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**The Effects of International Accounting Convergence on the
Electric Utilities Industry**

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Abstract

The United States public utilities industry faces a multitude of changes occurring at a rapid pace. Aging infrastructure, high levels of retiring employees, deregulation, foreign competition, and convergence with international accounting standards loom over the industry as major obstacles. This paper concentrates on the impact convergence with international accounting standards may have on the public utilities industry if implemented in 2015. To begin researching how the industry plans to handle the impact of convergence, I interviewed an IFRS expert from Ernst & Young, and conducted a survey completed by twelve controllers and CFOs working for large SEC filing utility companies. The survey provided valuable responses indicating aspects of convergence that pose a particular concern to the industry.

The second method of research in this paper involves an empirical study analyzing how the financial performance of U.S. public utility companies could potentially be impacted as a result of convergence. To accomplish this, five European companies that have already converged and who filed form 20-F were examined to note how convergence may affect ROE, EPS, Equity, and certain financial statement line-items. From this study, one could infer how the selected performance indicators may react when U.S. utility companies converge. The results indicated that on average, convergence positively impacted most of the selected performance indicators in the five company sample.

Table of Contents

I)	Introduction.....	1
II)	Brief Utilities Industry Overview	2
III)	Convergence Versus Adoption and the Irony of IFRS and the IASB	3
IV)	The IASB & Convergence Effort	5
V)	Basic U.S. GAAP and IFRS Considerations and Differences.....	7
VI)	Convergence from an External Audit Perspective.....	10
VII)	Convergence from an Internal Accounting Perspective	12
VIII)	Results of the Survey.....	13
IX)	Specific Financial Statement Line Items Majorly Affected by Convergence	15
X)	Effects of Convergence on Financial Performance	21
XI)	Results & Limitations of the Study	24
XII)	Conclusion	27
XIII)	Works Cited.....	29
	Appendix A: Industry Regulation	31
	Appendix B: The Changing Dynamics of the Electric Utilities Industry.....	32
	Appendix C: Results of the IFRS Internal Accounting Survey	34
	Appendix D: Results of the Performance Indicator Comparison	37

I) Introduction

“It’s Official, PPL electric rates to go up 30% in 2010”. As a local newspaper exemplifies, our society often fails to recognize the vital role electricity plays in our world until faced with an unpopular utility rate increase. This headline is likely one of many as the industry braces for changes like it has never experienced before.

The world around us is constantly changing and becoming more integrated as countries push cultural differences, human and employee worker rights, emissions standards, and even etiquette on each other. To no surprise, the way companies record transactions and present financial information has also come under scrutiny.

Firms mainly receive funds through a mixture of debt and equity to finance their activities and prosper. As businesses expand across borders and continents, so does the need for additional financing from the respective territory of expansion. If the foreign lender or equity purchaser lacks an understanding of the accounting and disclosure format provided to them, they may be less likely to provide capital. To reduce confusion and information risk when conducting business abroad, the global business community has called for a need to work towards harmonizing the accounting and disclosure practices of all countries. By converging to one set of fair and reliable standards, businesses and investors will experience vast improvements of comparability and consistency of financial statements. Additionally, global integration will reach a new level, resulting in worldwide improvements in business growth, cost savings, and efficiency.

II) Brief Utilities Industry Overview

Before discussing the impact of IFRS on the utilities industry, some general knowledge may be helpful when reading this paper. The Industry is comprised of roughly 3,200 privately and publically owned electric utility companies (Schnapp). The companies are given domain over a certain geographic region. Historically, several watch dog federal and state agencies played a role in this regulation (see appendix A). For each domain granted by the regulator, the utilities company would either produce their own power or draw power from one of the three main power grids across the contiguous states. “The Eastern Grid, Western Grid, and Texas Grid are operated by regional transmission organizations that act as wholesalers and sell power to the electric companies that deliver the power to the end user” (Schnapp). Often, utility companies own a number of power plants themselves that supply power to their region, and buy from wholesalers during seasonal demand. Overall, “Wholesale trade has historically played an important role, allowing utilities to reduce power costs, increase power supply options, and improve reliability” (Schnapp).

Additionally, besides the effects of IFRS, many other issues currently threaten the overall health of each utility company. These concerns, although not the topic of this paper, are nonetheless important when conducting research on any aspect within the utilities industry. A detailed examination of the other stressors besides IFRS convergence that pose a serious concern are discussed in appendix B.

III) Convergence Versus Adoption and the Irony of IFRS and the IASB

A notable discrepancy exists between *adopting* and *converging* with IFRS rules. The term *convergence* and *adoption* are often used inappropriately to describe the act of countries integrating their accounting rules to conform to international standards. Recognizing that these words are not interchangeable, the long term goal is to arrive at one universally accepted, identical set of standards. To achieve this end, all nations will have to *adopt* global accounting standards. Conversely, when a country has *converged* to IFRS they have merely begun a greater effort towards implementing collective rules geared to one day achieve a single set of financial reporting standards. In the U.S., complete *adoption* of IFRS standards will likely not occur in the near future because the SEC and FASB would not hand substantial regulatory control of the largest economy in the world (in terms of GDP) over to a foreign agency. Convergence, the more likely result, would gradually blend U.S. GAAP and IFRS standards, achieving improved global integration while simultaneously decreasing financial and regulatory shock.

Ironically, it is important to note that even though a country has *adopted* IFRS rules, their interpretation of the rules may be different from another country's interpretation. Among the reasons for this inconsistency, include the fact that accounting is a "social construct which reflects the society in which it has been developed" (Walton). Additionally, political influence plays a large role, as exemplified by the adverse response of FASB chairman Herz and uncertainty by Mary Schapiro displayed recently in press conferences. The short term mindset of public officials can often have a disastrous effect on accounting

rules because of pressures they may face to appease constituents, and ultimately get reappointed.

The irony of IFRS standards could be depicted in this excerpt below:

“In Germany everything is forbidden unless it is explicitly allowed by the law, whereas in England everything is allowed except what is explicitly forbidden in the law. In China, on the other hand, everything is forbidden, even though it is allowed by the law, whereas in Italy everything is allowed, especially if it is forbidden.” (Walton)

As the excerpt depicts, although the International Accounting Principles enacted by the IASB were initially intended to exhibit one uniform “apples to apples” set of financial rules, they are clearly evolving into “apples to oranges”. However, the inevitable differences across countries will likely continue to subsist since the IASB is privately funded, and thus lacks an enforcement mechanism. This inherent weakness bequeaths the responsibility of enforcement standards and procedures up to numerous agencies in each country, resulting in a lack of cohesive interpretation. A more stringent set of international standards enforced by a more powerful agency would greatly decrease IFRS rule variations, making comparison across countries less difficult and in general IFRS more cohesive.

