From the desk of the Editor-in-Chief. . .


All articles that appear in this volume of the *Mustang Journal of Accounting and Finance* have been recommended for publication by the Reviewers/Advisory Editors, using a double, blind peer review process. A personal thank you is extended to the Reviewers/Advisory Editors for all their hard work and dedication to the Journal. Without their work, the publication of this Journal would be impossible.

This has been my second year to serve as the Editor in Chief of the Journal, and I wish to express my sincere thanks and appreciation for all the support, encouragement, assistance and advice throughout this year.

Congratulations to all our authors. I extend a hearty invitation to submit your manuscripts for future editions of Mustang Journals!

To further the objectives of Mustang Journals, Inc., all comments, critiques, or criticisms would be greatly appreciated.

Again, thanks to all the authors for allowing me the opportunity to serve you as editor-in-chief of the Journal.

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Call for Papers

2014 Mustang International Academic Conference

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*Yue Yuan, University of Chicago*
Examining Stock Returns through Anomalous Volume: 1966-2009

Oklahoma City, Fall, 2012 Conference:

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Paper: Distance to the Border: The Impact of Own and Neighboring States Sales Tax Rates on County Retail Activity

*Daniel Adrian Doss, Russ Henley & David McElreath, University of West Alabama*

*Ralph Bourret & Dana Roark, Northwest Oklahoma State University*
Paper: Are Routine Retiring CEOs More Closely Monitored in their Last Year?
INTERNATIONALIZATION AND THE IMPLEMENTATION OF A FINANCE AND ACCOUNTING
SHARED SERVICES CENTER FOR DEUTSCHE TELEKOM EUROPEAN SUBSIDIARIES:
A CASE STUDY

Bruce A. Kibler
Gannon University

Abstract

The following is a case study which gives the background market developments and the
implementation of a shared services center for the finance and accounting function of
Deutsche Telekom AG subsidiaries in Europe. The privatization and liberalization of
telecoms markets in Europe was performed swiftly and showed a balanced approach
between commercial and societal interests. As Deutsche Telekom AG (DTAG) privatized
and consequently took advantage of the other privatizing markets in Europe, thereby
establishing a defacto internationalization, through a combination of greenfield and M&A
activity. Struggling with its own privatization and change to a competitive market entity,
DTAG did not necessarily follow a direct path to efficiencies but nonetheless an organic
one. This case study illustrates this process on the case of the F&A consolidation across
all European subsidiaries of DTAG.

DEUTSCHE TELEKOM AG SHARED SERVICE CENTER CASE STUDY

The following is a short history of Deutsche Telekom AG (DTAG) as a prelude to the current project at hand, i.e., the
creation of a Shared Services Center for DTAG subsidiaries in Europe.

DTAG and Deutsche Post AG (DPAG) and the Deutsche Postbank AG were a singular economic unit before the
privatization began in the early 1990 as part of the overall privatization, liberalization of EU countries. Telecommunications
was one of the first industries to lead the way in the privatization, liberalization process.

The story of DTAG begins in 1989 with the so-called Postreform I in which the three above-mentioned entities were
separated and formed into corporations slated for privatization within the European Union’s overall program of privatization
and liberalization of markets. In January, 1995 the Postreform II came into effect which enabled the further privatization
of DTAG. To be sure, this was considered one of the greatest reforms of German economic history, and for that matter
European history, Germany being the largest country and economy in Europe. So, in January, 1995 DTAG became a
publicly traded company, although no shares had yet changed hands. In June 1993 DeTeMobil was spun-off as a mobile
telephone subsidiary in order to facilitate development of the new technology and keep pace with other internationally active
mobile players. Of course, many of the same problems hampered progress here as well (civil servant base, too many
products) but there was a freedom of decision making as a separate legal entity which made the first steps in
internationalization easier. Also at this point in time (1995), DTAG had no international business activity worthy of
mention, other than standards bodies, transfer pricing and payments and a few holdings in international satellite and sea-
cable consortia. In addition, at this time the vast majority of employees were civil servants, lifelong work guaranteed by the
state, a fiscal and managerial issue which was then inherited by the newly privatized DTAG from the government.
Specifically, what this meant was that a very large portion of the workforce could not be fired, or even reprimanded with
any effectiveness. So, motivation either came from within the individuals, or via new hires from the open labor market.

The next 10 years saw dramatic changes as the company became increasingly international and incorporated new
technologies into its portfolio. In fact, one of the biggest problems DTAG had in its initial years was to break free of the
view that they needed to deliver all services to all people. It was a corporation fraught with turmoil, too many products, too
many people, in a constant cycle of reorganization and the door opened to new competition. In the year 2000,
Internationalization and the new positioning via the four divisions (Fixed line, mobile, Internet and IT integration, or T-Systems) was at the forefront of DTAG strategy and activity. One of the most important aspects of technological advancements at Deutsche Telekom had been the automatization of telecommunications infrastructure, reducing drastically the amount of personnel required for operations. This was coupled with a contractual agreement with the government not to RIF (Reductions in Force) any workers before 2008 as well as the large percentage of tenured civil servants, i.e. those who have a lifelong employment guarantee. This was coupled with the digital revolution which allowed the advent of the internet era, decreased greatly the manpower needed for the fixed line network and allowed for mass market mobile communications. This happened all against the background of the privatization of the entire European market, including the newly admitted Eastern European countries’ markets.

When DTAG was officially privatized in 1995, over 80% of its revenues were generated from the German fixed line network (T-COM) and barely 3% in foreign earned revenues. This presented a huge hurdle for a company facing full privatization of the market a mere two years later in 1998 and an initial public offering (IPO) in 1996. For the task of privatizing and internationalizing DTAG, CEO Dr. Ron Sommer was hired in May 1995.

The second half of the 1990’s was predominantly dedicated to internationalization. Although corporate literature reports how systematically the internationalization was performed, the reality was more one of acquiring mobile licenses and former fixed line monopolies predominantly in Central and Eastern Europe in competition with other international telecommunications operators in which DTAG, using DeTeMobil for new venture establishment in the internationalization process, was in a formidable financial position to leverage out competition. This trend continued with the purchases of mobile telephony companies in Great Britain and the United States as well as for UMTS licenses (broad band mobile technology) at prices which were indicative of the M&A market at the time and yet in hindsight grossly overpriced. This, in tandem with the massive reconstruction of the former East German telephony network with the most modern fiber-optic cable, put DTAG into a financial crisis, ending in Dr. Sommers’ relatively abrupt separation with the company under less than favourable circumstances. Today (year end 2012), DTAG has approximately 232,000 employees in over 50 countries and produces almost 56% of its revenues outside of Germany.
One of Dr. Ron Sommer’s lasting contributions was to divide the corporation into four new divisions:

Figure 1: Deutsche Telekom AG Structure

Deutsche Telekom AG Structure

Source: Company Reports

These are the business units which have driven the national growth and international expansion. Over the ten year privatization and liberalization process DTAG had been able to raise revenues by 70% from approximately € 32.6 billion in 1994 to € 55 billion Euro by the end of 1993 and € 58 billion by 2011. At the same time the classical fixed line business had moved from 80% to 40% of revenues and mobile communications has risen to 39% and the newly grounded systems house made up 14% of revenues.

Additionally, T-Systems began founding subsidiaries in all countries where DTAG had established subsidiaries, whether fixed network, mobile network or Internet Service Providers. This enabled DTAG to service its own subsidiaries and retain revenue within its overall network of subsidiaries. Statistics on Foreign Direct Investment statistics (FDI) tell us that the most common forms of FDI are Mergers & Acquisitions (M&A’s), and of these M&A’s, approximately one-third, are intra-company (World Investment Report 2003, United Nations) and this remains fairly constant. This makes perfect sense as keeping the revenues in your own company is better than cashflow leaving the company, as long as the services rendered are within a range of tolerance for real market prices. Much intra company FDI was accomplished via the formal RFP (Request for Proposal) market process required by EU law in which T-Systems, the IT systems arm of DTAG, competed directly with other market players in competitive bidding for the business of their own company.

The following charts show DTAG divisions’ international presence (2013 - non U.S.).

Figure 2: T-Mobile (not all companies are branded as such) in Europe (in red, not including Germany)
Source: Adapted from Company web site

Figure 3: T-Systems Europe (in red)

(In Spain, “T-Systems Iberia” also serves Portugal; the big islands in the Mediterranean Sea shown in the map belong to countries where T-Systems has equity interest.) There is a very good coverage of the majority of the European continent via the T-Mobile and T-Systems subsidiaries. All in all there are 27 countries which host DTAG subsidiaries, which are now actively run/managed by the so-called “Europe” Board of DTAG.

The figures above show a diversity of subsidiaries across a wide geographic region. The geographic region itself is not necessarily an issue, nor is the amount of subsidiaries, however, when we look closer at the DTAG internationalization process, including the internationalization of its subsidiaries T-Mobile and T-Systems, we see a preponderance for inorganic growth, i.e., M&A as the major tool of internationalization, especially for T-Mobile. M&A is reflected in the FDI literature as the major form of international expansion and the major form of FDI after M&A is intra company business, which is indicative of the convergence of the two maps above showing DTAG properties. There are very few countries where a T-Systems presence does not accompany the presence of a mobile subsidiary. Only in the South Eastern European (Macedonia, Croatia, Albania and Montenegro) geography does one see the lack of accompanying T-Systems presence. Additionally, T-Systems is poised in a number of other countries in West and Eastern Europe, should an additional opportunity for expansion arise. Most notably in Western European countries where DTAG had earlier successes but subsequently divested or mitigated risk via partnering (Italy and the UK, respectively). So, which countries grew from a Greenfield approach and which from an acquisition? Austria, the Czech Republic and Poland were all Greenfield mobile investments which were planned and built by DTAG subsidiary T-Mobile (Poland being originally a partnership with US West and some local investors). Every other telecommunications subsidiary of DTAG/T-Mobile was the product of an acquisition. This is certainly not a bad thing, however, what this means is that IT systems, processes and software were certainly not in conformance with any corporate norm. This made the issue of controlling and reporting an onerous task, a task which was very costly in creating patches for IT systems and software for consolidation of financial data and reporting purposes. This translates into the purchase and maintenance of numerous IT platforms and software licenses as well as the monies required to maintain the inter-system interoperability. These represent multiple layers of costs, direct and indirect that did not contribute to the economies of scale in operations required for long term competitive advantage. Clearly, this was a subject which was discussed and planned from the outset of the internationalization process. Mitigating circumstances for not having consolidated these systems and processes earlier were the nature of DTAG being itself comprised of various regional telecommunications carriers in their home market of Germany and having these same issues, organizationally and
financially. All the while European directives were forcing the privatization and liberalization of the telecommunications markets in Europe. There was no time and not enough qualified resources to tackle all of DTAG’s issues at the same time. Additionally, DTAG was still struggling with an overabundance of employees via the introduction of competition in Germany and the advent of the digital revolution, both of which had a tremendous downward pressure on necessary headcount….keeping in mind that DTAG had assumed the responsibility for many thousands of lifelong civil servants through its own privatization process.

So, there is an inability to solve the issues in the mother organization and a privatizing European telecommunications market which mandated immediate attention in order to retain control of the home market in the long run. Had DTAG attempted to solve its own internal issues before internationalizing, the market would have been taken by others, relegating DTAG to the role of a second or third tier player in the European market, possibly becoming a takeover object over time. This is actually a very interesting aspect of internationalization and globalization, in general, i.e. the potential loss of sovereignty over national assets and potentially therefore a loss of national security, financially or otherwise. There is a plethora of literature and especially criticism in the business press of the establishment of the national regulatory agency in many countries, Germany is no exception. Although one can argue many sides of the issue, the regulatory office in Germany often supported DTAG over the newly formed competition. The circumstances under which DTAG was privatized (organizationally, civil servants, the multitudes of IT systems & software etc.) it seems as if the German government had read Alexander Hamilton’s plea for infant industry protection (although infant is perhaps not the right word here), i.e., to support and aid their own industries in order to allow them to thrive enough to eventually then be able to compete on higher levels, nationally and internationally. This tried and true practice, the U.S. having been one of, if not the largest usurper of this anti free trade doctrine, was necessary in ensuring German national security on many levels. Telecommunications is one of the key industries which form the underlying infrastructure of a successful modern industrial base. The loss of this to other national entities could very well have led to Germany not being the European economic powerhouse it is today.

The infant industry protection availed during the privatization, liberalization process as well as the intra company FDI practiced via foreign subsidiaries, has enabled DTAG to grow and retain cash flow within its international organizational structure. This has been a key to their success. However, in today’s more mature market, with other large competitors, this is not enough. To drive cost savings, standardization as well as process efficiencies across Group units, DTAG has, among other initiatives, initiated a project to consolidate dedicated financial and accounting processes of the group called “Telekom EMEA Shared Service Accounting II” (“TESSA II”, the first TESSA project focused on the German home market), which is being performed via Deutsche Telekom Accounting GmbH (DTA) and its international subsidiary, Deutsche Telekom Shared Services (DTShS) out of Bratislava, in the Slovak Republic. The following illustrates the ongoing process and many of the anticipated benefits of this project.

**TESSA II**

Internal Strategic Rationale for the project:

- Deutsche Telekom Group investigated the feasibility of a centralization of transactional F&A processes across the Europe Middle East Africa region (EMEA) into a Shared Service Center (SSC) Accounting
- A SSC approach for transactional F&A processes has been proven and is an industry standard -competitors like Telefónica and Vodafone have such approaches already in place
- The centralization applies to the EMEA region
  - Functions of 775 Full Time Employees (FTEs) from 48 Finance and Accounting (F&A) organizations in 24 countries (without Germany) in transactional F&A processes should be transferred
- The feasibility study identified the following quantitative and qualitative benefits
  - Qualitative benefits for both the Group and the local entities include increased transparency, standardization of guidelines and their operational realization:
  - Major annual OPEX savings can be realized by centralizing F&A functions in a Shared Service Center by economies of scale, process optimization and labor arbitrage
  - A small part of the process optimization has already been considered in the strategic planning of the national telecommunications subsidiaries
- The setup of an (Europe, Middle East, Africa) EMEA Shared Service Center Accounting for transactional accounting processes with respective budget allowance was approved by the Corporate Board of DTAG in late 2010: For this purpose, the existing organizational platform Deutsche Telekom Shared Services s.r.o. (DTShS), in business for T-Systems from 2006, was chosen.

