is also insignificant, but has changed sign and the aggregate level of conditional conservatism (as reported in Table 8) is now positive and significant at the 5% level. This suggests that changes in conditional conservatism in the Technology industry in France have contributed significantly to the overall decline in conditional conservatism. This is confirmed by a separate regression run on only the Technology industry which shows a significant (at 1% level) negative incremental bad news timeliness coefficient for Period 3. Our initial hypothesis did predict a decline in conditional conservatism across the broader French market in Period 3. We have not identified any other change that occurred during this period that would best explain the impact on the Technology sector. We do not explore this finding further here and leave an examination of the differences in conditional conservatism across industries for future studies.

Table 9
Basu (1997) / Khan and Watts (2009) comparison for all countries.

	France		Australia		US		Japan	
	Basu	KW	Basu	KW	Basu	KW	Basu	KW
Dum × Rets	0.093**	0.265	0.080	1.740**	0.035**	0.234	−0.019**	0.308
Robust std. error	(0.045)	(0.480)	(0.052)	(0.702)	(0.015)	(0.277)	(0.007)	(0.287)
t-stat	2.06	0.55	1.56	2.48	2.41	0.85	−2.58	1.07
Dum × Rets × D1997	−0.031	0.372	0.111	0.494	−0.045**	−0.022	0.051***	−0.027
Robust std. error	(0.054)	(0.579)	(0.070)	(0.862)	(0.018)	(0.378)	(0.013)	(0.387)
t-stat	−0.57	0.64	1.58	0.57	−2.52	−0.06	3.83	−0.07
Dum × Rets × D2002					0.021	1.309**		
Robust std. error					(0.022)	(0.564)		
t-stat					0.92	2.32		
Dum × Rets × D2005	−0.047	−0.822**	−0.147**	−0.185	−0.004	−0.857	−0.017	0.662
Robust std. error	(0.040)	(0.384)	(0.066)	(0.747)	(0.029)	(0.622)	(0.020)	(0.609)
t-stat	−1.17	−2.14	−2.23	−0.25	−0.13	−1.38	−0.85	1.09
R^2(%)	7.22%	19.00%	5.81%	30.80%	15.10%	23.80%	4.20%	11.30%
Adjusted R^2(%)	7.01%	18.05%	5.50%	29.64%	14.96%	23.08%	4.07%	10.61%
F value	22.11	14.00	10.56	19.20	60.37	24.10	21.70	16.92
Number of Obs	4,874	4,183	3,318	2,917	7,435	6,548	8,180	6,116

This table compares the primary Basu results with those obtained using a modified Khan and Watts (2009) (KW) model (Eq. (3)). Evaluation of the impact of change in institutional framework follows the approach set out in Eq. (2) and applied in the analysis reported in Table 7. The KW model supplements the primary Basu model by adding independent variables for Size = natural log of market value of equity at the end of previous fiscal year, Leverage = short-term debt plus long-term debt deflated by market value of equity at the end of the previous fiscal year and Market-To-Book ratio = market value to book value ratio of equity at the end of the previous fiscal year, plus all the appropriate interaction terms. Variables are defined in Appendix A. Coefficient values, clustered robust standard errors (by firm) and t-statistics are reported for the Dum × Rets independent variables including their interactions with the various cumulative dummies. ***significant at $p < 0.01$, **significant at $p < 0.05$, *significant at $p < 0.10$.

Our conclusions for Australia are substantially the same when the Technology and Real Estate sectors are excluded, other than the finding of a now significant (at 10%) increase in conditional conservatism in Period 2. Outside of the Technology and Real Estate industries, the institutional changes in Australia seem to be associated with increasing conditional conservatism over this period. We hypothesised no change over this period, but again we leave an exploration of the impact of institutional changes on different industries to future work. Our other inferences are unchanged and the aggregate level of conditional conservatism in the last period is still insignificant in this specification.

To partially address potential survivorship bias, we repeated our tests using only those firms that existed in 1996. This reduces our sample to 171 firms (3198 firm-years) for France, 114 firms (1648 firm-years) for Australia, 331 firms (7253 firm-years) for the US and 355 firms (7836 firm-years) for Japan (of which 146, 66, 254 and 352 firms respectively have survived in our sample until 2008). The results are substantially the same as those reported for the main tests, with the exception of France in Period 3. The overall level of incremental bad news timeliness is positive and statistically significant in Period 3 in this smaller sample. This suggests that it is the newer firms that have entered the sample since 1996 that are driving the reduction in conditional conservatism in France. This is consistent with our finding above that Technology firms in France have experienced a significant decline in conditional conservatism in Period 3.