IV) The IASB & Convergence Effort

Leading the convergence effort, the International Accounting Standards Board (IASB) is the standard-setting organization that promulgates rules and principles for the 100 countries that have adopted or converged with IFRS. It is currently headed by former KPMG partner, Sir David Tweedie.

Tweedie substantially increased the IASB's convergence effort significantly in the United States in 2005 when the SEC and IASB set an agenda to work towards convergence with IFRS standards by 2014 for most public U.S. companies. The SEC, IASB and Financial Accounting Standards Board (FASB) sat down and developed a roadmap of objectives. If the objectives were achieved on schedule, mandatory convergence for some U.S. companies would have arrived as early as 2014. Unfortunately, recent developments have led to further prolonging convergence. Although outdated, the table below shows the roadmap and formalized dates that were once agreed upon by the IASB and SEC.

Figure 3: The (Pre-February 24th, 2010) Convergence Roadmap

Issuer Size	Requirements	Earliest IFRS Reporting Date
Limited/Early eligible entities	Optional	Fiscal Year beyond Dec 15 th , 2009
Large Accelerated Filers	Mandatory	Fiscal year beyond Dec 15 th , 2014
All other Accelerated Filers	Mandatory	Fiscal year beyond Dec 15 th , 2015
Non-Accelerated Filers	Mandatory	Fiscal year beyond Dec 15 th , 2016

(SEC)

Even though a formal timeline has not been released like the table above for the new date, the SEC has confirmed year end 2015 statements as the new deadline for large

accelerated filers. Thus, 2015 is the new target date for the majority of public utility companies, because the majority of them are classified as large accelerated filers.

Additionally, two years prior to the first date of release, IFRS balance sheets will have to be prepared, but need not be issued until the first year of IFRS disclosure, which now looks like 2015 (Hartman).

One of Tweedie's greatest accomplishments is his incessant effort to bring the world's largest and most progressive economy on board; The United States. As a result of Tweedie's endeavors, the U.S. currently holds four of the fifteen board member positions available on the IASB (Jones). However, this number is likely to decrease if the U.S. continues to stall on its convergence efforts and Tweedie's patients wane. In a recent American Accounting Association meeting, IASB President Sir David Tweedie proclaimed "where is the U.S.A.," expressing the international accounting community's frustration for a lack of proactive effort towards convergence. Further derailing the global cause is the continued economic speculation by U.S. legislators, and uncertainty of the new SEC Chairman's stance on the convergence roadmap. In late February of 2010, newly appointed Chairwoman, Mary Schapiro, addressed this issue by neither denying nor confirming the SEC will follow the prospective 2015 convergence date or general roadmap previously issued. In her vague response, she stated "we remain on a steady path to be in the position to make such a *determination* in 2011" (Schapiro). Additionally, FASB chairman Robert Herz has weighed in on the likelihood of convergence occurring on time. He stated, "adjusting FASB rules in the face of domestic pressures while continuing with convergence is like riding two horses" (Cohn). Clearly, prominent U.S. officials have displayed tendencies to prolong convergence—a trend likely to continue.

Conversely, global convergence efforts have been progressing more smoothly than in America. Over 100 nations have adopted IFRS, including all 27 nations comprising the EU. Additionally, Japan, Korea, India, and Canada all plan to join in 2011 (Cohn). Some would argue if developing countries and other powerful economies can adapt to new accounting rules then surely the United States will follow. However, the U.S. is adept at not accepting uniform measurement systems and avoiding integration. For instance, academics have failed at an attempt to switch the United States to the metric system for decades.

V) Basic U.S. GAAP and IFRS Considerations and Differences

On the broadest level, IFRS is more open-ended and principal based compared to US GAAP, which is heavily codified and regulated. This disparity stems from the fact that most public U.S. companies have far greater public and stockholder influence, altering the capital structure and resulting in more stringent authoritative regulation to ensure the financial statements are fairly stated. For example, over the years the FASB and SEC have promulgated numerous rulings to deal with industry specific accounting issues subsequent to the many accounting scams that have defrauded shareholders. On the other hand, European companies often have a limited number of financiers, and are geared more towards debt-financing as opposed to equity financing. As a result, European financial statements often appear more conservative, with large debt-financiers of a company receiving additional disclosures characterized by the phrase “professional secrecy.” By receiving additional information, the financier can then make a more informed decision to continue the tight-knit business relationship (Walton). For example, Deutsche Bank owns nearly a quarter of

Daimler’s equity (Walton), and as a result may receive additional financial disclosures. Conversely, Ford has multiple debt-holders and a 50% debt, 50% equity capital structure. Since Ford has such a large public stockholder interest, more information that otherwise would not be disclosed under traditional IFRS is included in their public filings to satisfy the vast number of users.

Both GAAP and IFRS require the same components to achieve a complete set of financial statements. An accrual-accounting balance sheet and income statement, as well as a cash flow statement, and other comprehensive income statement are all required under both sets of accounting rules.

Balance Sheet Differences

The presentation of the balance sheet under IFRS differs slightly from U.S. GAAP. Below is a general sample of how key components are ordered. Compared to U.S. GAAP, IFRS statements have non-current assets and liabilities preceding current assets and liabilities, with equity acting as a divider between assets and liabilities.

Figure 4: Balance Sheet Presentation Disparities

IFRS	U.S. GAAP
Noncurrent assets	Current Assets
Current Assets	Long Term Assets
Equity	Current Liabilities
Non-current Assets	Long Term Liabilities
Current Liabilities	Equity

(Wedgandt, Kimmel and Kieso)

Most of the differences that could potentially have a pervasive effect on a company's balance sheet occur on an individual line item level. The items below are a summary of some important differences provided by the AICPA that users need to note when comparing financial statements.

- IFRS does not permit Last In, First Out (LIFO) accounting for inventory.
- IFRS uses a single-step method for impairment write-downs rather than the two-step method used in U.S. GAAP, thus making write-downs more likely.
- IFRS has a different probability threshold and measurement objective for contingencies.
- IFRS does not permit debt for which a covenant violation has occurred to be classified as non-current unless a lender waiver is obtained before the balance sheet date. (AICPA)

Income Statement Differences

The IASB offers less guidance for the income statement when compared to the balance sheet. Revenue recognition in particular is not as stipulated under IFRS when compared to U.S. GAAP. Also, although rarely practiced, under IFRS companies have the option to recognize gains and losses of intangible assets and PP&E, which are strictly forbidden under U.S. GAAP. Lastly, expenses can be presented by either function or nature for IFRS, whereas in U.S. GAAP, expenses must be presented by function (Wiley).