Operating Model and one off costs:

- DTShS operates as a separate legal entity, reports to the segment Group headquarters and Shared Services and is almost fully owned by DeTeAccounting GmbH
- It operates as a service center without intention to realize profits\(^1\) (“Cost Plus”) and the clear target to focus on efficiency in end-to-end processes and savings from a group-perspective
- Transactional processes are centralized in the DTSShS while closing activities remain local
- The migration focuses on maintaining operations, quality assurance and fast realization of savings. 80-120 FTE are built up per year and it will take approximately 4.5 years until 2015 with 1st go-lives in Q1/2011
- Transfer price requirements are considered for tax reasons, most one-off costs must be carried-and eventually earned-by DTSShS
- Expected severance payments should be carried by local organizations
- In most countries sign-off from local statutory bodies is required
- With cultural, temporal and linguistic proximity as a key requirement for a future SSC location, Bratislava was the chosen site as it offers the best combination of immediate time to operation, moderate labor costs, sufficient availability of required skills and a lower migration risk due to brownfield approach

**TESSA II is part of overall DTAG strategy**

![Diagram](image.png)

*Figure 4: Source: DeTeShS documentation*

The above graphic illustrates the overall project implementation process mapped against the potential cost savings over time and extent of implementation. This amounts to achieving economies of scale, reduction of site licenses, manpower, physical plant and process redundancy.

The projected savings are significant, up to 50% per year in Operating Expenditures (OPEX) related to transactional accounting by full implementation. From FTE reduction, process optimization/standardization to consolidation, economies of scale, and labor arbitrage, savings add up along the entire process. In addition to the expected efficiencies of consolidation, TESSA II is a driver for process standardization and operational transparency in transactional Accounting. This enables a comprehensive KPI reporting, leading to intra-Group performance benchmarking (e.g. with regard to the percentage of invoices with Purchase Orders and the length of internal invoice approval processes), hence, improved quality and controls.
Deutsche Telekom is joining the ranks of many other multinationals and competitors in adopting the creation of company owned and operated shared services centers.

<table>
<thead>
<tr>
<th>Company</th>
<th>International SSC Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vodafone</td>
<td>Budapest, Ahmadabad (India)</td>
</tr>
<tr>
<td>Telefónica</td>
<td>Madrid, Buenos Aires, Sao Paulo, Lima, Santiago de Chile</td>
</tr>
<tr>
<td>Telecom Italia</td>
<td>Italy (8 locations)</td>
</tr>
<tr>
<td>France Telecom</td>
<td>France (7 locations), Poland</td>
</tr>
<tr>
<td>Deutsche Post / DHL</td>
<td>Germany (7 locations), Brussels, Buenos Aires, Mexico, Mauritius, Kuala Lumpur, Dubai</td>
</tr>
<tr>
<td>Citigroup</td>
<td>Budapest, Poland, Barcelona, Belfast, Dublin</td>
</tr>
<tr>
<td>SAP</td>
<td>Prague</td>
</tr>
<tr>
<td>Henkel</td>
<td>Slovakia, Poland</td>
</tr>
<tr>
<td>Siemens</td>
<td>Prague, Lisbon, Vienna, Beijing, Mumbai, Orlando, Singapore</td>
</tr>
<tr>
<td>Luftfransia</td>
<td>Poland, Thailand, Mexico</td>
</tr>
</tbody>
</table>

Figure 5: Source: DTShS documentation

DTAG is not a first mover here. As we can see from the chart above, some direct European competitors such as France Télécom, Telefónica and Telecom Italia have all embarked on this cost savings process integration path before DTAG. This is a logical development in a maturing market. As the euphoria of mobile telecommunications and internet services and new revenue streams subsides, cost levers become the major path to competitive advantage on a larger scale.

Another interesting aspect of this development is the lack of outsourcing of this function (“captive” approach). These companies have realized the trappings of outsourcing and its ensuing loss of control over the operations and efficiency of the company which accompany large scale outsourcing projects.

In holding with good governance principles and efficient transfer of functions, DTAG has created a clear delineation of responsibilities between the local organizations and the Shared Services Center. Additionally, the creation of well-crafted and specified Service Level Agreements (SLAs) with specific Key Performance Indicators (KPIs) and reporting structures is critical to overall project success:

- Clearly defined roles and responsibilities
- Assigned contact persons
- Quality and timing requirements for services
- Escalation procedures
- KPI reporting on volumes, quantities, timing, etc.
- Regular discussion and evaluation of quality, performance and costs
- Setup of process and steering groups
- Utilization of issue logs to track and timely solve upcoming problems
- Setup of a hotline and other appropriate levels of support

Some of the additional success factors include:

- A single location approach
- Having a brownfield opportunity approach reduces risk
- Temporal, linguistic and cultural proximity
- Geographic and time zone proximity

Many of these were factors that led to the decision to realize the TESSA II project in Bratislava. Additionally, the educated labor force, relatively low wage costs and location within the EU and proximity of DTAG subsidiaries made Bratislava the site of choice.
An overview of Bratislava, Slovak Republic as a rationale for choosing this specific site:

<table>
<thead>
<tr>
<th>Location Overview</th>
<th>Labor and business overview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
<td><strong>Labor parameters</strong></td>
</tr>
<tr>
<td>Capital City</td>
<td>Weekly working hours</td>
</tr>
<tr>
<td>Bratislava</td>
<td>40 hours</td>
</tr>
<tr>
<td>Population</td>
<td>Annual leave days</td>
</tr>
<tr>
<td>429,000</td>
<td>20 (25 at age 33)</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>Avg. monthly salary</td>
</tr>
<tr>
<td>13.4%</td>
<td>€ 997</td>
</tr>
<tr>
<td>S&amp;P Foreign Sovereignty Rating</td>
<td>Labor availability</td>
</tr>
<tr>
<td>A/ Stable</td>
<td>High</td>
</tr>
<tr>
<td>Currency</td>
<td>Availability of Foreign Language skills</td>
</tr>
<tr>
<td>Euro</td>
<td>High</td>
</tr>
<tr>
<td>45 minutes from Vienna airport</td>
<td>Business Environment</td>
</tr>
<tr>
<td>Signatory of the Schengen Treaty</td>
<td>Corporate tax rate</td>
</tr>
<tr>
<td>Strong “T” brand (DTAG branding)</td>
<td>23%</td>
</tr>
</tbody>
</table>

**Figure 6: Source: DTShS documentation**

The risks and opportunities were also given due consideration in the proposal.

<table>
<thead>
<tr>
<th>Risks</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor cost increases</td>
<td>Additional savings may be achieved via higher than expected efficiency</td>
</tr>
<tr>
<td>Anticipated language and business skills not as available as predicted</td>
<td>Savings if labor costs do not rise as expected</td>
</tr>
<tr>
<td>Delays in recruiting</td>
<td>Savings realization via pre-process realization (e.g. HR overhead)</td>
</tr>
<tr>
<td>Delay in local Reductions in Force (RiF)</td>
<td>Improved data accuracy, consistency and control of local F&amp;A organizations</td>
</tr>
<tr>
<td>Process optimization dependent on cooperation and support of local subsidiaries, i.e., potential resistance</td>
<td>Local entities can focus more on core telecommunications competencies</td>
</tr>
<tr>
<td>Local regulatory bodies may not approve centralization of F&amp;A functions</td>
<td>Better post-merger integration of future acquisitions</td>
</tr>
<tr>
<td>Country specific knowledge cannot be obtained until knowledge transfer has been executed</td>
<td>Finance SSC Accounting could be used as a platform for additional G&amp;A functions (HR, purchasing, transport and fleet etc.)</td>
</tr>
<tr>
<td>Local entities may not be willing to conclude respective service agreements, or only under deviating circumstances</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 7: Source: DTShS documentation**

All in all, Deutsche Telekom Group appears to have done a thorough analysis of the situation before proceeding and recommending the creation of the DTShS in Bratislava. Due consideration has also been given to the actual implementation, from the definition of specific roles and communications’ partners to the identification of the KPIs for which DTShS will be held responsible via the SLAs. Service contracts stipulate liabilities for slight and gross negligence but preclude the service partners from engaging in legal recourse. So, we have been given a solid basis for doing the project as well as having seen expertise in planning the implementation. However, what makes DTShS a partner of choice, ignoring the internal preference for a fully owned and controlled subsidiary?

In 2009 T-Systems was the 100% owner of T-Systems VICOS GmbH (Gesellschaft mit beschränkter Handlung, i.e., Ltd.). In August of 2009 T-Systems VICOS became a capital company under Slovak law, owned 99.9% by DeTeAccounting (a 100% subsidiary of DTAG) and 0.1% by T-Systems (also a 100% DTAG subsidiary). The core business of DTShS is:

- The shared services concept aimed at cost savings from
  - Economies of scale
  - Labor arbitrage and
  - Process optimization via standardization
- Services are provided according to the “Cost Plus” concept
- Initial target group: European subsidiaries of T-Systems
- Operations are subject to continuous improvements
- Rollout of F&A services to all EMEA Group subsidiaries of DTAG
DTShS has, as of End of Year 2012:

- 255 FTEs
- 1,000,000 processed documents (F&A) for a host of (DTAG) Group companies in the fields of AP (Accounts Payable), AR (Accounts Receivable), Bank, Fixed Assets and General Accounting.

DTShS has customers in the following countries: Germany, Switzerland, Austria, Netherlands, UK, France, Portugal, Spain, Slovakia, Czech Republic, Italy, Hungary, Belgium, Greece, Russia, South Africa and Poland. In 2012, DTShS also proceeded with the implementation of Procurement services for international Deutsche Telekom Group subsidiaries. Over the next years, this will enable the company to realize efficiencies over the entire “Purchase to Pay” process chain.

Some additional aspects of DTShS are:

- All customers are served in their native language
- High portion of university graduates
- Average age: 32
- High employee loyalty and mobility
- High performers are enabled to switch to other teams or participate in project work
- Candidates from other (DTAG) Group companies are welcome

Source: DTShS documentation

**DISCUSSION**

There is a clear rationale in implementing a shared service center for F&A, as well as planning to extend this into other areas such as procurement moving into the future. The telecommunications field is, under current market conditions, a saturated and mature market. This leads to the conclusion that less money is put into innovation and more is invested into cost cutting measures. Innovations are relegated to a much smaller scale which pushes the parameters of the definition of innovation. As an example, how much innovation do we see in the ever more frequently issued models of Apple’s iPhone? More memory, more applications, extended battery life etc. These are not representative of true innovation, they are merely incremental improvements of existing technology. So it is also with the underlying telecommunications industry. The last greatest innovations were digital technology, which revolutionized telecommunications by dramatically increasing capacity through network technology as well as the sending codification via the Internet Protocol with bits and bytes, as opposed to the capacity intensive analog technology. This is what enabled the internet and the mass commercial appeal of mobile communications, accompanied by a significant decrease in the personnel required to build and maintain the underlying network. Analog technology required a large number of “switches” along the path of the signals, whereas digital technology addresses the signal at the point of origin. This was revolutionary. This fueled growth in many areas of telecommunications as well as enabling new commercial and mass market applications under a newly constructed economic structure. That is to say, it became less expensive and opened doors for many additional markets and applications.

However, as the market has matured and innovations decrease, diversification and cost cutting/process optimization become the alternatives in creating and maintaining competitive advantage within the industry. Most major telecommunications providers have attempted diversification along the value chains of entertainment and content. This was relatively ill-fated as the market was already dominated by other players and the building of these core competencies by the telecommunications companies was far too expensive and risky. The major European players all founded so-called multimedia departments which were subsequently closed after a few years. Co-operations and Strategic Partnerships seemed to replace the do it yourself mentality with which the major players in the European telecommunications market began.

This is all to say that the telecommunications industry is, especially in Europe, mature and somewhat saturated and to again emphasize the great need to now more than ever, achieve operational efficiencies in order to maintain competitive advantage. The Shared Service Center for F&A is an excellent platform for achieving these efficiencies moving into the future.

This case study was produced in close cooperation with Deutsche Telekom Group and interviews with European telecommunications industry experts (July 2013).
The RELATIONSHIP BETWEEN CASH FLOWS’ PREDICTIVE VALUE AND CASH FLOW VOLATILITY

Ronald A. Stunda  
Valdosta State University

ABSTRACT

This study utilizes prior cash flow literature that compares accounting accrual estimates to actual cash flow components in assessing which is a better predictor of stock prices. Extant studies indicate that actual cash flows are a better predictor of security prices. However, recent studies interject the notion that cash flow volatility impacts investor decisions. The question that this study attempts to answer is: if cash flow volatility affects investor decisions, can it also affect the predictive ability on stock prices?

In an attempt to answer this question, a sample of firms is selected from the study period 1998-2012 and partitioned into below average volatility cash flow firms and above average volatility cash flow firms. Regressions are then run for these two groups, utilizing actual cash flow components, and compared to the same firms’ accounting accrual estimates for the same study period.

Results show that when firms are disaggregated by below average cash flow volatility and above average cash flow volatility, for the “below average volatility” firms, actual cash flows are a better predictor of stock prices than accounting accrual estimates, while in the case of “above average volatility” firms, accounting accrual estimates are a better predictor of stock prices than actual cash flow components.

INTRODUCTION

Cash flows have been used in many studies to achieve several objectives. Perhaps the most notable cash flow studies are those of Wilson (1986, 1987). In both studies, findings suggest that the cash and total accruals component of earnings have incremental information content beyond earnings themselves. These studies compelled other researchers to evaluate the information content of cash flow components.

Livnat and Zarowin (1990) disaggregated cash flow into its operating, financing and investing components. They concluded that the disaggregation of cash flows into operating cash flows and accruals does not improve the relationship between cash flows and security returns beyond the contribution of net income. Further, they find that there is an improved degree of association between financing and operating cash flows and security returns.

Sloan (1996) found that stock prices fail to fully reflect information contained in the accrual and cash flow components of current earnings until that information impacts future earnings. Cash flow is defined in this study as the income from continuing operations less accruals. Again the uncertainty of the accrual calculations limits the accuracy of this proxy for cash flows.