We have used market-adjusted returns in our main tests as they capture firm specific news and also control for potential biases in the Basu (1997) regression relating to cross sectional differences. As some studies (e.g. Ball et al., 2000; Basu, 1997; Khan and Watts, 2009) have used unadjusted returns, we have also performed our analysis using raw returns as a robustness check. These (untabulated) results are qualitatively the same as those presented in our primary analysis, with the exclusion of Japan. For Japan, the raw returns specification results in a significant negative Dum × Rets coefficient in the base period, a significant negative coefficient in Period 2 (opposite to that predicted) and a significant decrease in the last period (we predicted no change). We assume that the differences in the results for Japan are due to the weaknesses in the raw returns specification and so we do not explore this observation further in this study. Nevertheless, we do not note anything in the raw returns results that point to an overall structural problem in the specification used in our primary models. Importantly, the raw returns results tend to confirm the overall decline in conditional conservatism levels in all four countries over the period examined.

4.5. Additional comments

Our tests provide strong evidence of a significant decline in conditional conservatism around 2005 (and possibly earlier in the US). The introduction of IFRS seems to be a partial explanation. The increased use of fair value under IFRS could well reduce conditional conservatism. The investment properties and financial instruments standards make extensive use of fair value measurement, often in contrast to prior local GAAP. Recognising both gains and losses due to changes in fair value would increase good news timeliness but decrease incremental bad news timeliness. This would also explain the earlier decline of conditional conservatism in the US, as an increased use of fair value measurement was mandated earlier in the US than elsewhere.

Some IFRS rules, on the other hand, would be expected to increase conditional conservatism. For example, IFRS introduced more robust impairment rules for most adopting countries. André et al. (2015) argue that the muted effect of these impairment rules is due to their subjectivity and the resulting varying levels of compliance in adopting companies. It seems that the effect of fair value measurement dominated the increased conditional conservatism that arose from the impairment rules, thus causing an overall decline in conditional conservatism. This is consistent with the finding in André et al. (2015) that firms seem to have inconsistently applied the new impairment requirements.

Changes in accounting standards, however, are not likely to be the only cause of declining conditional conservatism. The fact that all four countries do not exhibit significant conditional conservatism in the post-2004 period suggests other, perhaps global, factors at play. We leave this question to future research.

5. Conclusion

Our study adds to prior literature by identifying specific periods of change in institutional frameworks and exploring whether these periods are associated with changes in conditional conservatism. This evidence adds to prior work that explores level and change in conditional conservatism in single country and multi-country studies. Our study explores in more depth how changes that occur in institutional framework over time are linked to changes in conditional conservatism for our sample of four countries.

Our results show that certain changes in institutional framework occurring during our study period (1981–2008) are associated with change in conditional conservatism. Overall, we show increases in conditional conservatism in periods associated with regulatory changes and harmonisation of accounting in Japan. We report decreases in conditional conservatism in the US, possibly associated with changes in accounting standards that led to greater use of fair value measurement (e.g. SFAS 133) in the 1997–2001 period. We also find significant decreases in conditional conservatism in Australia after the adoption of IFRS. Other reforms, however, such as the SOX legislation in the US or the introduction of IFRS in France, are not associated with changes in conditional conservatism. Our study points to the importance of identifying specific differences in institutional framework when examining conditional conservatism. Our design examines countries separately because the timing of predicted changes in conditional conservatism can vary across countries.

One important result is that, despite marked differences in institutional framework at the beginning of the study period, by the end of the study period all four countries show evidence of convergence to a more neutral approach to accounting for earnings. The changes that occurred in each country's institutional framework varies across the four countries, although they may have been driven by similar underlying forces such as internationalisation of markets, harmonisation of regulation and accounting and improvements in auditing and governance. Nevertheless, the overall picture is that these four countries moved from conditional conservatism in the sub-period 1981–1996 to a more neutral approach towards the end of the study period.

Our results point to two principal conclusions. First, conditional conservatism, as conceptualised by the Basu (1997) model, may have ceased to be a characteristic of accounting earnings, at least in certain key countries, towards the end of our sample period. Secondly, certain institutional changes that may have been designed to increase conditional conservatism, for example the introduction of impairment rules or the SOX reforms in the US, have not succeeded in this regard. This should be noted by regulators and accounting standard setters in considering the implications of future changes.

Several caveats apply to our study. We have already referred to the limitations that might arise from survivorship bias. Secondly, we have sought to identify significant changes in the institutional framework of each of the four countries over the period from 1981 to 2008. However, it is difficult to pinpoint exactly when the institutional framework changes. It is for this reason that we rely on fairly large sub-periods in our analysis. In addition, while we have identified some of the factors that have contributed to a decline in conservatism in the four countries examined, we suspect that there are other changes in institutional framework which may be relevant to the application of conditional conservatism. Our sample is focused on larger firms. Our results thus may not be generalizable to smaller firms, particularly in the US and Japan. We examine a broad cross section of advanced economies, and thus we would expect to see similar results in other first world countries, but our findings may be less relevant in developing countries.

Further research will hopefully expand on this debate. The initial findings in our study provide motivation for a deeper examination of the effects of globalisation and institutional change on conditional conservatism across a broader cross-section of countries. Our findings also point to some interesting anomalies. For example, significant regulatory reform in Japan in 1997 is associated with increased conditional conservatism, but the 2002 SOX reforms in the US were not. The introduction of fair value accounting in the US and Australia coincides with decreased conditional conservatism, but the same response was not observed in France. Future research could explore if it was the nature of the changes themselves or differences in the broader institutional environment that caused these discrepancies. In addition, Madah Marzuki and Abdul Wahab (2016) report an increase in conditional conservatism post-IFRS adoption in Malaysia, a developing country. This suggests different institutional characteristics at play in developing countries and thus these countries may provide a unique context in which to explore particular institutional changes and effects.