Cash Flow Differences

All components of the cash flow statement (Operating, Investing, Financing) are required when comparing the two formats. However, IFRS does not permit “non-cash” items

on the cash flow statement. Also, IFRS offers greater leniency when classifying interest and dividends depending on the nature of transaction as the table below illustrates.

Figure 5: Cash Flow Differences

Item	IFRS	U.S. GAAP
Interest Received	Operating or Investing	Operating
Interest Paid	Operating or Financing	Operating
Dividends Paid	Operating or Financing	Financing
Dividends Received	Operating or Investing	Operating

(Wedgandt, Kimmel and Kieso)

VI) Convergence from an External Audit Perspective

What steps towards convergence have the “Big Four” accounting firms taken within the electric utilities industry? To investigate this aspect, an interview with Ernst & Young’s *IFRS Global Utilities Task Force* expert Scott Hartman was conducted. He has over twenty years of experience in the utilities industry and keeps the Pennsylvania Power & Light (a large utility company) audit engagement team informed on IFRS convergence issues.

As far as audit engagement preparation, the team has surprisingly not been required to thoroughly learn IFRS to the necessary level of competency to conduct an audit. However, Hartman noted that some members have been attending IFRS conferences to develop some baseline knowledge about convergence. Despite the current level of knowledge, Hartman mentioned that significant efforts will increase in the coming year. During the summer of

2010 the engagement team plans to begin an “IFRS diagnostics exercise,” which will involve all of Ernst and Young’s service lines (Tax, Audit, Information Systems) participating in the PPL audit. To stay on track with the SEC’s roadmap, Scott noted that the diagnostic exercises are highly important. Particularly, he stressed implementation difficulties in the diagnostics test from an accounting information system standpoint. The management of PPL will look to develop software that can successfully collect and produce both IFRS and US GAAP statements. The IT system will be costly to implement and audit, because a dual compliance system will increase audit complexity and depth, potentially resulting in increased audit fees (Hartman).

Hartman was also asked to identify some specific line-items of the financial statements that pose a serious concern to the auditor and industry. He identified regulatory assets as the chief area of concern, because they are currently not included in IFRS standards. Also, he mentioned that many companies would have to reevaluate whether several hedge contracts aiming to purchase commodities qualify for hedge accounting. Other financial statement components that may affect utility companies but not necessarily PPL include minority interests, LIFO inventory retirement, and the fair value of PP&E.

Overall, the Big Four are undoubtedly committed to the convergence effort- especially with the increase in potential business it may cause. Similar to the Sarbanes Oxley act of 2002, which served as a major stimulus to the accounting industry, convergence would drastically increase the workload for the Big Four, leading directly to higher profits and an increase in hiring. To date, each Big Four firm has teams within almost every industry researching and preparing for convergence to hopefully gain a competitive advantage. However, with the current state of the economy, the Big Four are cautious to allocate too

many resources to the convergence effort. Much of the auditor's increase in educational training and the prospective hiring spurt will hinge on whether the SEC formally mandates the roadmap or further prolongs it in 2011.

VII) Convergence from an Internal Accounting Perspective

According to both U.S. GAAP and IFRS, management is responsible for designing the systems, internal controls, and procedures to produce the financial statements and accompanying notes. As a result, the actions that management takes to accomplish switching from one standard to another for public issuers may have a profound effect on the financial statements. A survey was conducted to gauge which specific aspects of convergence concern internal accounting departments, and to gain a better understanding of the industry's current perception of convergence. Twelve financial experts knowledgeable of convergence participated in the survey. The expert's position within each company varied, but all held the position of controller, CFO, or IFRS project leader. Of the experts responding, 60 percent consider themselves highly informed of IFRS, 30 percent as informed, and 10 percent as partially informed. This lends credibility to the results obtained from conducting the survey. The companies that responded to the survey are listed in the table on the subsequent page:

Figure 6: Companies That Responded to the Survey

	Company	Headquarters
1	Allegheny Power	Greensburg, Pennsylvania
2	American Electric Power	Columbus, Ohio
3	First Energy Corp	Akron, Ohio
4	Exelon Corp	Chicago, Illinois
5	PPL Corp	Allentown, Pennsylvania
6	Detroit Edison Energy	Detroit, Michigan
7	Integrus Co.	De Pere, Wisconsin
8	Northeast Utilities	Berlin, Connecticut
9	MDU Utilities	Butte, Montana
10	Portland General Electric	Portland, Oregon
11	Entergy Corp	New Orleans, Louisiana
12	Cleco Energy	Pineville Louisiana

VIII) Results of the Survey

As the survey indicates, and as suspected, internal accounting seems to exhibit a “you come to me” attitude with the IASB and convergence. When asked the question if they favor convergence, 65 percent of the respondents said “no,” 27 percent favored convergence, and ten percent said “it is a necessary evil” that must occur. Surprisingly, more respondents favored selecting “no,” over “it is a necessary evil.” When creating the survey, this option was specifically added because it seemed to be the perceived opinion that external auditors thought utility companies have towards convergence. Thus, as demonstrated, the attitudes differ from an internal accounting and external auditing standpoint. For the accounting department within most utility companies, the survey indicates convergence is seen as a nuisance, whereas the external auditor wishes to support convergence. Interestingly, a respondent commented, stating that they would support convergence if regulatory assets were permitted. Therefore, if one respondent took the initiative to make this comment it could be

inferred that others were thinking similarly. Further supporting this point, from my discussions with Scott Hartman, he believes that most would favor convergence with IFRS if regulation accounting was permitted by the IASB.

Responses varied when asked how often internal accounting departments discuss convergence with their external auditor. The results indicated 46 percent discussed it monthly with their external auditors, while 27 percent indicated that discussion occurs on a weekly basis. The remainder of answers were scattered from 'discussed once a month' to 'discussed only once a year', with no responses indicating that convergence discussion occurred on a daily basis.

With regards to the accounting information systems necessary to operate, only one respondent has implemented such a system to produce both U.S. GAAP and IFRS compliant statements. The majority of respondents (65 %) will not look to implement a dual-compliance IT system until 2011- 2012 after the SEC confirms or rejects IFRS implementation by 2015. One interesting comment made by a respondent of the survey was that they plan to outsource their convergence IT integration to a third party specialist in the upcoming year other than a Big Four firm.