Stunda (1996) found that reported cash flows, when disaggregated by operating, financing and investing components, have a greater relationship with security returns than with disaggregated estimates reported by Livnat and Zarowin (1990).
Dechow et al (1998) disaggregates the accrual components of cash flows and finds that some have greater predictive value on security returns than others. Barth et al (2002) pick up on the Dechow et al study (1998) and circle back to the findings of the studies from the 1980’s and re-assert that accruals have a greater predictive ability of security returns than do actual cash flows, thereby contradicting the finding of Stunda (1996).

These studies are extended by later studies that emphasize the need for stable cash flows. Graham et al (2005) finds 97% of corporate executives favor stable, non-volatile cash flows as being a positive influence on earnings and security prices. Brown and Kapadia (2007) show the rise in cash flow volatility, especially among new public offerings. Bennett and Sias (2007) relate a good deal of the cash flow volatility to small stocks, although Irvine and Pontiff (2008) attribute only 1/3 of the total cash flow volatility to small stocks, and further find that such volatility has increased since 1997. Morck et al (2009) posit that because of increased volatility in cash flows, perhaps cash flows do not have the predictive ability they were found to have in prior research.

Given all of the above literature, and the established greater presence of volatility of cash flows, the pertinent question becomes, what is the better predictor of security returns in the 21st century, actual cash flows reported by firms or estimates predicated on accrual components? This study seeks to answer that question by separating firms by high and low volatile cash flow sample groups and comparing the cash flows of these groups to accounting accruals for the test period 1998-2012 in order to assess what elements and groups have a greater association with security returns.

**RESEARCH DESIGN**

**Cash Flow Volatility Measure**

In an analysis of investment decisions, Cleary (2006) finds the importance of cash flow volatility in relation to factors that impact the financial decision of the investor. Booth and Cleary (2007) establish a model for assessing volatility of cash flows. The authors relate cash flows, net income before extraordinary items plus depreciation, (CF) to average net fixed assets (K) to arrive at an equation of CF/K in relating these two components. Their first measure of cash flow volatility is \( \text{Vol}(CF/K) \) which represents the standard deviation (volatility) of a firm’s cash flow as its standard measure of volatility. Their second measure is \( \text{CV}(CF/K) \), which is the coefficient of variation of CF/K, accounts for the size of the firm’s cash flows as well as the volatility of those cash flows. These same measures of cash flow volatility are used in this study.

**Sample of Firms**

The sample of firms are selected from Compustat, for relevant cash flow and net asset data, and the Center for Research on Security Prices (CRSP), for security returns, for the period (1998-2012). The year 1998 is selected as the starting point since many previous studies note an increase in volatility of cash flows beginning in or around the year 1997. Table 1 summarizes the sample of firms included in the study.
Table 1
Sample Summary 1998-2012

<table>
<thead>
<tr>
<th>Number of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original sample</td>
</tr>
<tr>
<td>Firms with insufficient Compustat data</td>
</tr>
<tr>
<td>Firms with insufficient CRSP data</td>
</tr>
<tr>
<td>Final sample</td>
</tr>
</tbody>
</table>

Partitioning the Sample

Data for all firms in the sample for the periods 1998-2012 are used to construct a data set with median values of volatility measures. These median values were portioned into four quartiles, with each subsequent quartile representing a higher degree of cash flow volatility. This was done in order to establish how the firm samples were spread over a range of volatility. In addition, a mean volatility level was determined for the entire sample. Table 2 reflects the results of the volatility measures. The table presents the results of non-parametric tests (Mann-Whitney tests) that compare the “location” of the sample distributions. As can be seen, with respect to standard deviation, over 40% of the firms in the sample fall into Quartile 4 (high volatility) with an average standard deviation for the overall sample of 0.25 and an average overall coefficient of variation of 0.73. These averages establish the two sub-samples to be used in the study; those firms with below average cash flow volatility (standard deviation < 0.25, and coefficient of variation < 0.73), and those firms above average cash flow volatility (standard deviation > 0.25, and coefficient of variation > 0.73). Table 3 summarizes the partitioned sample.

Table 2
Cash Flow Volatility Measures
Firm Sample 1998-2012 (n = 4,485 firms)
Vol(CF/K) is the standard deviation of cash flows to average net fixed assets (CF/K), while CV(CF/K) represents the coefficient of variation of (CF/K)
(Q1 = low volatility…Q4 = high volatility)

<table>
<thead>
<tr>
<th>Quartile</th>
<th>Total firms</th>
<th>Vol(CF/K) (median)</th>
<th>Vol(CF/K) mean</th>
<th>CV(CF/K) median</th>
<th>CV(CF/K) mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>586</td>
<td>0.11</td>
<td></td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>789</td>
<td>0.19</td>
<td></td>
<td>0.34</td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>1,267</td>
<td>0.26</td>
<td></td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>1,843</td>
<td>0.38</td>
<td></td>
<td>1.40</td>
<td></td>
</tr>
</tbody>
</table>

               |               | 0.25           |               | 0.73            |
### Table 3
Partitioned Firm Sample (n=4,485) 1998-2012

<table>
<thead>
<tr>
<th>Number of firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below average cash flow volatility firms</td>
</tr>
<tr>
<td>Above average cash flow volatility firms</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

### Expectations Model

Utilizing a similar technique of previous cash flow studies, an expectations model similar to Wilson (1987) is used. Wilson applied Ordinary Least Squares (OLS) estimation to a pooled cross-section of firms, which assumes that model parameters are the same for all firms. The functional form of this expectation model is the same as that used in Wilson [1986 and 1987], and Bernard and Stober (1989). This methodology is perceived to be more accurate than the random walk model used by Livnat and Zarowin (1990).

In this model, abnormal returns are generated for event days -1, 0, and +1, where day 0 is the release date of firm cash flow data. Deviation of abnormal returns is as follows:

\[
AR_{it} = R_{it} - B_iRM_t
\]

\[
CAR_{it} = \sum AR_{it}
\]

Where:
- \( R_{it} \) = Return for security \( i \), period \( t \)
- \( B_i \) = Estimated slope coefficient of market model for security \( i \)
- \( RM_t \) = Market adjusted model
- \( CAR_{it} \) = Cumulative abnormal return for security \( i \), period \( t \)

Wilson (1987) finds that most firms’ earnings and cash flow releases are separate events. Documents used to release cash flow data include annual reports and 10-Ks. Therefore, primary release dates of these documents are used to proxy for the release data of cash flow data. The market model is utilized along with the CRSP equally weighted market index and regression parameters are estimated between days -290 and -91. Abnormal returns are then summed to calculate a cumulative abnormal return, as indicated in equation (1).

In order to assess the information content of cash flows from operations as utilized in the studies of Dechow et al (1998) and Barth et al (2002), the following regression equation is utilized:
\[ \text{CAR}_{it} = a + b_1 \text{AR} + b_2 \text{AP} + b_3 I + b_4 D + b_5 A + e_{it} \]

(2)

Where:
\begin{align*}
\text{CAR}_{it} &= \text{The measure of abnormal returns for firm } i, \text{ period } t \\
a &= \text{The intercept coefficient} \\
b_1 &= \text{The coefficient associated with annual change in accounts receivable accrual} \\
b_2 &= \text{The coefficient associated with annual change in accounts payable accrual} \\
b_3 &= \text{The coefficient associated with annual change in inventory accrual} \\
b_4 &= \text{The coefficient associated with annual change in depreciation accrual} \\
b_5 &= \text{The coefficient associated with annual change in amortization accrual} \\
e_{it} &= \text{Error term for firm } i \text{ period } t
\end{align*}

The Stunda (1996) study utilized the following equation:

\[ \text{CARit} = a + b_1 \text{CFO} + b_2 \text{CFI} + b_3 \text{CFF} + e_{it} \]

(3)

Where:
\begin{align*}
\text{CARit} &= \text{The measure of abnormal returns for firm } i, \text{ period } t \\
a &= \text{The intercept coefficient} \\
b_1 &= \text{The coefficient associated with operating cash flows} \\
b_2 &= \text{The coefficient associated with investing cash flows} \\
b_3 &= \text{The coefficient associated with financing cash flows} \\
e_{it} &= \text{Error term for firm } i \text{ period } t
\end{align*}

The above two regression formulas form the bases of determining which have greater predictive value in the presence of cash flow volatility, accounting accruals or actual cash flows.

**HYPOTHESES DEVELOPMENT**

As previously noted, recent studies [Dechow et al (1998) and Barth et al (2002)] conclude that when accounting accruals are disaggregated by components, various components provide a greater relationship to security returns, than do actual reported cash flows, and thus greater predictive value. Stunda (1996) found that actual reported cash flows possess greater predictive value than accounting estimates (i.e., accruals) in total.

Later studies [Cleary (2006) and Booth and Cleary (2007)] interject the notion of cash flow volatility. They note that beginning around 1997 and moving forward, firms seem to possess an increased cash flow volatility, thus affecting potential investment decisions. If cash flow volatility could affect investment decisions could it also affect predictive value? This notion is assessed in the following hypotheses.
The first hypothesis revolves around the notion of low cash flow volatility. The implication is that firms that have below average cash flow volatility would also contain greater predictive value since they are regarded as being more stable. This leads to the following hypothesis, stated in the null form:

**H1:** Reported cash flows for below average cash flow volatility firms are not significantly different from accounting accrual estimates in their predictive value of security returns.

The second hypothesis centers around high cash flow volatility firms. The implication is that firms that have above average cash flow volatility would also contain less predictive value since they are regarded as being less stable and more erratic. This leads to the following hypothesis, stated in the null form:

**H2:** Reported cash flows for above average cash flow volatility firms are not significantly different from accounting accrual estimates in their predictive value of security returns.

**RESULTS**

Equation (2) was run using year over year changes in accounting accruals for all 4,485 firms for the period 1998-2012. The accruals used represent those accruals shown to be significant in predicting security returns in Dechow et al (1998) and Barth (2002). The results are presented in Table 4. As can be seen from the table, each of the accrual variables does have statistical significance ranging from a p-value of 0.05 (accounts receivable accrual) to 0.15 (amortization accrual). As evidenced, some of these values do not fall into traditional significance levels.

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Regression results for coefficients associated with accrual components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CARit = a + b₁AR + b₂AP + b₃I + b₄D + b₅A + eᵢt (2)</td>
</tr>
<tr>
<td></td>
<td>(n = 4,485)</td>
</tr>
<tr>
<td>Coefficient</td>
<td>Mean</td>
</tr>
<tr>
<td>1</td>
<td>0.17</td>
</tr>
<tr>
<td>b₂</td>
<td>0.15</td>
</tr>
<tr>
<td>b₃</td>
<td>0.09</td>
</tr>
<tr>
<td>b₄</td>
<td>0.12</td>
</tr>
<tr>
<td>b₅</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Where:

b₁ = The coefficient associated with annual change in accounts receivable accrual
b₂ = The coefficient associated with annual change in accounts payable accrual
b₃ = The coefficient associated with annual change in inventory accrual
b₄ = The coefficient associated with annual change in depreciation accrual
b₅ = The coefficient associated with annual change in amortization accrual
Equation (3) was run using actual reported cash flow amounts, by the three disaggregated sub-categories of cash flow specified in SFAS #95. This is comparable to the methodology reported in Stunda (1996). The only exception is that this regression is run twice, once for below average cash flow volatility firms (n = 1,865 firms per Table 3), and once for above average cash flow volatility firms (n = 2,620 firms per Table 3). Table 5 presents the results for the below average cash flow volatility firms. As can be seen from Table 5, when using actual cash flow components, for the below average cash flow volatility firms, the model reflects a higher $R^2$. Also, cash flows from operating activities have a mean value of 0.13 with a $p$-value of 0.01, which is significant at traditional levels and thus indicating a high predictive value with security returns. Cash flows from financing and investing activities, however, are not statistically significant at conventional levels (similar to past cash flow studies). These results lead to a rejection of H1, which states that for below average cash flow volatility firms, there is no significant difference in cash flow predictive values from accounting accrual estimates. Clearly, actual cash flows have greater predictive value for these firms.

<table>
<thead>
<tr>
<th>Table 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression results for coefficients of independent variables for operating, investing, financing activities, below average volatility actual cash flows</td>
</tr>
<tr>
<td>$\text{CAR}<em>{it} = a + b_1 \text{CFO} + b_2 \text{CFI} + b_3 \text{CFF} + e</em>{it}$</td>
</tr>
<tr>
<td>(n = 1,865)</td>
</tr>
<tr>
<td>Coefficient</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>$b_1$</td>
</tr>
<tr>
<td>$b_2$</td>
</tr>
<tr>
<td>$b_3$</td>
</tr>
</tbody>
</table>

Where:

- $b_1$ = The coefficient associated with operating cash flows
- $b_2$ = The coefficient associated with investing cash flows
- $b_3$ = The coefficient associated with financing cash flows

Table 6 presents the results for the above average volatility cash flow firms. As can be seen from Table 6, when using actual cash flow components, for the above average cash flow volatility firms, the model reflects a lower $R^2$ than did the previous regression for below average volatility firms. Also, cash flows from operating activities have a mean value of 0.07 with a $p$-value of 0.12, which is still significant, but not at a traditional level. Cash flows from financing and investing activities, similar to the below average volatility firms, are not statistically significant at conventional levels. These results lead to the conclusions that firms which have above average cash flow volatility do not have as great a predictive ability of security prices as firms with below average cash flow volatility. In addition, for these higher cash flow volatile firms, accounting accrual estimates seem to be a better predictor of security prices than actual cash flows. These results lead to a rejection of H2, which states that for above average cash flow volatility firms, there is no significant difference in cash flow predictive values from accounting accrual estimates. Clearly, actual cash flows have less predictive value for these firms.
Table 6
Regression results for coefficients of independent variables for operating, investing, financing activities, above average volatility actual cash flows

\[ \text{CAR}_{it} = a + b_1 \text{CFO} + b_2 \text{CFI} + b_3 \text{CFF} + e_{it} \]  

(n = 2,620)

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Mean</th>
<th>t-statistic</th>
<th>p-value</th>
<th>F-statistic</th>
<th>Model R$^2$</th>
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</thead>
<tbody>
<tr>
<td>b1</td>
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<td>1.79</td>
<td>0.12</td>
<td>3.66</td>
<td>0.063</td>
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<tr>
<td>b2</td>
<td>0.04</td>
<td>0.88</td>
<td>0.22</td>
<td>0.30</td>
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</tr>
<tr>
<td>b3</td>
<td>0.03</td>
<td>0.32</td>
<td>0.65</td>
<td>0.49</td>
<td></td>
</tr>
</tbody>
</table>

Where:

\[ b_1 = \text{The coefficient associated with operating cash flows} \]
\[ b_2 = \text{The coefficient associated with investing cash flows} \]
\[ b_3 = \text{The coefficient associated with financing cash flows} \]

**CONCLUSIONS**

This study utilizes prior cash flow literature that compares accounting accrual estimates to actual cash flow components in assessing which is a better predictor of stock prices. Extant studies indicate that actual cash flows are a better predictor of security prices. However, recent studies interject the notion that cash flow volatility impacts investor decisions. The question that this study attempts to answer is: if cash flow volatility affects investor decisions, can it also affect the predictive ability on stock prices?