Appendix A Variable definitions and measurement

This Appendix lists the main variables used in the regression models and their definitions.

Name of Variable	Variable	Definition
Earnings	Earnings ($X_{i,t}/MV_{i,t-1}$)	Net income before extraordinary items deflated by closing market value of equity at the end of the previous fiscal year ($X_{i,t}/MV_{i,t-1}$). Market value is calculated as the number of shares outstanding multiplied by price (Datastream MV = NOSH*UP)
Returns	Rets	Buy and hold continuous returns for the firm minus the corresponding market index returns using Datastream total return indices (RI) Calculated as $\ln(RI_{i,t}/RI_{i,t-1}) - \ln(RI_{m,t}/RI_{m,t-1})$. Returns are measured from 9 months before the fiscal year end date to 3 months after
Dummy Variable (for Returns)	Dum	Dummy variable coded 1 if returns are negative, 0 otherwise
Size	Size	Natural log of the market value of equity at end of the previous fiscal year
Leverage	Lev	Short term debt and long term debt deflated by market value of equity at the end of the previous fiscal year
Market to Book	MTB	Ratio of the market value of equity to the shareholders book value of equity at the end of the previous fiscal year
1997 Dummy Variable	D1997	Dummy variable coded 1 for 1997 to 2008, 0 otherwise
2002 Dummy Variable	D2002	Dummy variable coded 1 for 2002 to 2008, 0 otherwise (for US only)
2005 Dummy Variable	D2005	Dummy variable coded 1 for 2005 to 2008, 0 otherwise

Appendix B. Appendix B List of accounting standard differences

The table below lists the key accounting standard differences that may affect conservatism. The content is drawn from Bae et al. (2008), Nobes (2001), Deloitte Touche Tohmatsu (2003), KPMG (2003), Ernst and Young (2011), FSA (2004) and Deloitte (2007). The table is intended to illustrate the differences in 2003.

Accounting item	Description of difference between domestic GAAP and IFRS (how local GAAP does not conform to IFRS)	France	Australia	US	Japan
		Differs from IFRS?			
IAS 19	IAS 19: Do not have rules for accounting for employee benefit obligations (other than defined contribution plans in some cases)	Yes	Yes	No	No
IAS 21	IAS 21.23: Allow deferral of unrealised foreign exchange gains	Yes	No	No	No
IAS 22	IAS 22.8: Uniting of interests/pooling rules permitted more widely	Yes	No (pooling prohibited)	No	Yes
IAS 22	IAS 22.31:	Yes	No	Yes	Yes

Appendix B (*continued*)

Accounting item	Description of difference between domestic GAAP and IFRS (how local GAAP does not conform to IFRS)	France	Australia	US	Japan
		Differs from IFRS?			
IAS 22/IAS 38	Provisions on acquisition permitted more widely IAS 22.27/22.40/38.79: Expense on acquisition research and development costs immediately	Yes	No	Yes	No
IAS 22/IAS 38	IAS 22.56/38.99: Do not require impairment testing of goodwill or other intangibles with lives in excess of 20 years	Yes	No	No	No
IAS 32	IAS 32.18/32.23: Do not require split accounting for compound/hybrid instruments	Yes	No	Yes	Yes
IAS 36	IAS 36: Do not have rules calling for impairment testing for long term assets, or impairments only recorded when deemed permanent	Yes	No	No	Yes
IAS 36	IAS 36: Not necessary to discount cash flows when calculating recoverable amount	Yes	Yes	Yes	Yes
IAS 36	IAS 36.95: Do not allow the reversal of a goodwill impairment	No	Yes	Yes	Yes
IAS 37	IAS37.14: Permit establishing provision when there is no obligation	Yes	No	Yes	Yes
IAS 37	IAS 37.45: Do not have rules calling for the discounting of provisions	Yes	No	Yes	Yes
IAS 38	IAS 38.56/38.57/38.69: Permit capitalization of internally generated intangible assets more widely	Yes	Yes	No[1]	No[1]
IAS 39	IAS 39.69/39.93: Trading, available-for-sale and derivative assets and liabilities are not recognised at fair value	Yes	Yes	No	No
IAS 39	IAS 39.103: Gain and losses on trading financial instruments not required to be taken to income	Yes	Yes	No	No
IAS 39	IAS 39.142: Hedge accounting permitted more widely	Yes	Yes	No	No
IAS 40	IAS 40.50: Investment properties held at cost without depreciation	No	Yes	No	No
IAS 40	IAS 40.28: Changes in value of investment properties not taken to income	Yes	Yes	Yes	Yes
	As per our list	*Differs on 16 items*	*Differs on 9 items*	*Differs on 8 items*	*Differs on 10 items*

[1]The US and Japan generally expense all development costs.

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