To accurately produce reliable financial information, one of the most important internal controls a company can maintain is a knowledgeable staff to interpret and operate the accounting information systems. According to the survey, 50 percent of the internal accounting department has spent a meager one to five hours updating their knowledge of IFRS. Additionally, twenty-eight percent have spent between five and ten hours of training,

which is also insufficient. However, similar to the external auditors, most companies will probably not increase training efforts until the SEC confirms the date of IFRS implementation.

The survey also involved a few questions pertaining to the balance sheet. Per the interview with Scott Hartman, he mentioned five areas of key concern that could have a material effect on the financial statements. Those areas were PP&E, LIFO accounting retirement, hedge and derivative accounting, regulatory assets, and consolidations. The respondents were asked to rank their level of concern for each of the aforementioned items. Of the choices, regulatory assets are the only category that received a majority response indicating a high level of concern. Hedge/derivative and PP&E accounting, for which the respondents indicated a moderate level of concern, followed regulatory assets as the next area of concern. Also, regarding the overall presentation of the balance sheet, nearly 60 percent disclosed the entire format will need reevaluation, with roughly 35 percent indicating only a couple line-items or small adjustments will need to occur for convergence.

IX) Specific Financial Statement Line Items Majorly Affected by Convergence

After collecting and analyzing the results of the survey, it is clear similar balance sheet line items concern both management and the auditor. Per the interview with Scott Hartman and as the results of the survey indicate, a handful of components of the financial statements have potential to be materially different under convergence standards to the point that valuation could be affected. The differences between US GAAP and IFRS for the three largest areas of concern as identified by the survey and interview are discussed below. As a

side note, any statement that begins with “FAS” is in compliance with U.S. GAAP, and any statement beginning with “IAS” pertains to the international counterpart.

Regulation Accounting

Significant costs arise from projected rate increases as a result of state and federal regulation agencies such as FERC, NERC, and in Pennsylvania, the PUC. FAS #71 allows utility companies to hold an allowance for these costs (called regulatory assets) on the balance sheet. As defined in a utility company’s 10-K, regulatory assets are “costs that otherwise would be charged as expense, but are deferred as regulatory assets based on expected recovery of future costs from customers because of approved rate increases” (PPL 10K). So basically, companies are capitalizing the future value of rate increases permitted by regulatory agencies that have not yet occurred. The IASB does not agree with this accounting, and to date has been reluctant to compromise.

To further examine the impact of regulatory assets on the balance sheet if not permitted during convergence, the table below was created. It depicts the regulatory assets as a percentage of total assets for the same twelve companies that responded to the internal audit survey. On average, regulatory assets comprised a shocking 11% of total assets for the companies sampled.

Figure 7: Regulatory Assets as a Percentage of Total Assets

Regulatory Assets as a Percentage of Total Assets for the year ended Dec 31 Balance Sheet				
	Company	Regulatory Assets	Total Assets	Percentage of Assets
1	Allegheny Power	77	1519	5%
2	American Electric Power	4360	47193	9%
3	First Energy Corp	2356	34304	7%
4	Exelon Corp	4872	49180	10%
5	PPL	531	22165	2%
6	Detroit Edison (DTE)	4110	24195	17%
7	Integrus	1556	11851	13%
8	Northeast Utilities	2068	8365	25%
9	MDU Montana Dakota utilities	263	5991	4%
10	Portland General Electric	662	5172	13%
11	Entergy	608	6755	9%
12	Cleco	475	3364	14%
			Average=	11%

As indicated in the table above, not permitting the future benefit of regulatory assets on the balance sheet will alter the capital structure and in some instances overall financial health. The effects of taking this line item off the books could potentially be far-reaching and pervasive, affecting financial liquidity ratios and debt-covenants. However, new developments indicate the IASB *may be* willing to budge on this issue. An exposure draft was submitted in the fall of 2009 to the IASB with hopes to lessen the impact on the balance sheet and appease both sides (Hartman). The IASB will look to formally respond sometimes in late 2010.

Financial Instruments - Hedging and Fair Value

Most electric suppliers do not entirely produce and sell their own energy, but buy it through commodity contracts with other energy producers on open markets. Often, utility

companies hedge energy commodity contracts to partially offset uncertainties and defend against market downturns.

Hedge contracts in the utilities industry involve cash flow hedges, which include options, forwards, futures, and swaps to offset commodity decrease price risks. “The effective portion of the gain or loss on the hedging contract is recognized in equity, while the ineffective portion through the income statement” (Ernst and Young). The key area of difference is that IASB does not permit the hedging of inter-company transactions, which occurs frequently in the utilities industry (PWC).

An additional area where US GAAP and IFRS differ significantly is the definition of fair value when measuring a contract. For instance, FAS 157 allows fair value recognition as exchange prices, broker quotes, or an *independent valuation*. Under IAS rules, the fair value of the option is the transaction price at the inception date. The downfall to the IAS rule is that due to the illiquidity of these contracts, the transaction price may improperly reflect the actual fair value. As a result, many U.S. utility companies employ internally developed models to determine fair value instead of simply using the market transaction price, which may or may not accurately reflect the fair value.

When comparing the two methods of determining fair value, one notices that contrary to most situations, the U.S. GAAP standard actually allows more flexibility and places more judgment ability on the accountant by allowing the use of a valuation model to determine fair value at inception date. Not allowing companies to value using a more comprehensive “internally developed” model seems contradictory to the typical IFRS approach to other components of the financial statements, usually placing more emphasis on analyzing the

nature or fair value of an economic event. An example of this is the valuation of PP&E at the fair market value on the balance sheet instead of historical cost, which is the next topic of discussion.

Property, Plant, and Equipment Valuation

PP&E comprises a hefty portion of most utility company's assets. This is a result of the large distribution facilities and infrastructure networks needed to supply the power to the end user. Currently, U.S. utility companies are required to account for PP&E at cost less accumulated depreciation and impairments, with no option to revalue.

Under IFRS, companies have the option of accounting for PP&E using either the cost method or revaluation method. However, a recent study indicates that when “most companies are faced with the option to revalue PP&E, with the exception of investment property owned by real estate companies, most companies choose the historical method over fair value” (Christensen and Nikolaev). Nonetheless, fair value remains an option under IFRS and selection of this method will largely depend on the individual circumstances of each company.

To apply the fair value method, “On a consistent basis, an increase in fair value is credited to equity as a revaluation surplus, unless it reverses a revaluation decrease for the same asset previously recognized as an expense. A decrease in fair value is charged against any excess surplus for the same asset. If fair value equity dips below original cost then the excess is recognized as expense” (PWC).