In an attempt to answer this question, a sample of firms is selected from the study period 1998-2012 and partitioned into below average volatility cash flow firms and above average volatility cash flow firms. Regressions are then run for these two groups, utilizing actual cash flow components, and compared to the same firms’ accounting accrual estimates for the same study period.

Results show that when firms are disaggregated by below average cash flow volatility and above average cash flow volatility, the “below average volatility” firms are a better predictor of stock prices than accounting accrual estimates, while in the case of “above average volatility” firms, accounting accrual estimates are a better predictor of stock prices than actual cash flow components.

This study adds to extant literature by incorporating recent studies to disaggregate cash flows along the lines of volatility, thus providing more informative results than seen before in prior cash flow studies. This study also uses a longer assessment period (14 years) with more
firms (4,485) in reaching cash flow analysis conclusions than past studies. It may also be viewed as an additional factor that investors have at their disposal in making investment decisions.

REFERENCES


STUDENT PERCEPTIONS OF THE EFFECT OF VITA PARTICIPATION ON AICPA CORE COMPETENCY DEVELOPMENT

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ABSTRACT

In response to numerous criticisms that accounting education is broken and in great need of reform, the AICPA announced the AICPA Core Competency Framework. The framework identifies key competencies that are essential for a successful career in accounting and is designed to support “a paradigm shift from content-driven to a skills based curriculum. This empirical study explores student and employee perceptions of the impact of participation in VITA on the acquisition of core accounting skills and competencies. Additionally, perceptual differences by ethnicity and gender are analyzed. The results of our study support and extend previous findings about the usefulness of VITA as a service-learning project to facilitate the development of the AICPA core competencies. We found no gender differences in students’ perceptions of their development of the core competencies, but differences by ethnicity were found and provide “food for thought” for accounting educators.

KEY WORDS: Volunteer Income Tax Assistance Program (VITA), Service-Learning, AICPA Core Competency Framework, Ethnicity, and Gender

INTRODUCTION – THE ACCOUNTING EDUCATION CHALLENGE

Accounting education models have been denounced as “broken”, merely passing on content and not the skills needed for success in the world of business (Albrecht & Sack, 2000). This assessment has led many in the accounting profession to call for serious, fundamental changes in accounting education (Accounting Education Change Commission (AECC), 1990; Big Eight White Paper, 1989; American Accounting Association Committee on the Future Structure, Content, & Scope of Accounting Education, 1986). A recurrent criticism is that students are frequently filled with information and theories but are not prepared to solve problems and make decisions (Candy & Crebert, 1991). Recognizing that “[s]students forget what they memorize… [but that] critical skills rarely become obsolete and are usually transferable across assignments and careers” (Albrecht & Sack, 2000 at 55), the American Institute of Certified Public Accountants (AICPA) reacted to the seriousness of this issue and in 1999 announced the AICPA Core Competency Framework, which it continues to support with an assessment website (AICPA, 2012). This framework identifies functional, personal, and broad business perspective competencies that are essential for a successful career in accounting. It is designed to support “a paradigm shift from content-driven to a skills based curriculum” (Fouch, 2004 at 275).

The issue for accounting educators is how to design activities in accounting education that enable students to develop these essential competencies and skills. In their article “An Answer to the AICPA Core Competencies Challenge”, Hocking and Hocking (2009) eloquently frame this issue facing accounting educators:
Can we, as educators, find experiences for students inside and outside the classroom that will help them to make sense of the textbooks they are reading, and can these experiences enhance student understanding and application of the concepts and information that they are reading about to solve problems and become critical thinkers in a rapidly changing world? How do we create an atmosphere in our classes that will enable students to find passion and relevance in studying accounting? How do we teach course content and facilitate the skills that students need to be creative and critical thinkers in an ambiguous and complex world? (2009 at 3)

This paper examines student and employee perceptions of the Volunteer Income Tax Assistance Program (VITA), as an educational tool to provide accounting students with an opportunity to develop the AICPA designated core competencies. VITA is sponsored in part by the Internal Revenue Service (IRS), and is a community service program in which trained volunteers and other program participants assist low-income taxpayers in the preparation of their federal income tax returns. Our paper proceeds as follows: first, we briefly discuss VITA as a solution to the challenge suggested by Hocking and Hocking (2009). Next, we discuss our sample, research methodology, and results. We conclude by discussing implications, conclusions, and future research suggestions.

DEVELOPING ESSENTIAL COMPETENCIES AND SKILLS THROUGH VITA

The literature suggests (Accounting Education Change Commission (AECC), 1990; Carr, 1998) that accounting programs must ensure that students are active participants in the learning process and can learn by doing, so that they are enabled to learn on their own. Some recent research has focused on the inclusion of VITA in academic programs as a means for accomplishing this goal. Price and Smith (2008) reviewed non-business school sponsored VITA programs offered by a law school, a ministry, and the AARP and determined that with carefully designed objectives a valuable learning opportunity could be provided for any student. Another study reported success with VITA, saying that “(n)o other classroom experience or course we offer has created such a melding of academic, professional, and personal experience” (Fowler, Stovall, & Neill, 2005 at 99). Others observed that the opportunity VITA provided for students to interact with real clients and apply their tax knowledge enhanced knowledge retention and development of practical skills (Balden, Stemkoski, Bender, & Allen, 2003). Student authors report that their VITA experiences have provided enhanced communication skills and a greater ability to interact with others (Doyle, Matt, & Owens, 2005).

Other researchers have more directly addressed how including VITA in the accounting curriculum increases the capacity for accomplishing the AICPA core competency recommendations. Clovey and Oladipo (2008) recognize VITA as providing accounting faculty with the ideal opportunity to take an active role in improving accounting education and addressing AICPA core competencies. They posit that a properly designed VITA program with carefully crafted student learning objectives can solve a wide range of problems, “improve accounting education, remedy students’ accounting skills deficiencies, and close knowledge gaps” (Clovey & Olidipo, 2008 at 61).

Other authors have provided anecdotal reports of VITA successes in accounting education. Carr (1998) provides perspective from student reflections received from VITA participants in a senior project. Her conclusion is that VITA developed or enhanced “nearly all of the skills listed in the AECC’s composite profile of capabilities needed by accounting graduates” (Carr, 1998 at 117). In fact, she reports that “(m)any students say it was the most useful and meaningful course in their college career” (Carr, 1998 at 117). Balden et al. (2003) reported that VITA serves as a valuable form of applied learning which facilitates the retention of knowledge and the development of practical skills by accounting students. Dunlevy (2000) found that VITA helps students develop skills that will prepare them for the future. Fowler et al. (2005), Kimball (2001), and Nellen (2005), all reported and provided student comments that participation in VITA programs is an excellent source for the development of problem solving, communication, teamwork, and other vital skills essential for the accountant.
While prior studies have established that VITA is linked to development and acquisition of AICPA core competencies, they frequently relied on interviews, anecdotal reports, and empirical results from small samples. Palmer, Goetz, and Chatterjee (2009) note the need for additional research to establish the academic benefits of the VITA experience as a community service activity. Such research must recognize that demographic variables may play a role in learning based on community service activities, and this is evident from the research on service-learning, a form of pedagogy in which student participation in community service activities is a substantial component. Lambright and Lu (2009) report that the impact of gender and ethnicity on the value of service-learning activities is limited and far from consistent.

Eyler and Giles (1999), as well as Ropers-Huilman, et al. (2005), reported that females perceived greater educational benefit from community service activities than males. Alternatively, Fredericksen (2000) reported higher educational performance related to service-learning activities for male students, and Mabry (1998) found males more likely to perceive academic benefit from service-learning activities than female students. These results are consistent with Lambright and Lu (2009) and indicate a need to further examine how gender impacts student learning through community-based activities.

In a similar manner, results for ethnicity or race are equally limited and inconsistent. Ropers-Huilman, et al. (2005) reported that non-Caucasians are more likely than Caucasians to perceive educational benefit from service-learning activities. In contrast, Eyler and Giles (1999) found the opposite. Their results show that Caucasians are more likely to perceive that service-learning activities improve their understanding and application of classroom material than non-Caucasians. Mabry (1998) and Lambright and Lu (2009) found no difference between ethnicities in their perceptions of educational benefits from service-learning. These studies, however, report results for ethnicity on the basis of a Caucasian/non-Caucasian measure of ethnicity. As such, differences among African-Americans, Asian Americans, and Hispanic/Latinos, all substantial ethnic groups in the United States, may be obscured.

Finally, the published work we have examined reports primarily on student perceptions of how service-learning activities have increased their competencies. It is a valid question to ask whether students in whom these skills and competencies are being developed are capable of judging the extent of their own development. Our literature review uncovered no empirical studies that addressed this question.

Our study is a direct response to questions raised by prior research, to inconsistencies reported in the literature, and to limitations noted by others—for example Rama et al. (2000) called for research on service-learning activities with larger samples. Our study specifically adds to the literature by collecting empirical data through a large, national sample, testing results based on gender and ethnicity, and comparing student perceptions to those of experienced employees.

**OUR STUDY: EMPIRICALLY TESTING STUDENT PERCEPTIONS OF VITA’S IMPACT**

**Research Context – Sample and Methodology**

In order to investigate our research questions, we circulated a link to a web-based survey among VITA volunteers and other program participants through a number of organizations involved in a national community tax coalition. This sampling process was selected due to the fact that the IRS maintains no national database of volunteers and all volunteer information remains in the possession of local coalitions. Relying on intermediaries to distribute surveys is consistent with other reported work (Brammer, Millington, & Rayton, 2007; Kim, Lee, Lee, & Kim, 2010; Taylor, 2007). Using this method does make it extremely difficult to estimate the response rate since the link was distributed by email to contact lists under the control of others, and was posted to web sites used by volunteer organizations to manage VITA volunteer communications.

The IRS estimated 54,000 volunteers nationally in the spring of 2010 (Andrews, 2010). Our sample contains 1,415 respondents representing 24 states, of which 1,069 classified themselves as volunteer preparers. The remainder either failed to classify themselves or classified themselves as paid preparers, site coordinators, reviewers, or other. Since service-learning activities are generally based on volunteer activity, we were primarily interested in those who classified themselves as volunteer preparers as opposed
to those who were paid preparers or site coordinators or reviewers, since these positions are also frequently paid. Of the 1,069 volunteer preparers, 194 classified themselves as students, 551 as full-time employees, and the remainder either classified themselves as self-employed, retired, homemakers, or designated no classification. Table 1 lists the demographics for those volunteers who classified themselves as primarily students or full-time employees.

(Insert table 1 here)

The survey to which volunteers responded was developed with input from long-time VITA volunteers, IRS agents responsible for VITA training and oversight, and a thorough review of the literature. To develop questions, we also referred to the functional competencies in the AICPA framework and to a study by Albrecht and Sack (2000), which surveyed accounting educators and accounting practitioners concerning the importance of elements from or associated with the AICPA Core Competency Framework. We designed 15 questions to measure the volunteers’ perceptions of how participating in VITA impacted the acquisition and improvement of the AICPA core competencies most closely associated with participation in the VITA program. Responses to each question ranged from Strongly Disagree (Coded 1) to Strongly Agree (Coded 7) with Neither Agree or Disagree being coded a 4.

Survey Results

Our first research question asked whether students perceived that their VITA experience enhanced core competencies. Table 2 details the student reported agreement with improvement in these competencies. Student responses ranged from mean scores of 5.02 to 5.93 on the 15 competencies. Since 4 was the midpoint (neither agree or disagree) and 7 indicates strongly agree, the student responses reveal a moderate student perception of value and growth in all 15 of the core competences from the VITA experience.

(Insert table 2 here)

In our study, there were no significant differences in student responses due to gender; however, responses based on ethnicity were remarkably dissimilar. In Table 3, student response mean scores are reported based on ethnicity. The four ethnicities reported are African-American, Asian American, Caucasian/Anglo, and Latino/Hispanic. Survey takers were also allowed to select Middle Eastern or Other for ethnicity but these results were omitted from the table due to the extremely small number of respondents.

(Insert table 3 here)

Table 4 reports differences among ethnicities and shows a very consistent pattern of results. There were significant differences among the means tests for all of the key competencies. In all fifteen competencies, African-American, Asian American, and Latino/Hispanic students reported greater benefit than Caucasian/Anglo students. In all but three competencies, African-American students reported the strongest perception of benefit followed by Latino/Hispanic, Asian American, and Caucasian/Anglo. In three others, “Improve decision-making skills,” “Gain confidence in trying new things,” and “Improve my ability to interact with people who are different from my usual acquaintances” African-Americans still had the highest perception of benefits, but the remaining order was reversed with Asian Americans second, Hispanic/Latino third, and Caucasian/Anglo fourth. African-American, Asian American, and Latino/Hispanic all reported comparable improvement in dealing with different people.

(Insert table 4 here)

Our third research question was whether employed volunteers, who have the employment experience to more accurately determine the degree of competency development, would corroborate student perceptions of core competency improvement. We anticipated that students with no or minimal work experience would report a greater positive impact on their skills than more experienced employees. Table 5 below presents a
comparison of the level of agreement with core competency improvement for each of the 15 core competencies based on responses from each of these groups

(Insert table 5 here)

Additionally, we expected those employed longer to report less skill improvement from the VITA experience than those employed for shorter time periods. Table 6 reports test of mean responses among the three groups. Surprisingly, for six of the core competencies, long-term employees reported gains equivalent to new employees and for eight core competencies employees with less than 10 years experience reported as much improvement as students. All three groups, students, employees of less than 10 years experience, and longer-term employees reported equivalent improvement in learning research skills as a result of the VITA experience.

(Insert table 6 here)

From Table 6, students and those employed 10 years or less reported similar improvements in the following skills: communication, learning new research, confidence in trying new things, understanding community, ability to interact with different people, ability to ask questions of others, recognizing relevant material, and managing projects. Students and employees with 10 or more years of tenure reported comparable improvement in learning new research skills.

These results for employees provide us with some assurance that the core competency improvements reported by students in this survey are not just an artifact unique to uninformed student opinion. The fact that experienced employees reported core competency skill improvement that was not significantly different from student reported improvement in several of the skills assessed is a strong corroborating factor of the student assessment.

**IMPLICATIONS**

The results of this study indicate that VITA may be an especially valuable resource for accounting departments seeking to prepare students for careers in accounting. Students perceive that the VITA experience plays an important role in helping them acquire and improve the AICPA core competencies essential to success in the accounting profession. Since VITA is a community service activity that exists in most college and university communities throughout the United States, or can readily be developed, it can be seen as a readymade service-learning opportunity for accounting students. Our research indicates that VITA is particularly well suited to fill this role.

The benefits of service-learning are well established. Still and Clayton (2004) found that service-learning offers significant improvements over traditional education alone; thereby, increasing student engagement in their course work. In addition, it enables students to move beyond “number crunching” and memorization and on to analysis and problem solving. Zamora (2012 at 213) reported success using a social enterprise service-learning strategy in a management accounting course; noting in particular, the benefit of “unstructured environments that mimic the information environment of the real world” in developing the critical thinking and problem solving skills of accounting students.

Even more important for minority serving institutions is the finding that African-American and Hispanic/Latino students indicate even more strongly than do Caucasian students that VITA assists them in attaining the AICPA core competencies. Our results show that the VITA opportunity provides beneficial enrichment to everyone, but it is especially valuable for minority students. Majority serving institutions seeking to diversify their student populations should also take note. Although institutional efforts to recruit minority students may be successful, chances for successful matriculation by minority students may be enhanced by the integration of service activities, like VITA, into school or departmental service-learning curricula. Additionally, the benefits students receive from serving in VITA should be magnified when placed in a formal service-learning setting where the service is directly integrated with the class material and reflection is formally structured (Lambright & Lu, 2009).
While our research did not specifically test why minority students benefited more from the VITA experience than Caucasians, we can draw from other literature for possible explanations. It may be that VITA as a community service activity can have more or less of an impact because of a student’s preferred learning styles. There is research in the service-learning literature on how predominate learning styles may differ by ethnicity and gender (Dunn & Griggs, 1998; Rovai, Gallien, & Wighting, 2005). For example, Dunn and Dunn (1991) and Witkin (1973) found that African Americans and other ethnic students are often categorized as relational and verbal learners and they tend to perform well on collective and collaborative endeavors (Timm, 1999). However, Asian and Caucasian Americans are more apt to be analytical and value individual work in a traditional classroom (Berry, 2003; Tomes, 2008).

Conversely, other literature has found no significant differences (Sizemore & Schultz, 2005) or has been unable to replicate ethnic differences in learning style orientations or preferences (Jones, Reichard, & Mokhtari, 2003). The inconsistency across previous research findings for gender and ethnic differences in learning styles and service-learning specifically may be explained by the complexity of learning styles preferences. Learning style preferences may vary by academic discipline, academic achievement, age, and educational level (Dunn & Griggs, 1998). These inconsistencies may also be explained by differences in the community service activity in the service-learning experience studied. Although our study does not identify the learning styles of our study participants, our findings do indicate that the community service activities that develop skills and competencies like those in the AICPA core competency framework may be especially beneficial for minority students.

LIMITATIONS

As with any cross-sectional survey based research, this study has limitations. We measured volunteers at one point in time and are relying on their perceptions of the impact of the VITA experience on their development of the AICPA core competencies. A longitudinal study that measures perceptions of skill levels before and after an extensive VITA experience would measure any change in perceived core competency levels directly. Our study is based on data collected nationally from respondents who self-identified as students or employees. This did permit comparison of student/non-student responses, but a more accurate measure of the potential impact on students could be obtained from students enrolled in classes formally incorporating VITA as part of a service-learning course. This would be consistent with suggestions by others that the impact of service-learning is magnified when the service activity is integrated with class material. Although our study controls for gender and ethnicity, a larger sample would provide the ability to control for more demographic and situational variables that could have influenced results. Finally, additional studies could examine the impact of different learning styles on the success of community service activities in service-learning.

CONCLUSIONS

The results of our study support and extend previous findings about the usefulness of VITA as a service-learning project to facilitate the development of the AICPA core competencies. Students perceived benefit in all of the AICPA core competencies surveyed which supports VITA as an excellent candidate for inclusion in accounting service-learning courses. We found no differences by gender in students’ perceptions of their development of the core competencies, but differences by ethnicity existed and provide “food for thought” for accounting educators. The results of VITA’s competency bolstering benefits are confirmed by the responses of those already in the workforce and thus in the best position to accurately gauge the effectiveness of the experience.
REFERENCES


Table 1. Respondent Demographics
Students and Full-time Employees

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<thead>
<tr>
<th></th>
<th>Students</th>
<th>Employees</th>
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</thead>
<tbody>
<tr>
<td>Median Age</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>Gender</td>
<td>80% Female</td>
<td>75% Female</td>
</tr>
<tr>
<td>Average Income Range</td>
<td></td>
<td>$50,000 - $75,000</td>
</tr>
<tr>
<td>Years Employed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-9 years</td>
<td></td>
<td>22%</td>
</tr>
<tr>
<td>10-20 years</td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td>Over 20 years</td>
<td></td>
<td>53%</td>
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</table>

Table 2. Student Responses
Level of Agreement with Core Competency Improvement

<table>
<thead>
<tr>
<th>Core Competency</th>
<th>Mean</th>
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<tbody>
<tr>
<td>Communications Skills</td>
<td>5.53</td>
</tr>
<tr>
<td>Confidence in Working with Co-workers</td>
<td>5.32</td>
</tr>
<tr>
<td>Confidence in Working with Public</td>
<td>5.85</td>
</tr>
<tr>
<td>Decision-making Skills</td>
<td>5.40</td>
</tr>
<tr>
<td>Learn New Research Skills</td>
<td>5.02</td>
</tr>
<tr>
<td>Confidence in Trying New Things</td>
<td>5.68</td>
</tr>
<tr>
<td>Less Hesitant to Ask Questions</td>
<td>5.40</td>
</tr>
<tr>
<td>Understand Community</td>
<td>5.70</td>
</tr>
<tr>
<td>Interact with Different People</td>
<td>5.93</td>
</tr>
<tr>
<td>Ask Questions of Others</td>
<td>5.57</td>
</tr>
<tr>
<td>Task Completion</td>
<td>5.50</td>
</tr>
<tr>
<td>Detail Oriented</td>
<td>5.46</td>
</tr>
<tr>
<td>Improve Software Skills</td>
<td>5.20</td>
</tr>
<tr>
<td>Recognize Relevant Material</td>
<td>5.55</td>
</tr>
<tr>
<td>Manage Projects</td>
<td>5.28</td>
</tr>
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</table>
Table 3. Student Responses by Ethnicity
Agreement with Improvement in Core Competencies

<table>
<thead>
<tr>
<th>Core Competencies</th>
<th>African/ American N = 14</th>
<th>Asian American N = 32</th>
<th>Caucasian/ Anglo N = 93</th>
<th>Latino/ Hispanic N = 27</th>
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</thead>
<tbody>
<tr>
<td>Communications Skills</td>
<td>6.5</td>
<td>5.75</td>
<td>5.27</td>
<td>5.93</td>
</tr>
<tr>
<td>Confidence in Working with Co-workers</td>
<td>6.36</td>
<td>5.60</td>
<td>5.00</td>
<td>6.04</td>
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<td>Confidence in Working with Public</td>
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<td>5.8</td>
<td>5.66</td>
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<tr>
<td>Decision-making Skills</td>
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<td>5.75</td>
<td>5.17</td>
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<td>Learn New Research Skills</td>
<td>6.43</td>
<td>5.47</td>
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<tr>
<td>Confidence in Trying New Things</td>
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<td>6.2</td>
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<tr>
<td>Less Hesitant to Ask Questions</td>
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<td>5.60</td>
<td>5.07</td>
<td>5.96</td>
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<tr>
<td>Understand Community</td>
<td>6.33</td>
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<td>5.53</td>
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<td>Ask Questions of Others</td>
<td>6.36</td>
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<td>5.97</td>
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<td>Detail Oriented</td>
<td>6.43</td>
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<td>5.13</td>
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<td>Improve Software Skills</td>
<td>6.00</td>
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<td>Recognize Relevant Material</td>
<td>6.43</td>
<td>5.86</td>
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<td>Manage Projects</td>
<td>6.39</td>
<td>5.55</td>
<td>5.09</td>
<td>5.81</td>
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Table 4. Tests of Means by Ethnicity
Agreement with Improvement in Core Competencies

<table>
<thead>
<tr>
<th>Core Competencies</th>
<th>Test of Means</th>
<th>AF/AA (1)</th>
<th>AF/CA (2)</th>
<th>AF/LH (3)</th>
<th>AA/CA (4)</th>
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<td>.000</td>
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<td>.028</td>
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<td>.014</td>
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<td>.008</td>
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Table 5.  Students, Newer Employees, More Experienced Employees  
Mean Agreement with Improvement in Core Competencies

<table>
<thead>
<tr>
<th>Core Competencies</th>
<th>Students (N = 192)</th>
<th>Employed 0 – 9 years (N = 112)</th>
<th>Employed 10 or more years (N = 408)</th>
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<td>Communications Skills</td>
<td>5.53</td>
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Table 6. Students, Newer Employees, More Experienced Employees Agreement with Improvement in Core Competencies

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<thead>
<tr>
<th>Core Competencies</th>
<th>Tests of Means</th>
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<td>Students/Newer Employees</td>
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INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS):
ACCOUNTING EDUCATION IMPLEMENTATION WITHIN THE UNITED STATES
(U.S.)

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ABSTRACT

As the convergence of U.S. Generally Accepted Accounting Principles (U.S. GAAP) and International Financial Reporting Standards (IFRS) continues, what is the current status of implementing IFRS into the accounting education curriculum of U.S. colleges and universities? After reviewing a number of research papers and surveys, the result is not yet clear. In the U.S., many colleges, universities and educators have stated they have implemented international accounting in some manner. However, the IFRS portion of these programs is still very small compared to U.S. GAAP courses. Overall, many accounting educators believe that colleges and universities nationwide are still not prepared to teach IFRS as a result of several factors. However, despite the lack of IFRS education, the “Big Four Accounting Firms” need employees who are versed in IFRS to provide services to their international clients. Accounting students and educators need to keep up with the convergence to IFRS by the U.S. Furthermore, they need to understand how IFRS education is being implemented within colleges and universities. This paper examines the current state of IFRS implementation in colleges and universities throughout the U.S., the importance of incorporating IFRS, the difficulties of integrating IFRS into accounting programs and possible ways to implement IFRS. The opinions of educators on these topics are also presented.

INTRODUCTION

As companies continue to grow globally, with capital flowing internationally, investors and global companies’ necessity for a uniform set of accounting standards are growing stronger. IFRS is a set of accounting standards, which are developed by the International Accounting
Standards Board (IASB), for the purpose of improving financial reporting and promoting universal usage. The IASB defines the objective of IFRS as the development of a single set of high quality, understandable, enforceable and globally accepted financial reporting standards, which are based upon clearly articulated principles. So far, more than 100 countries are already using or in the process of implementing IFRS. The U.S. is one of the few largest economies that has not converged towards IFRS.

Since 2002, after the convergence commitment was made in the Norwalk agreement, the Financial Accounting Standards Board (FASB) has been working with the IASB to converge U.S. GAAP and IFRS. In 2008, the Securities and Exchange Commission (SEC) published a roadmap for the convergence plan and expected that U.S.-listed companies would file annual reports using IFRS by 2011. However, in 2010, a new timeline was released by the SEC, stating that 2015 would be the earliest possible date for U.S. public companies to use IFRS. Recently, at the 12th Annual Baruch College financial conference in New York City, SEC Chief Accountant Paul Beswick said “convergence is important, but… financial statement preparers report ‘change fatigue’ in the financial reporting system as they deal with the many fundamental changes FASB already is issuing” (Tysiac, 2013). Therefore, this may imply that convergence by the U.S. to IFRS may be even further delayed than 2015.

Although whether or not the U.S. should converge to IFRS is still under debate as well as a solid timeline for convergence, anecdotal evidence suggests that a majority of accounting and business professionals believe that convergence will eventually occur. Accounting firms, especially the biggest national firms, familiarize themselves and their clients with IFRS through webcasts and case studies on their websites. In contrast to accounting firms, colleges and universities still lack adequate resources and preparation to teach IFRS. Many educators have expressed that they are not ready to teach IFRS and, further noted that an IFRS-based curriculum has not yet been implemented in their accounting programs.

Anecdotal evidence suggests that international accounting education implementation is one of the most important projects that deserves attention. From a broader perspective, the better IFRS education accounting students receive today, the smoother and faster the transition from U.S. GAAP to IFRS will be in the near future. In our opinion, accounting students who possess more knowledge of IFRS would have access to greater professional career opportunities. Also, starting in 2011, IFRS began to be tested on The Uniform CPA Examination and is now being tested heavier on various parts of the exam. Employers will also expect the accounting students they hire to understand IFRS. The nation’s biggest accounting firms, including PwC, Deloitte, Ernst and Young, and KPMG, all started individual IFRS education projects a few years ago which included providing materials on their websites and by providing grants to colleges and universities. Other smaller accounting firms may not have enough funds at present to undertake such big projects. Based on this trend, it is logical to speculate that accounting students with a better understanding of IFRS will have a competitive advantage when interviewing for potential job opportunities.