Additionally, fair value accounting, also referred to as “mark to market,” has negatively affected the (broader) energy industry in the past. For example, fair value accounting has left a bad impression on many investors after the Enron scandal, where

management fraudulently marked their future projects to unrealistic market values. Since then, the public has been fed a hefty dose of negativity by the media surrounding fair value accounting. Some see it as a dangerous mechanism to balloon asset worth, and then send management scrambling for value during a downturn. For fair value to fundamentally work, management would have to carefully articulate the value of its PP&E in the footnotes. Additionally, auditors will have to assert a high degree of professional skepticism when evaluating the financial statements and footnotes by accumulating more evidence, and therefore possibly raising audit fees.

Pertaining to PP&E valuation, “component level depreciation” is required under IFRS, but optional under U.S. GAAP. Hence, many companies implement it only to a limited extent in the utilities industry. Component depreciation requires that any “significant part of a depreciable asset that has a different estimated useful life or purpose should be separately depreciated” (WILEY). As imagined, valuing the useful lives on a component level for such a capital intensive industry will be much more rigorous than previous methods. For example, when valuing a technologically advanced nuclear power plant, utility companies should pay close attention to specific part wear and tear, corrosion, or technological obsolescence (Ernst and Young). As an example, if IFRS convergence occurs, it may become industry practice to separately depreciate the main components of the turbine hall and computer software in a nuclear power plant.

X) Effects of Convergence on Financial Performance

The majority of utility company stock is traded in an open market, such as the NYSE. Therefore, fluctuations in stock price influence the ability to raise capital to support business operations and growth. One of the SEC's largest concerns with converging with IFRS are the consequences it may have on companies and their ability to raise capital. Besides the SEC, investors and analysts alike are both concerned with stock price reaction to convergence. Based on previous SEC actions and the large lobbyist presence maintained by the utility industry, one could speculate any policy with potential to have a major impact on the financial statements and stock price of the utilities industry could lead to the SEC delaying implementation.

Financial performance measurement can occur in a multitude of ways from advanced multi-step valuation formulas where the future projected value is discounted to present value, to a simple comparison of the bottom line. Regardless of the method of analysis, identifying how a company reacts to convergence involves knowledge of the industry and some analytical foresight. The succeeding paragraphs outline the methodology for analyzing how companies that previously switched from US GAAP to IFRS were affected. From the results, one could infer how convergence may affect public utility companies if the 2015 deadline becomes reality.

Methodology of the Performance Indicator Study

Fortunately, prior to 2007, European companies that listed securities on a public U.S. stock exchange were required to file a form "20-F" with the SEC. This form reconciled certain financial statement components of the foreign issuer from the foreign accounting

framework to U.S. GAAP. In the year 2005, the European Union mandated IFRS adoption for most public companies located in the EU member states. Therefore, a window of time between 2005 and 2007 produced reconciliations between IFRS and U.S. GAAP for foreign (EU) companies that listed stock on a U.S. exchange. The reconciliations provide valuable information about how companies handled converging with IFRS and possible trends and issues that may arise from convergence. The information disclosed in the form 20-F tends to differ from country to country. Sifting through them for the numbers needed to calculate the performance metrics takes time and patience.

To evaluate the effect convergence may have on company performance, some popular performance metrics both before and after adoption for five flagship European utility companies were employed. The companies selected for the study are listed below.

Figure 8: Companies Selected to Analyze

	Company	Country of Origin
1)	E.ON AG	Germany
2)	Enel sPa	Italy
3)	Suez SA	Spain
4)	Eni sPa	Italy
5)	Endesa SA	Spain

Selected Performance Indicators

The performance indicators selected are widely used and simple to understand. They are often the most included when obtaining a stock “quote” from sources such as CNBC or

Bloomberg to determine the attractiveness of a company's stock and general financial health. Their application provides a simple snapshot of how financial statements were impacted. *Change in Equity* measures the fluctuation of value in a company by taking the net effect convergence had on both assets and liabilities. *Working Capital* is a performance measurement calculated by taking current assets minus current liabilities. This indicator allows a financial statement user to assess overall liquidity and ease that debt can be repaid. *Earnings Per Share* (EPS) represents the earnings each shareholder theoretically earned by owning a share of stock in a company. EPS is found by taking Net income divided by total outstanding common shares. *Return on Equity*, the base ratio of the DuPont analysis, is calculated by taking Net Income divided by total Shareholder's Equity. This ratio measures the income a company earns on equity by leveraging its asset base.

Now that the companies and performance metrics have been selected, the basic steps to complete the study are listed below.

Step 1: Gather the proper financial statements and verify that they were created according to the correct standard: One U.S. GAAP financial statement, and one IFRS statement are required for each company selected. Also, make sure the currency stays consistent for the years that the performance ratio requires, as jumping from U.S. Dollars to Euros is not comparable. Four of the five companies selected in this study adopted IFRS in 2005, with E.ON the only company adopting by 2006.

Step 2: Compute the performance indicators (discussed in the proceeding section) for both U.S. GAAP compliant statement and IFRS financial statements.

Step 3: For each indicator, find the percentage difference going from U.S. GAAP to IFRS. An average overall percentage difference can then be created for each indicator. Examples of this process can be viewed in Appendix D.

XI) Results & Limitations of the Study

Figure 9: Average Percentage Impact on Performance Indicators

Performance Metric	Percentage Impact
Average Change in Equity Value	3.8%
Average Change in Working Capital	-8.3%
Average Change in EPS	13.8%
Average Change in Net Income	15.5%
Average Change in Return On Equity	11.9%
Average Change in Net PP&E	2.5%

The table above yields the average percentage increase or decrease convergence had on each indicator. After performing the steps to complete the analytical study, the results reveal that convergence actually improved most indicators. The largest particular surprise was the fifteen percent increase in net income, mostly as a result of revenue recognition, intangibles, and PP&E through the income statement. Because of this, net income's inclusion in other indicators led to other ratios experiencing a positive impact, notably, EPS and ROE, also both experiencing double-digit increases.

PP&E, as anticipated, was not as largely affected by convergence. This supports Christensen and Nikolaev's research on fair value adoption of companies vs. historical cost. An increase of only three percent as a result of an adjustment to fair market was apparent in this balance sheet line item between the two standards.

One troubling area of emphasis includes the disappointing results in working capital. Unlike the other indicators, it decreased an average of eight percent. The results for working capital were swayed by large differences in hedge accounting for E.ON, resulting in a 54 percent decrease in E.ON's working capital, obviously having an immense effect on the final percentage figure of the entire sample. However, excluding E.ON's impact on working capital, an improvement was actually made of 6.8%. Additionally, Endesa's 20-F did not include information pertaining to working capital, and as a result was excluded from this ratio, lowering the sample size to four. For further review, the complete results for each individual company can be found in exhibit D of the appendix.