LITERATURE REVIEW

Current State of IFRS Education Implementation

Currently, there does not appear to be a definitive timetable for IFRS convergence by the U.S. However, anecdotal evidence suggests that this convergence will take place at some point in the future as most businesses today operate globally. Therefore, in order for entry-level
accountants to have a firm grasp of IFRS, U.S. colleges and universities would need to make IFRS a part of the accounting curriculum. However, based on surveys conducted in recent years, most U.S. colleges and universities are still not well-prepared to teach IFRS.

Since 2008, the American Accounting Association (AAA) and KPMG have jointly conducted annual surveys with accounting faculty in four-year colleges to gain an understanding of where IFRS-related material is represented in collegiate accounting curricula. The most recent survey was conducted in 2011 where the same survey of college faculty opinion was conducted using a web-based method. In total, there were 638 respondents. There were a few changes regarding the current state of IFRS-related education in collegiate accounting curricula when compared to the results of the 2008 survey. The KPMG/AAA survey (2011) discovered that:

1. “Up from prior years, about 4 in 10 say IFRS is already incorporated significantly into their curriculum” (AAA Education Committee and KPMG LLP, 2011).
2. Faculty prepare for IFRS mostly by attending conferences or webcasts.
3. “Similar to 2010, almost all [of the respondents] do not have practical experience applying IFRS” (AAA Education Committee and KPMG LLP, 2011).
4. “Similarly, most (83%) say their school has taken significant steps towards incorporating IFRS into curriculum; up from 2010 (73%) and 2009 (69%).
   • Significant majority (62%) continue to say they have integrated IFRS into an existing course.
   • 17%: Created a separate graduate course.
   • 12%: Created a separate undergraduate course.
   • 15%: Actively assessing appropriate course of action” (AAA Education Committee and KPMG LLP, 2011).
5. “About 4 in 10 continue to say their schools have identified faculty who will be responsible for teaching IFRS; similar results for 2010 and 2009.
   • Another one-third have made no plans to prepare faculty to teach IFRS” (AAA Education Committee and KPMG LLP, 2011).
6. “Over half (56%) continue to say their administration does not understand the changes required in the curriculum; similar results for 2010 (56%), 2009 (55%) and up from 2008 (38%)” (AAA Education Committee and KPMG LLP, 2011).

In addition to this nationwide survey, there was a regional survey conducted among Rochester, New York area college accounting faculty. They believed that, “overall, college professors are not prepared to teach IFRS nationwide with a total of 69.23% (Dorman, 2012). Based on practical experience, the survey also showed that faculty with less experience are not prepared to teach IFRS.

It is surprising to see that there isn’t a clear plan for implementing IFRS into the accounting curriculum. As the SEC has delayed the adoption date, accounting faculty likewise expected the date The Uniform CPA Examination to include significant IFRS coverage to also be delayed. Even though the two KPMG/AAA surveys were conducted three years apart, faculty still seem unprepared to teach IFRS as of 2011. According to the 2009 KPMG/AAA survey, “68% of respondents believed that the U.S. would adopt IFRS domestically” (AAA Education Committee and KPMG LLP, 2011). However, “this ratio dropped to 54% in 2011” (AAA Education Committee and KPMG LLP, 2011). This drop reflects the uncertainty of U.S. accounting faculty regarding the likelihood of the U.S. adopting IFRS. Lastly, almost “60% of
the respondents in 2011 believed that adoption of IFRS was a low priority for the SEC” (AAA Education Committee and KPMG LLP, 2011), which is why the incentive for implementing IFRS courses is low among colleges and universities.

**Importance of Incorporating IFRS**

It is important for accounting students to learn IFRS and for colleges and universities to implement an IFRS-based curriculum for three main reasons. First, in 2008, the SEC proposed a Roadmap for the potential use of IFRS by U.S. companies when filing their annual reports. In the proposed Roadmap, the SEC sets a few milestones to be achieved by 2014:

1. Improvements in Accounting Standards.
2. Accountability and Funding of the International Accounting Standards Committee (IASC) Foundation.
3. Improvement in the Ability to Use Interactive Data for IFRS Reporting.
4. Education and Training.
5. Limited Early Use of IFRS Where This Would Enhance Comparability for U.S. Investors.
6. Anticipated Timing of Future Rule making by the SEC.
7. Implementation of the Mandatory Use of IFRS.

When explaining the fourth milestone of the Roadmap, the SEC states that the need for IFRS education and training will be increasing as IFRS and U.S. GAAP converge. As we can see, incorporating IFRS into the accounting curriculum is an important benchmark. “Colleges and universities would need to include IFRS in their curricula. Furthermore, it would be appropriate to include IFRS in The Uniform CPA Examination” (Securities and Exchange Commission, 2008). To date, most of the short-term and a few long-term convergence projects have been completed or are close to completion. Right now, there are mainly three long-term projects that the FASB and the IASB are working on:

1. Leases;
2. Revenue recognition; and
3. Financial instruments.

Second, in 2011, The Uniform CPA Examination started testing IFRS. The American Institute of Certified Public Accountants (AICPA) states that the decision to include IFRS in the exam was made because it is believed that knowledge of IFRS is required for entry-level CPAs so as to protect the public interest. Since then, IFRS has been tested on the exam. Also, candidates for the exam are also:

Expected to demonstrate an awareness of: (1) the International Auditing and Assurance Standards Board (IAASB) and its role in establishing International Standards on Auditing (ISAs), (2) the differences between ISAs and U.S. auditing standards, and (3) the audit requirements under U.S. auditing standards that apply when they perform audit procedures on a U.S. company that supports an audit report based upon the auditing standards of another country, or the ISAs (American Institute of Certified Public Accountants, 2011).

This means that candidates must also be familiar with auditing standards from an international perspective as well.
Third, more and more employers expect accounting graduates to be knowledgeable about IFRS. According to a survey conducted by accounting faculty at California State University, “employers already require accounting graduates to have some awareness of IFRS and its relationship to U.S. GAAP. By 2013 students should be able to apply IFRS in recording transactions, prepare IFRS-based financials, and reconcile IFRS to U.S. GAAP (Jones, 2009). The survey also revealed that many public accounting firms, especially international and national ones, place great importance on integrating IFRS into the undergraduate accounting curriculum.

Difficulties of Integrating IFRS into Accounting Programs

It has been five years since the SEC Roadmap was released in 2008. However, despite the core discussion changing from whether the U.S. will adopt IFRS to when the U.S. will adopt IFRS, overall teaching of IFRS in nationwide colleges and universities has been at a slow pace and most accounting programs still do not provide students with relevant course material.

According to the survey conducted by KPMG and AAA in 2011, most of the respondents agreed that a few aspects of implementing IFRS were very challenging:

1. The appropriate time to start teaching students IFRS;
2. Making room in the curriculum for IFRS;
3. Developing curriculum materials for IFRS;
4. Faculty cooperation and;
5. Training faculty to teach IFRS.

In addition, “56% of respondents believed that their administrators’ lack of understanding ignorance about the effort required for IFRS adoption caused a delay in implementing IFRS in their schools” (AAA Education Committee and KPMG LLP, 2011). In addition, “only 16% of the respondents said that their administration would fund faculty training in IFRS” (AAA Education Committee and KPMG LLP, 2011). What’s more, almost all respondents said that they didn’t have practical experience applying IFRS.

First, both surveys have shown that administration is a primary reason IFRS implementation has been held back. It is possible that they may lack a thorough understanding of the importance and requirements of IFRS incorporation in the accounting curriculum. As a result, they are not actively restructuring their programs or making room for IFRS courses. Due to the limited awareness, insufficient funds are provided to train faculty. However, some accounting programs may have administration who are aware of this problem, but who may simply not have the budgetary means available to provide faculty training.

Second, after ten years of the FASB and IASB working together, there is not yet a set date for U.S. companies to adopt IFRS.

Third, there is not enough faculty with practical experience teaching IFRS. This is in addition to the decline of faculty over the recent years.

The number of accounting faculty declined 13.3 percent over the period 1988-2004. According to National Study of Postsecondary Faculty (NSOPF) data, accounting faculty (full- and part-time, in all types of postsecondary institutions) had fallen from 20,321 in 1993 to 17,610 in 2004. However, as the number of faculty has declined, student (undergraduate) enrollment has increased (12.3 percent) over the same period (American Accounting Association, 2008).
Finally, besides a few good IFRS textbooks being published, course material is still insufficient. Most publishers have only combined IFRS and U.S. GAAP content, making a comparison at the end of each chapter in U.S. GAAP-based accounting textbooks. This is not hard to understand as demand drives supply. When there are not many colleges and universities in demand of IFRS textbooks for their accounting courses, there is less motivation to publish them.

**Possible Ways to Implement IFRS**

Based on studies conducted, given that most accounting faculty are not prepared to teach IFRS, it is suggested that accounting faculty must become more active in their own learning as well as in implementing IFRS into their courses. If faculty fail to provide adequate IFRS training, they become partly responsible for their accounting students' unpreparedness later in attending to career responsibilities. For example, students would lack the knowledge of how to analyze financial reports of global companies who are using IFRS. It is not difficult to imagine that faculty who teach financial accounting courses have been under a lot of pressure to incorporate IFRS into their courses in the past few years due to the SEC Roadmap and current convergence projects.

There are many research papers written by accounting faculty regarding the best approach to implementing IFRS courses into accounting programs. The first question faculty typically discussed is what level of accounting education would be appropriate to introduce IFRS concepts? Many colleges and universities that have already implemented IFRS courses introduced it at the intermediate level while others recommended introducing it in the first year curriculum. People who support the latter period are concerned about reaching students in non-accounting majors like business. This is because first year accounting courses may be the only accounting courses that these students will take and the only chance for them to learn about IFRS. There are three possible approaches to implementing IFRS suggested by educators:

1. As a stand-alone course,
2. Included in all upper-division financial accounting courses,
3. Included across the accounting curricula.

Stand-alone courses are considered a relatively simple and easy way of introducing IFRS to students since there are already a few decent textbooks about IFRS available and a massive number of resources online from the AICPA, SEC, IASB and “Big Four Accounting Firms” websites. However, faculty worry that it is hard to make room for another accounting course in the already burdensome curriculum. They also worry that the stand-alone course won’t be sufficient to provide students with a comprehensive and in-depth understanding of the differences between U.S. GAAP and IFRS. The second approach, to include IFRS in all upper-division financial accounting courses (e.g., intermediate or advanced accounting courses), is the primary method that colleges and universities have been using. Faculty found that it is easier to implement IFRS lessons when students already had some basic knowledge of beginning accounting. However, upper-level accounting courses are very time-consuming. Many faculty found it impossible to teach IFRS in-depth given the allotted class meeting time as well as the necessity to cover the material contained within that specific course. Speaking from experience, intermediate and advanced courses contain a lot of content and contain very difficult theory applications. Anecdotal evidence shows most faculty don’t have extra time in class to introduce IFRS and, rather, ask students to read about IFRS outside of class (or simply ignore it.
The third approach is a favored integrated method regarding the depth and scope of introducing IFRS. The primary difference between IFRS and U.S. GAAP is that IFRS is principles-based accounting while U.S. GAAP is rules-based accounting. In consideration of this, this approach would build an accounting program based on principles and would be available to all business students instead of just accounting students.

**PROBLEM STATEMENT**

The convergence between U.S. GAAP and IFRS is of great concern not only to the global business community but also to educational institutions within the U.S. The question of how best to implement the teaching of IFRS into the accounting education curriculum as well as the training of faculty is one which has had many different possible solutions but not one definitive answer which colleges and universities have decided to adopt. In a 2011 survey conducted by KPMG/AAA, “about 4 in 10 say IFRS is already incorporated significantly into their curriculum [and] another one-third say IFRS should be incorporated significantly into the curriculum this academic year or next” (AAA Education Committee and KPMG LLP, 2011). The survey also found that “4 in 10 continue to say their schools have identified faculty who will be responsible for teaching IFRS [and] another one-third have made no plans to prepare faculty to teach IFRS” (AAA Education Committee and KPMG LLP, 2011).

The purpose of this qualitative research was to examine ways in which U.S. colleges and universities are proposing to integrate or have integrated IFRS into the accounting educational curriculum, if at all. Furthermore, it examined the ways U.S. educational institutions are preparing their faculty to teach IFRS as many of them have not been exposed to IFRS previously. The research gathered may provide useful information relating to how U.S. colleges and universities may address or mitigate factors relating to integrating IFRS into the accounting education curriculum as well as the training of faculty who would be able to teach the subject matter.

**CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH**

After reviewing a series of important governmental and academic papers, we have found that the current pace of adoption of IFRS courses into accounting programs is very slow and on a small scale nationwide. At the time the Roadmap was issued by the SEC in 2008, many faculty did not understand very clearly their plan of incorporating IFRS into their accounting programs. However, most of them believed that, within three years, at the time that the SEC originally expected that IFRS would be adopted by some U.S. companies, their colleges and universities would be much more prepared to teach IFRS. However, in 2011, even though a select few colleges and universities have implemented significant IFRS courses into their accounting curriculum, most are still not well prepared to do so.

There are many reasons for the delay such as:

1. Delaying the convergence of IFRS by the U.S. discouraged the intensive incorporation of IFRS courses into the accounting education curriculum.
2. Administrations not fully understanding the importance of implementing IFRS.
3. Not enough material for teaching IFRS is available in the market.
4. Accounting faculty have limited opportunities and funding to get training and lack practical experience using international standards.
On the other hand, the “Big Four Accounting Firms” and the AICPA have played a very important role in implementing and promoting IFRS education and training. They continue to provide timely updates, free training material for members, and grants to help colleges and universities that wish to implement IFRS.

We feel strongly that current regulations are playing the most important role in postponing the convergence of IFRS by the U.S. If the SEC had indicated a clearer standpoint in adopting IFRS or a date for adoption, there would be more confidence about adopting IFRS domestically. As a result, colleges and universities would have followed the trend in a more clear and steady manner. Given this delay in convergence, further study could be conducted to determine whether current IFRS curriculum implementation should be mandatory or possibly offered on an elective basis as well as the extent to which it should be tested on The Uniform CPA Examination.

REFERENCES


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FORMULATION OF HEDGING STRATEGY UNDER MARKET DEVIATION FROM
THE INTEREST RATE PARITY

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ABSTRACT

Interest Rate Parity (IRP) shows a theoretical relationship between the short-term interest rates of
two countries and foreign exchange rates. According to the theory, the currency with higher (lower)
short-term interest rate will exhibit a discount (premium) in its forward exchange rate. Multinational
corporations with accounts receivable and accounts payable are exposed to foreign exchange risk
(transaction exposure). The most popular technique of hedging transaction exposure is forward hedge
that is an agreement to buy or sell a foreign currency at a forward rate to lock in short-term cash flow
position. Money market hedge is an operational technique used to reduce transaction exposure. It
involves borrowing and lending in the domestic and foreign short-term money markets. In order to hedge
receivables (payables) denominated in foreign currencies, the firm borrows (lends) in foreign currency so
that its current assets (receivables) and current liabilities (payables) are exactly matched in the same
foreign currency. To the extent that the international financial markets deviate from the prediction of the
IRP, the operational hedging techniques, particularly forward hedge and money market hedge, will result
in less than desirable outcomes.

In our paper, we examine the international financial market deviation from the IRP before and
after the euro zone debt crisis. Then we formulate hedging strategy for accounts receivable and payables
denominated in foreign currencies as follows: Under positive deviation, implement money market hedge
for accounts receivables, and forward hedge for accounts payables. If deviation is negative, money
market hedge should be used for accounts payables, and forward hedge should be used for accounts
receivables.

Keywords: Foreign exchange rates, Interest Rate Parity, market deviation, net working capital

INTRODUCTION

Short-term borrowing and investing decisions that involve securities trading in the money
markets are an important practical part of international financial management. Short-term borrowing and
investing can be used for management of foreign exchange risk associated with cash inflow and outflow
in foreign currencies. Interest Rate Parity (IRP) shows a theoretical relationship existing between the
short-term interest rates of two countries and foreign exchange rates. According to the theory, the
currency with higher (lower) short-term interest rate will exhibit a discount (premium) in its forward
exchange rate. In short, the theory states that certain economic forces work toward equalizing investment
yields and borrowing costs in different currencies of different countries.

Multinational corporations that have short-term accounts receivable/payable denominated in
foreign currencies are exposed to foreign exchange risk (transaction exposure). The most popular
technique of hedging transaction exposure is forward hedge that involves the use of a forward contract to
buy or sell an amount of foreign currency at a contractual forward rate. According to a survey by
Jesswein, Kwok and Folks (1995), 93 percent of the sample Fortune 500 firms used forward hedge. A
money market hedge, that is not as extensively as the forward hedge, is an alternative technique for
managing the foreign exchange risk of the short-term cash flow position of a firm, and it involves
borrowing and investing in domestic and foreign short-term money markets based on thorough analysis of
According to Interest Rate Parity (IRP), for the international financial markets to be in equilibrium, the result of forward hedge of receivables or payables in foreign currency must be identical to that of the money market hedge.

In this paper, we examine the deviations of international financial markets from the prediction of the Interest Rate Parity (IRP) relationship before and after the onset of the euro zone debt crisis for two major foreign currencies: the euro (€) and the British pound (£). I then further examine how net working capital of the U.S. multinational corporations has been affected by the implementation of money market hedge.

**LITERATURE REVIEW**

**Interest Rate Parity**

Eun and Resnick (2007) explains the theory as follows: Given short-term (say 1 year) interest rates in domestic (say U.S.) and foreign money markets $i_h$ and $i_f$, and spot exchange and forward exchange rates $S$ and $F$, there are two alternative ways of investing (or borrowing) short-term funds: (1) investing (or borrowing) $S$ units of domestic currency (that is equivalent to one unit of foreign currency) in domestic money markets at $i_h$ to receive (or repay) $S$($1 + i_h$) in one year, or (2) attempting covered interest arbitrage that involves investing (or borrowing) one unit of foreign currency in the foreign money market at $i_f$ after exchanging the funds for the foreign currency at the spot exchange rate $S$, and selling (or buying) the investment value (or repayment value) forward at $F$ to receive (or to repay) $F$($1 + i_f$).

According to Interest Rate Parity, the investment values (or repayment values) of the two alternatives should be the same for the short-term international financial markets to be in equilibrium such that:

$$S(1 + i_h) = F(1 + i_f)$$

In short, the above IRP equation says that the short term investment (or borrowing) in the domestic money market must be equal to the short term investment (or borrowing) in the foreign money market, then sold (or bought) forward for the home currency at forward exchange rate $F$ to lock in the investment (or repayment ) values. The above IRP equation can be rearranged:

$$\frac{(i_h - i_f)/(1 + i_f)}{(1 + i_f)} = \frac{(F - S)}{S}$$

The above IRP equations clearly show the linkage between two countries’ money markets and foreign exchange market such that: As long as interest rates are the same between home and foreign money markets, the forward rate will be the same as the spot rate. However, if there exists a difference in interest rates between domestic and foreign money markets, the difference is reflected in the foreign exchange markets as a forward premium (i.e., $F > S$) or a forward discount (i.e., $F < S$). When the home currency exhibits a forward discount (i.e., the foreign currency exhibits a forward premium against the home currency), the home interest rate is higher than the foreign interest rate to compensate for the expected depreciation of the home currency as implied by the forward discount. When it is, however, at a forward premium, the domestic interest rate is lower than the foreign interest rate.

**Market Deviation**

The relationship between interest rates and exchange rates in international financial markets as described by Interest Rate Parity may not hold precisely all the time due to extraneous factors such as government intervention and transaction costs. Following the measure of Otani and Tiwari (1981), I define the market deviation from IRP as:

$$DEV = \left[\frac{S(1 + i_h)}{F(1 + i_f)}\right] - 1$$
If the short-term international financial markets are in equilibrium as described by IRP, there is zero deviation, i.e., DEV = 0. In other words, when IRP holds, an investment (or borrowing) of S units of the home currency in the short-term domestic money market should be equal to one unit of foreign currency that is invested (or borrowed) in foreign money market and hedged by selling (or buying) forward (i.e. \( S(1 + i_h) = F(1 + i_f) \)). Substantial non-zero deviation indicates that IRP does not hold. Firm’s choice of hedging technique depends upon whether it has receivables (i.e. cash inflow) or payables (i.e. cash outflow) denominated in foreign currency. Under market condition such that the deviation is positive (i.e. \( S(1 + i_h) > F(1 + i_f) \)), the short term investment in domestic money markets is better than the alternative foreign investment, and short term borrowing in foreign money markets is better than domestic borrowing. If it is negative, however, (i.e. \( S(1 + ih) < F(1 + if) \)), the foreign investment (commonly called covered interest arbitrage) is better because it results in a larger investment value at the end of the investment horizon, and borrowing in domestic markets is better than borrowing in the foreign money markets.

**Forward Hedge vs. Money Market Hedge**

Eun and Resnick (2007) define transaction exposure as the sensitivity of realized domestic currency value of the firm’s contractual cash flows denominated in foreign currencies to unexpected exchange rate changes. A firm’s expected short-term cash inflow and cash outflow (for its accounts receivable and accounts payable) is contractually fixed but is subject to foreign exchange risk due to randomly changing foreign currency value. In an effort to reduce this foreign exchange risk involving its cash flow positions at the time of contract settlement, it can consider using different financial hedging techniques. With a forward hedge, a firm can effectively eliminate foreign exchange risk by locking in the price of foreign currency (i.e., the forward exchange rate) at which the contractual amount is to be sold or bought. A money market hedge involves short-term borrowing or lending in both the domestic money market and the foreign money market.

**The Case of Accounts Receivable**

1. The forward hedge attempts to reduce foreign exchange risk by selling the amount of foreign currency in the contract of accounts receivable (say £1) at a fixed price (i.e. forward exchange rate). At the time of settlement, the firm will receive a locked-in certain amount (i.e. $F) in home currency that is free of foreign exchange risk.

2. A money market hedge can be implemented in three steps:
   i) From a foreign bank, borrow £\( 1/(1 + i£) \), the maximum amount that can be borrowed using the receivables as collateral. The maximum borrowable amount is equal to the present value of the contractual amount.
   ii) Exchange £\( 1/(1 + i£) \) at the spot rate, S, for $SS/(1 + i£) in the spot foreign exchange market.
   iii) Invest the amount in a U.S. bank at \( i$ \) to receive $SS(1 + i$)/\( 1 + i£ \) that is also free of foreign exchange risk. Uncertain cash inflow of short-term assets (i.e. accounts receivable) denominated in a foreign currency is effectively converted into certain cash inflow in home currency that is free of exchange risk.

**The Case of Accounts Payable**

1. A forward market hedge attempts to reduce foreign exchange risk by buying the amount of foreign currency in the contract of accounts payable (say £1) at a fixed price (i.e. forward exchange rate). At the time of settlement, the firm will pay a locked-in certain amount (i.e. $F) in home currency that is free of foreign exchange risk.

2. A money market hedge can be implemented in three steps:
   i) From a domestic bank, borrow at the interest rate \( iS \) an amount equal to $SS/(1 + i£).
ii) Exchange the borrowed amount $S/(1 + i£) for £(1/(1 + i£) at S in the spot foreign exchange market.

iii) Invest the amount in a foreign bank at i£ to make £1 that will be used to settle the payable at the end of the term. Simultaneously, pay back with interest to the domestic bank an amount $S(1 + i£)/(1 + i£). An uncertain cash outflow of short-term liabilities (i.e. accounts payable) denominated in foreign currency is effectively converted into certain cash outflow in home currency that is free of foreign exchange risk.

In summary, a forward hedge would result in $F, whereas a money market hedge would result in $S(1 + i£)/(1 + i£) for both receivables and payables. Both hedging techniques convert a foreign currency-denominated cash inflow of receivable or cash outflow of payable into home currency-denominated cash flows, thus eliminating foreign exchange risk. For the international financial markets to be in equilibrium without arbitrage opportunities, the two results must be equal to each other: $F = $S(1 + i£)/(1 + i£), which is nothing but the IRP equation. In other words, if IRP holds, the end results of the forward hedge and the money market hedge are the same.

MODEL BUILDING

The purpose of this study is postulate an empirical relationship between the market deviation (from the Interest Rate Parity theory) and the change in the firm’s current assets and liabilities as measured in net working capital.

EMPIRICAL MODEL FOR NET WORKING CAPITAL DECISION UNDER TWO DIFFERENT MARKET CONDITIONS

Net working capital (i.e. accounts receivables minus accounts payables) depends upon a firm’s choice of hedging technique between forward hedge and money market hedge under two different market conditions (i.e. DEV > 0 or DEV < 0). The relationship between multinational firm’s net working capital position and international financial market conditions can be postulated as follows:

1. If DEV > 0 (i.e. $S(1 + i_h) > $F(1 + i_f));
   For cash inflow of accounts receivable, the money market hedge should be chosen because the domestic investment of the borrowed amount in the foreign money market will result in a larger amount in home currency than selling the receivable forward. Thus, foreign accounts receivables are replaced by domestic accounts receivable with a net increase in current asset by the amount equal to: $S(1 + i_h) minus $F(1 + i_f)).
   For cash outflow of accounts payable, the forward hedge should be chosen because it entails a smaller amount in home currency than borrowing in the domestic money market and investing in the foreign money market. Thus, foreign currency-denominated accounts payable remain and domestic accounts payables are not created.
   Overall, a firm’s current assets increase whereas current liabilities remain the same, thus resulting in an increase in net working capital.

2. If DEV < 0 (i.e. $S(1 + i_h) < $F(1 + i_f));
   For cash inflow of accounts receivables, the forward hedge should be chosen because it results in larger cash inflow in home currency than money market hedge does. Thus, foreign currency-denominated receivables remain, and there would be no domestic accounts receivables created.
   For cash outflow of accounts payable, the money market hedge will be chosen because domestic borrowing to take care of foreign currency-denominated accounts payable is less costly
than forward hedge. Thus, foreign accounts payable are replaced by domestic accounts payable with a net decrease in current liability by the amount equal to: $F \cdot (1 + i_f ) \text{ minus } S \cdot (1 + i_h )$.

Overall, a firm’s current liabilities decrease whereas current assets remain the same, thus resulting in an increase in net working capital as well.

In a nutshell, depending upon international financial market conditions that result in DEV either positive or negative, conversion of current assets and current liabilities occurs as multinational corporations implement short-term financial hedging: (i) when DEV>0, current assets increases as foreign currency-denominated receivables are converted into domestic receivables that result in a larger locked-in cash inflow; (ii) when DEV<0, current liabilities decrease as foreign currency denominated payables are converted into domestic payables that result in a smaller locked-in cash outflow. Under both circumstances, net working capital should increase.

We plan to test our model empirically based on market data and firm-specific data. The test will show how well our formulated model explain the relationship between multinational firm’s net working capital position and international financial market conditions.

**CONCLUSION**

In this paper, we revisited the IRP to explore the implications of the market deviations from Interest Rate Parity for a firm’s transaction exposure management. We formulated the choice of hedging method between forward hedge and money market hedge depending upon market deviations measuring market deviations from the IRP.

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PERCEIVED QUALITY AUDITORS IN THE NONPROFIT SECTOR: EVIDENCE FROM REQUEST FOR PROPOSAL CHOICES

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ABSTRACT

This study investigates non-profit organizations’ perceptions about which audit firms provide high quality audits. We contend that the current use of Big N and market share leaders as the measures of audit quality may result in an incomplete population of quality audit firms since less than 10% of all organizations are audited by Big N and market share leaders. Using a survey, we asked non-profit organizations in three geographic regions to identify audit firms they would send a Request for Proposal and provide reasons for including each firm. Consistent with our expectation, the results show that while the organizations identified some Big N auditors and market share-based industry specialists as providing high quality audits, they also considered regional firms as quality auditors or non-profit specialists that would not be identified by current quality measures.