Limitations of the Study

Much of the impact convergence may have on a company is dictated by the market conditions that convergence occurred. Therefore, the U.S. economic climate in 2015 may largely impact the transferability of this study to what may occur in the U.S. In 2005 and 2006, the years of the financial statements used in this analysis, the European Union economy fared well with average economic growth around 1.3 percent for the countries surveyed (World Bank). Conversely, with the current amount of volatility and political uncertainty one can easily cast doubt of how transferable this study is to the American economy in 2015.

The sample company's financial structure compared to U.S. utility company's also majorly impacts the transferability of results. For instance, the two Spanish companies in the study, Endesa and Suez, have very large minority interests that were removed from equity when reconciled to U.S. GAAP, obviously impacting any performance metric involving equity. Another example is the difference in regulation environment, creating a disparity

between European and U.S. utility company structures. For example, the EU has far fewer utility companies to begin with because European governments exercise more regulation over competition and available resources such as nuclear fuel compared to the United States.

Additionally, regulatory assets, identified by the internal audit survey as the largest line item to impact U.S. company's financial statements, was never permitted on any of the European company's statements before adopting IFRS. Therefore, the single largest impact between the standards unfortunately had no effect on this study.

Also, like any academic study involving a sample, the extent that the sample fairly represents the entire population ultimately remains unknown. This holds particularly true when the sample is used to draw conclusions when applied to a different circumstance. However, as a sequel research paper, and if convergence is implemented in 2015, the results of this study could be compared to how the selected performance indicators actually responded to convergence for U.S. public utility companies. It could be interesting to note if the selected performance indicators of U.S. companies were impacted in a similar manor as European companies following convergence.

Finally, although the results of the study indicate that convergence positively affected most indicators, the costs to actually implement the necessary information accounting systems and training of staff may outweigh the financial performance advantages for a few years. For example, "the cost of implementing the system changes to prepare a direct method cash flow would be in the millions of dollars" (Keasey) .

XII) Conclusion

Despite all the negativity that surrounds the integration of international accounting standards, the results of the performance metrics study indicate that some benefits can occur as a result of converging. On average, the companies included in the analytical study experienced improved performance indicators that increase the attractiveness of a company's equity. However, this advantage must ultimately be weighed against the high costs necessary to implement convergence.

The harmonization of accounting rules may sound good in theory, but in reality many social, political, and economic forces have slowed progress to a sluggish pace. Other factors, when coupled with IFRS convergence, could easily be the "nail in the coffin" for many utility companies. As if convergence is not enough of a stressor, companies will also have to cope with a retiring workforce, deregulation, aging infrastructure, global energy competition, and environmental concerns in the near future (see appendix B for an in-depth discussion of these topics). For example, illustrating the effects of deregulation; government regulators in charge of the Eastern U.S. grid have been expiring rate caps and domain rights. Basically, upon expiration of rate caps, many companies in the deregulated area will transition from "charging 1990 era rates to 2010 energy costs, experiencing increases in rates as high as 30%" (Soper). Thus, like most of the issues plaguing the industry, consumers will bear the ultimate cost through electricity rate increases. One way the industry has begun to cope with the abovementioned stressors is through mergers. For example, illustrating the chaos resulting from rate caps and domain rights expiration, First Energy has recently entered serious talks to purchase Allegheny Energy: once their largest competitor.

As the famous free-market saying proclaims, “In chaos, there lies opportunity,” and certainly chaos has arrived for the utilities industry. The future success of each company depends on how well they can adapt to a combination of stressors- whether it be international accounting convergence, one of the other industry concerns, or a combination. Nonetheless, the clock continues to tick, the stage is set, and even though the industry and regulators remain skeptical of merging international accounting standards on time, they must stand ready to tackle convergence if it indeed becomes reality in 2015.

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Appendix A: Industry Regulation

As one of the most heavily regulated industries, electric utility companies have multiple government commissions and agencies promulgating rules that the companies must comply with in every aspect of their business. The Federal Energy Regulatory Commission (FERC) and the North American Electric Reliability Corporation (NERC) are the two most authoritative agencies that affect overall business operations. NERC is an industry created watchdog agency that ensures electric reliability in all states and parts of Mexico and Canada. FERC was established as congress's mechanism of enforcement, and primarily "regulates the transmission and wholesale distribution of electricity in interstate commerce, and reviews certain mergers and acquisitions and corporate transactions by electricity companies" (FERC). These two organizations work in tandem to handle issues from energy production to wholesale rates and energy grid coverage. Also, in 2007, "FERC delegated legal authority to NERC to enforce reliability standards across the power grids" (NERC). An analogy between the utilities regulatory agencies could be created with accounting industry regulators; FERC taking the part of the SEC as federal enforcer, and NERC representing the FASB or AICPA as the self-regulating watchdog.

Besides federal regulators, each state has a utility commission that handles aspects of energy regulation within the commonwealth. For example, the Pennsylvania Public Utility Commission (PUC) strives "to balance the needs of consumers and utilities to ensure safe and reliable service at reasonable rates; further economic development, and foster new technologies and competitive markets" (PPUC).

Other agencies less involved in affecting core operations of utility companies include the EPA, which heavily monitors power plant pollution and waste disposal. Finally, along the lines of Financial Regulation, the SEC and FASB stipulate financial disclosure and accounting standards.

Appendix B: The Changing Dynamics of the Electric Utilities Industry

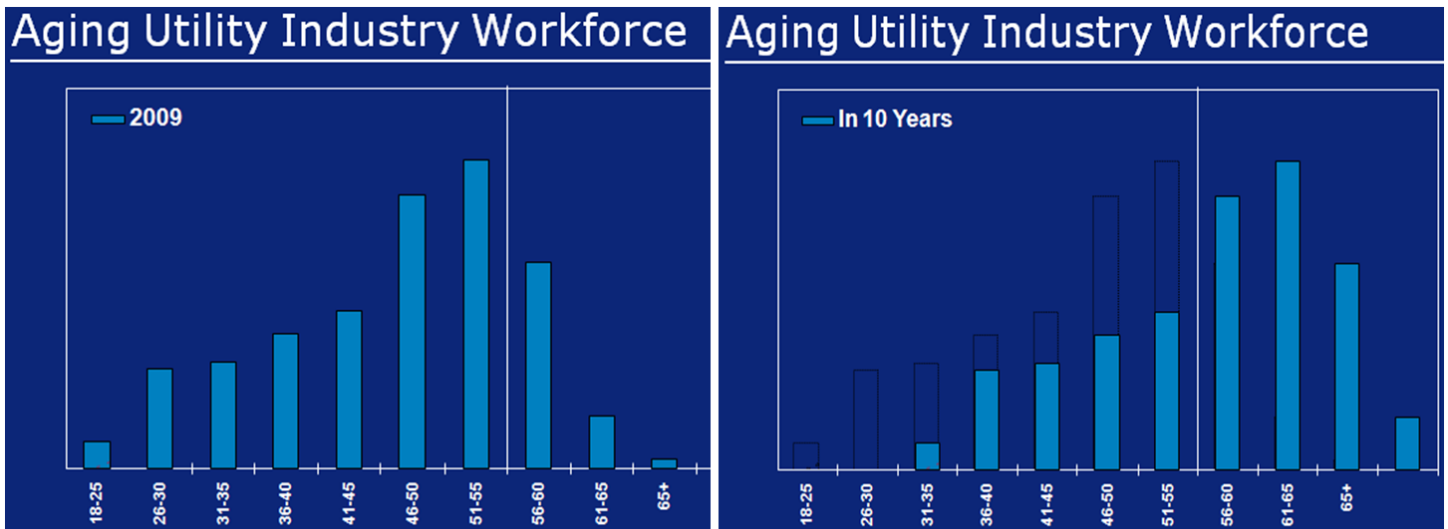
The integration of IFRS and IAS poses a concern to the industry relative to the many uncontrollable events set to occur in the next couple decades. Increased energy competition and consumption, out of date equipment and infrastructure, an aging workforce, and deregulation create the biggest challenges to the industry since they first established the major power grids.

Unsettling to many, America will have to learn to share the world's energy. The United States has enjoyed a golden-era of tremendously low energy prices. To illustrate, compared to the world's most populated nation, China, the average American consumes seven times the amount of energy per capita. Add into the equation the fact that China has over four times the number of citizens and GDP growing in the double digit percentile range (CIA), and you have the elements for major energy competition. However, it's not just the energy being competed over, but also the resources to produce the energy, and the manufacturing facilities to create it. "Heavy worldwide demand for manufacturing components like turbines increases the strain on the manufacturing supply chain, elevating costs" (Ford). For example, Japan has the only heavy metal forger in the world capable of manufacturing the necessary steel pressure vessels for nuclear power plants (Ford).

To facilitate the increased global demand, an aging infrastructure needs a massive overhaul to efficiently manage the growing energy consumption of the United States. For example, studies have proven "27 of America's 104 nuclear reactors are leaking radioactive ingredients into nearby water sources" (AP). The necessary improvements to repair the plants come with a "high price tag, with estimates around two trillion between now and 2030 for the industry" (Ford). Fortunately, decent progress of this endeavor has become a priority of the U.S. government who would like to maintain a pro-energy-efficient public perception. Recently, Congress has committed \$34 billion of future taxpayer dollars to the Department of Energy to improve energy efficiency as part of the 2009 American Investment and Recovery "Stimulus Plan" Act.

One potential obstacle to achieving more efficient energy use is the rising level of industry professionals nearing retirement age. A vital component of any electric distribution company is having the properly trained and knowledgeable workforce to maintain and operate the equipment. Unfortunately, "a pervasive talent shortage has been quietly growing, and according to industry experts, around half of the electric utility workforce could become eligible for retirement within a decade" (Bowers). This shortage spans all lines of work from plant operators to nuclear engineers and outage repairmen. The retiring of workers will not only increase operating costs, but quality may also suffer as experienced workers leave the industry.

Figures I & II: Age Demographics of the Utility Industry Currently and in 10 Years



(Deloitte, Honeycutt)

The light blue bars represent the portion of workers within an age group, and the white line indicates the estimated age of retirement for the workers. A majority of workers are currently on the cusp of retiring; in ten years, many will pass the normal age of retirement. The dark blue extended part of the bars estimates retirement age projections of the personnel gap the industry will have to fill in the coming years.

Just as the airline, trucking, and advertising industries have experienced deregulation, so will the utilities industry. Historically, electric utility companies worried little of competition because rates were set by a state agency that the company charged within their domain. For example, the Pennsylvania Utility Commission (PUC) previously set fair prices so consumers could not get price-gouged by the local power company. This legal-monopoly view of the industry began to change significantly in the 1990s. In 1992, the “Energy Act amended the Federal Power Act to provide open access to electric transmission systems for wholesale transactions” (PPL 10K). In 1996 in Pennsylvania, the PUC enacted the Customer Choice Act to restructure competition in the Pennsylvania Utility industry (PPL 10K). Twelve years later in 2008, fourteen states, all of which in the Eastern Grid, agreed to lift the legal-monopoly granted to companies starting in 2010, so that companies could compete more directly (Soper). This deregulation has had both positive and negative effects. Mainly, it exposed consumers to the market forces when rates were kept artificially low for decades, and on the positive side it offered consumers the freedom to choose a supplier. It is projected that several other states will follow this trend of deregulation in the coming years in the Texas and Western grids. Additionally, as part of the deregulation, many rate-caps will expire in the near term, subjecting energy prices to even more market volatility. When the contracts expire, many companies in the deregulated area will transition from “charging 1990 era rates to 2010 energy costs, experiencing increases as high as 30%” (Soper).

Along with deregulation comes increased competition, which creates mergers and acquisition activity in the industry. The airline industry is a notable example - every year the profitable firms seem to swallow up the weaker firms on the verge of bankruptcy. Although the airline industry experiences an unusually high number of acquisitions, experts speculate an increasing amount of mergers and acquisitions in the utilities industry as expansion continues into unprotected domains and rate caps expire, squeezing profit margins and possibly costing jobs.

Appendix C: Results of the IFRS Internal Accounting Survey

1. How informed are you of International Accounting Standards and Reporting Standards?		Create Chart	Download
		Response Percent	Response Count
Highly informed		58.3%	7
Informed		33.3%	4
Partially informed		8.3%	1
Not informed at all, it has not crossed my mind		0.0%	0
		Show replies Comments	1
		answered question	12
		skipped question	0

2. What level of concern do you have regarding the relevant accounting items below that are likely to affect the utility industry as a result of convergence?					Create Chart	Download
	Unsure of impact at this point in time	Low level of concern	Moderate level of Concern	Highly Concerned	Response Count	
Fair Value of PP&E and Component Depreciation	0.0% (0)	8.3% (1)	50.0% (6)	41.7% (5)	12	
Hedge and Derivative Accounting	0.0% (0)	8.3% (1)	58.3% (7)	33.3% (4)	12	
Regulatory Assets and Liabilities	0.0% (0)	0.0% (0)	8.3% (1)	91.7% (11)	12	
Retirement of LIFO Inventory Accounting	16.7% (2)	58.3% (7)	16.7% (2)	8.3% (1)	12	
Consolidations/Minority Interests	8.3% (1)	66.7% (8)	25.0% (3)	0.0% (0)	12	
						Show replies Comments
						answered question
						skipped question
						12
						0

3. When do you believe it is necessary to begin overhauling your Accounting Technology system so that both US GAAP and IFRS accounting information will be produced? [Create Chart](#) [Download](#)

		Response Percent	Response Count
It has been updated		8.3%	1
It is scheduled to be updated this year (2010)		0.0%	0
It is scheduled to be updated between 2011 and 2012		66.7%	8
It is scheduled to be updated between 2013 and 2014		8.3%	1
It will only be scheduled to be updated after IFRS is mandated to go into effect by the SEC		16.7%	2
Show replies Comments			4
answered question			12
skipped question			0

4. Do you foresee having to drastically change the format of your balance sheet to comply with IFRS? [Create Chart](#) [Download](#)

		Response Percent	Response Count
The whole format will have to be reevaluated		58.3%	7
A few line items will need adjustment but overall presentation will not substantially change		16.7%	2
Nothing will change		16.7%	2
I am not informed enough to know how much the balance sheet may change		16.7%	2
Show replies Comment			2
answered question			12
skipped question			0

5. Overall, do you support converging by 2014? [Create Chart](#) [Download](#)

		Response Percent	Response Count
Yes		25.0%	3
No		66.7%	8
It's a necessary evil that must occur		8.3%	1
Show replies Comments			6
answered question			12
skipped question			0

6. How many hours of training do you estimate the average internal accounting or internal auditing worker has had to date on international accounting? [Create Chart](#) [Download](#)

	Response Percent	Response Count
Greater than 20 hours training	8.3%	1
Between 10 and 20 hours training	8.3%	1
Between 5 and 10 hours training	25.0%	3
Between 1 and 5 hours training	50.0%	6
A couple of pamphlets handed out to read on their own time	8.3%	1
Has not been mentioned	0.0%	0
Show replies Comments		4
answered question		12
skipped question		0

7. What level of dialogue regarding IFRS convergence have you discussed with your external auditor? [Create Chart](#) [Download](#)

	Response Percent	Response Count
Discussed Daily	0.0%	0
Discussed Weekly	33.3%	4
Discussed Monthly	25.0%	3
Discussed Every Couple Months	50.0%	6
Discussed Every Year or So	8.3%	1
Has not yet been brought up in dialogue	0.0%	0
Show replies Comments		1
answered question		12
skipped question		0

Appendix D: Results of the Performance Indicator Comparison

*All amounts in millions except for ROE and EPS

E.ON AG				
Metric/Account	U.S. GAAP	IFRS	Δ	Percentage Δ
Equity Value	52,762.00	51,245.00	(1,517.00)	-2.9%
Change in Working Capital	3,692.00	1,704.00	(1,988.00)	-53.8%
Earnings Per Share	7.67	8.47	0.80	10.4%
Net Income	5,057.00	6,082.00	1,025.00	20.3%
Return On Equity	0.10	0.12	0.02	23.8%
PP&E, net	42,480.00	42,712.00	232.00	0.5%

Enel SPC				
Metric/Account	U.S. GAAP	IFRS	Δ	Percentage Δ
Equity Value	15,697.00	17,638.00	1,941.00	12.4%
Change in Working Capital	(792.00)	(700.00)	92.00	-11.6%
Earnings Per Share	0.80	0.67	(0.13)	-16.3%
Net Income	4,945.00	4,132.00	(813.00)	-16.4%
Return On Equity	0.32	0.23	(0.08)	-25.6%
PP&E, net	30,188.00	30,320.00	132.00	0.4%

Suez SA				
Metric/Account	U.S. GAAP	IFRS	Δ	Percentage Δ
Equity Value	21,375.00	16,511.00	(4,864.00)	-22.8%
Change in Working Capital	(564.00)	(509.00)	55.00	9.8%
Earnings Per Share	1.67	2.39	0.72	43.1%
Net Income	1,757.00	2,512.00	755.00	43.0%
Return On Equity	0.08	0.15	0.07	85.1%
PP&E, net	19,999.00	20,212.00	213.00	1.1%

Eni sPa				
Metric/Account	U.S. GAAP	IFRS	Δ	Percentage Δ
Equity Value	36,588.00	35,540.00	(1,048.00)	-2.9%
Change in Working Capital	2,246.00	2,749.00	503.00	22.4%
Earnings Per Share	2.02	2.34	0.32	15.8%
Net Income	7,853.00	8,788.00	935.00	11.9%
Return On Equity	0.21	0.25	0.03	15.2%
PP&E, net	43,868.00	45,013.00	1,145.00	2.6%

Endesa SA				
Metric/Account	U.S. GAAP	IFRS	Δ	Percentage Δ
Equity Value	12,010.00	11,590.00	(420.00)	-3.5%
Earnings Per Share	2.60	3.01	0.41	15.8%
Net Income	2,753.00	3,266.00	513.00	18.6%
Return On Equity	0.23	0.28	0.05	22.9%
PP&E, net	29,650.00	32,313.00	2,663.00	9.0%

Average Percentage Impact on Performance Indicators	
Performance Indicator	Average Percentage Impact
Average Change in Equity Value	3.78%
Average Change in Working Capital	-8.33%
Average Change in EPS	13.78%
Average Change in Net Income	15.47%
Average Change in Return On Equity	11.96%
Average Change in Net PP&E	2.51%

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Honors Advisor: Orië Barron

Relevant Experience:

Ernst & Young Philadelphia

Summer, 2009

Assurance Practice Intern

Client List:

PPL Electric Utilities

PFM Asset Management

Activities:

Accounting Society Member

Beta Alpha Psi Class Treasurer

Intramural Golf League Participant

Table-Tennis Club Member

Rifle Club Member

Honors and Awards:

Smeal College of Business Dean's List

Wherry Honors Scholarship in Business - 2008/2009

Deloitte and Touche Henry Wertz Scholarship- 2008/2009

Wherry Honors Scholarship in Business - 2009/2010

Robert "Bear" Koehler Accounting Scholarship- 2009/2010

Other Experience:

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Allentown, PA

2004 - 2007

Assistant Manager

Blue Mountain Ski Area

Palmerton, PA

2003 - 2005

Ski Instructor