INTRODUCTION

This study advances audit quality research by investigating non-profit organizations’ perceptions about which audit firms provide high quality audits. Most prior audit quality research supports the contention that larger auditors or auditors with industry expertise provide higher quality audits, (for example, Davidson and Neu, 1993; Teoh and Wong, 1993; and Colbert and Murray, 1998 for auditor size and Balsam, Krishnan, and Yang, 2003 and Kwon, Lim, and Tan, 2007 for industry expertise). The underlying theories for auditor size and auditor industry expertise developed by DeAngelo (1981) and Hogan and Jeter (1999), respectively, are not specific to any one industry setting, and there is nothing to suggest these theories should not be applicable to the non-profit setting. However, the current measures used (Big N and market share, respectively) may not fully capture the complete population of quality auditors, as evidenced by some mixed results in government and non-profit studies, given that the Big N auditors do not take dominant role in the non-profit sector (Allen, 1994; Colbert and O’Keefe, 1995; Copley, 1991; and Tate, 2009).

This study is intended to be an initial step in identifying a more complete list of audit firms providing high quality audits in the non-profit sector by first identifying audit firms perceived to provide high quality audits. Revenue for all non-profits in 2008 totaled $1.92 trillion and public charities received over $293 billion in the form of grants and contributions (Wing, Roeger, and Pollak, 2010). Given the significant revenues of these organizations, having a more complete understanding of which audit firms may be providing quality monitoring via external audits is important to current and potential contributors, regulators, the non-profit organizations themselves, and academics: Contributors and regulators can better evaluate the financial results of non-profit organizations; non-profit organizations will be better able to choose an auditor that will provide the level of quality they need; and academics will have a better understanding of non-profit sector quality auditors for research purposes.

While numerous studies in the for-profit sector indicate that Big N auditors provide higher quality audits than their smaller counterparts, results in the non-profit and government setting have been mixed, especially when Big N

1 In this paper, “Big N” refers to Big 8, Big 6, Big 5, and Big 4 auditors in the aggregate.

2 As discussed later, we are not suggesting Big N and market leaders do not provide high quality audits for non-profit organizations; we are only suggesting that there may be additional firms that provide high quality audits to non-profit organizations.
is used as the audit quality measure. In addition, only a small percentage of non-profit organizations hire Big N auditors, likely less than ten percent. This is in contrast to the for-profit sector where Big N firms audit 98 percent of the more than 1,500 largest publicly traded corporations (GAO, 2008). Relying solely on the proposition that Big N auditors provide higher quality audits results in the conclusion that at least 90 percent of all non-profit organizations do not hire quality auditors. We assert that the heavy reliance on outside funding provides non-profit organizations with a significant incentive to demonstrate the appropriate use of resources by hiring high quality auditors, and we believe more than ten percent of non-profits select quality auditors.

In addition to using size as an audit quality measure, research also suggests that industry specialists provide high quality audits (for example, Hogan and Jeter, 1999; Deis and Giroux, 1992; and Balsam et al., 2003). Industry specialization may be a better proxy for audit quality than Big N in the non-profit setting given the low market penetration of Big N auditors, however current measure of specialization used in research (market share) may not adequately capture all auditors specialized in non-profit audits. As Gramling and Stone (2001, 14) state, 

“…while audit firm industry market share may correlate with industry specialization, there are also likely to be small CPA firms that specialize, but that have small market shares in their focal industry…That is, within-industry clients may constitute a large proportion of the audit firm’s client portfolio, but not a significant portion of the within-industry audit market. In such cases, the small CPA firm may make significant within-industry investments [e.g. industry specific technology, industry databases, etc.] and may develop a reputation for industry expertise, but not be an industry expert as measured by market share.”

Because we believe that the non-profit audit market is dominated by such small CPA firms, we attempt to identify non-profit auditors perceived to provide high quality using measures other than market share. To do so, we surveyed non-profit organizations in three geographic regions that have high non-profit concentrations: Massachusetts, New York, and Washington, DC. The limited geographic regions provide a higher likelihood that smaller, well-respected firms within a specific location will be identified as providing quality audits, while not biasing against identifying large regional, national, or international audit firms. In addition, consideration of audit quality within specific geographic areas is consistent with current research looking at audit quality at the office or city level, (e.g., Francis, Stokes, and Anderson, 1999; Chaney and Philipich, 2002; Ferguson, Francis, and Stokes, 2003; Krishnan and Visvanathan, 2008; and Fafatas, 2010).

We asked the non-profit organizations to consider the process of going out for bid for an independent auditor and identify up to five audit firms to which they would send out a Request for Proposal (RFP). We then asked them to provide the reasons for considering each firm. From this, we identified the audit firms that survey participants designated as providing high quality audits or being a specialist in the non-profit sector. We propose this methodology as an extension of the current research methods, and ask for firms they would consider hiring rather than evaluating their current auditor for three reasons. First, organizations have more restrictions when hiring an auditor than when selecting an auditor for consideration to hire; specifically, organizations are likely restricted in hiring based on price and availability. At the proposal stage, non-profit organizations can consider many qualities that they are hoping to find in their auditor even though, ultimately, they may not be able to afford the auditor that they believe is the “best.” Second, asking for information on only one auditor limits the identification of a complete population of firms that might provide high quality audits. Finally, the prior literature already reports the results of

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3 For example, Allen (1994) and Colbert and O'Keefe (1995) find Big N auditors are associated with higher quality audits, while results in Copley (1991) and Tate (2009) provide results that are inconsistent with this.

4 In 2008, 1,193 out of 37,523 (3 percent) non-profit organizations in the Audit Analytics database of single audits were audited by Big N auditors. In addition, in prior research using large samples of non-profit organizations, the percent audited by Big N firms range from 0.60% (Grein and Tate, 2011) to 12% (Keating, Fischer, Gordon, and Greenlee, 2005). Ten percent is likely a very conservative estimate given most research skews toward larger non-profits requiring single audits who are more likely to hire Big N auditors.

5 The use of specific regions affects the generalizability of our findings. However, this survey instrument could be used in other geographic areas.
surveys of non-profit organizations’ perceptions of their current auditors (Lowensohn, Johnson, Elder, and Davies, 2007).6

We find that non-profit organizations identify some Big N auditors and some market share-based industry specialists as firms that they perceive to provide high quality audits and/or that specialize in non-profit auditing. However, consistent with our premise that Big N and market share do not capture the complete list of quality auditors, participants also identified many other regional firms as perceived high quality or non-profit specialist auditors that are not be identified by current quality measures. Further, when using market share data, we find non-profit specialization is better measured at the local or regional level rather than the national level.

PRIOR AUDIT QUALITY LITERATURE

Size as a Measure of Audit Quality

Much of the audit quality research has considered firm size a measure of audit quality, based on DeAngelo’s (1981) hypothesis that larger audit firms provide higher quality audits. In the vast majority of for-profit studies, results are consistent with DeAngelo’s hypothesis. Prior studies find larger audit firms are associated with lower discretionary accruals, (e.g., Becker, Defond, Jiambalvo, and Subramanyam, 1998; Davidson and Neu, 1993; Gul, Lynn, and Tsui, 2002; Chung, Firth, and Kim, 2005; Antle, Gordon, Narayanamoorthy, and Zhou, 2006; and Francis and Yu, 2009), less underpricing (Balvers, McDonald, and Miller, 1988; and Beatty, 1989), larger earnings response coefficients (Teoh and Wong, 1993), and higher quality audits as determined by AICPA Private Company Section Peer Reviews (Colbert and Murray, 1998). Additionally, multiple studies find Big N audit firms command a fee premium, which is hypothesized to be a result of their providing higher quality audits, (see Hay, Knechel, and Wong, 2006 and Hay, 2010 meta analyses for full literature reviews). 7

There are fewer audit quality studies in the non-profit and government sectors using size as a measure of quality and the results are mixed. Larger auditors have been found to be associated with more predictable bond ratings for cities (Allen, 1994), higher quality audits as measured by the California State Controller and Oregon State Board (O’Keefe, King, and Gaver, 1994 and Colbert and O’Keefe, 1995, respectively), and better disclosures (Krishnan and Schauer, 2000). In a more recent study, Kitching (2009) finds donations to large charitable organizations are positively related to the use of Big 5 auditors. However, Copley (1991) does not find better disclosures for Big 8-audited municipalities as compared to non-Big 8. Further, Tate (2009) finds Big 5 auditors report more findings and questioned costs, but report less material weaknesses and material noncompliance. In addition, in studies of perceived quality in government audits, Samelson, Lowensohn, and Johnson (2006) find Big N are associated with higher perceived quality while Lowensohn et al. (2007) find the opposite.

Industry Specialization as a Measure of Audit Quality

In addition to size, more recent studies have considered industry specialization as a measure of audit quality. Results in both the for-profit and non-profit and government sectors have found results consistent with this interpretation of specialization. In for-profit studies, industry specialist auditors are associated with lower discretionary accruals (Balsam et al., 2003; and Kwon et al., 2007) and higher earnings response coefficients (Balsam et al., 2003). In public sector studies, industry specialists are associated with better compliance with generally accepted auditing standards (Deis and Giroux, 1992; O’Keefe et al., 1994) and perceived audit quality (Lowensohn et al., 2007; and Samelson et al., 2006).

While these studies present promise for industry specialization as a measure for audit quality, there is still one significant concern: what is the appropriate measure of industry specialization? As discussed by Gramling and Stone (2001, 14), “…existing research offers little justification for applying existing market share and market specialization measures as proxies for industry expertise.” They further question the use of market share when small CPA firms are providers of a significant number of audits. In such settings, a substantial proportion of a smaller firm’s total audits might be in one industry, thereby increasing the likelihood that the firm has significant experience

6 Lowensohn et al. (2007) surveyed non-profit organizations about their perceptions of the quality of their current auditor and identified auditor characteristics that are correlated with perceived quality. In this study, we seek to identify specific firms that provide high quality audits rather than audit firm characteristics associated with quality. 7 Some for-profit studies have found contrasting results. Frankel, Johnson, and Nelson (2002) do not find Big 5 significant in explaining discretionary accruals, Firth and Smith (1992) find no differences in forecast errors between large and small audit firms and Petroni and Beasley (1996) were unable to find differences in the accuracy of claim loss reserves of Big 8-audited property casualty insurers as compared to non-Big 8-audited insurers.
in these types of audits and has invested in training, technology and other resources to provide quality audits. However, because the firm is small, the number of audits they perform might not result in a large market share, especially across large geographic areas. This study seeks to identify those firms that are perceived to provide high quality audits including smaller CPA firms that specialize in non-profit audits but that do not have sufficient market share to be identified by other studies as specialists.

METHODOLOGY

Survey

Using the National Center for Charitable Statistics (NCCS) Digitized Files database, we identified the ten states or regions with the highest concentration of non-profit organizations and then selected three based on data availability and concentration of the region. As discussed above, targeting a limited geographic area increases the probability that smaller regional audit firms specializing in non-profit audits are identified as specialists. The three areas selected were Massachusetts, New York, and the Washington, DC area (DC).

All non-profit organizations within each state or region with e-mail addresses available in the Audit Analytics database were included. We used Audit Analytics as our main data source because it is the only non-profit database that includes e-mail addresses. However, the database skews to larger organizations as it only includes non-profits obtaining a single audit. Therefore, to incorporate smaller non-profit organizations, we randomly selected 500 organizations per area from the NCCS database and searched for e-mail addresses on state attorney general and organization websites. We e-mailed a request to participate and a link to our survey to each organization. To entice greater participation, organizations could chose to participate in a random drawing from all organizations completing the survey for a $1,000 contribution. We first asked a series of demographic questions regarding the size and nature of the organization and their use of an auditor. We next asked organizations to think about the process of going out for bid for an independent auditor and to specifically consider up to five audit firms to which they would send out a Request for Proposal. For each audit firm the organization listed, we asked them to identify from a list the reason(s) why they included that firm. Reasons provided included having prior experience with the firm, the firm being recommended by a Board member, the firm having a reputation in the area for providing high quality audits, and the firm having a reputation in the area for providing low cost audits, among others, (see Table 3 for the complete list and see Appendix A for the survey instrument). Additional questions related to future studies were also included in the survey instrument.

Market Share-Based Industry Specialists

The list of firms perceived by survey participants as providing high quality or being non-profit specialists must be compared to the list of firms identified by current measures as being a specialist in the non-profit sector. Using the Audit Analytics databases, we identified the auditors that would be considered non-profit industry specialists as measured by market share, using both total assets audited (“asset-based specialists”) and total number of non-profit clients (“client-based specialists”), across the country and within each geographic area. We identified the top firm on each list as an industry specialist and included additional firms if their market share percentage was greater than

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8 The NCCS database maintains all Form 990s filed by non-profit organizations around the country; all non-profit organizations that have greater than $25,000 of annual gross receipts are required to file a Form 990.
9 The Single Audit Act of 1984 (Office of Management and Budget [OMB] 1996, 2007) took effect in 1986. The Act requires CPA-performed audits on annual financial statements for NPOs that have receive at least $500,000 ($300,000 before December 31, 2003) of annual federal expenditures. The scope of Single Audit requirements extends well beyond those for Generally Accepted Auditing Standards (GAAS) and Government Auditing Standards (GAGAS) audits.
10 In order to be included in the drawing, organizations had to provide their contact information. Organizations choosing not to participate in the drawing were able to keep their data anonymous.
11 Language in the survey did not limit participating organizations from including their current auditor as one of the five audit firms. Results on the reasons firms were listed appear consistent with many participants including their current auditor in their list of firms.
12 The survey instrument was pilot tested with six non-profit organizations who helped us ensure the survey was understandable and the lists provided were complete.
13 The Audit Analytics database skews to larger organizations. While a limitation for this study, other studies using market share-based specialization measures face the same limitation.
five percent and within two percent of the top firm (consistent with Ward, Elder, and Kattelus, 1994 and Chase, 1999). Identified market share-based industry specialists are included in Table 1.

TABLE 1
Audit Firms Identified as Industry Specialists Using Market Share Measures

Panel A: Market Share Determined by Total Assets Audited

<table>
<thead>
<tr>
<th>Region</th>
<th>Number One Firm</th>
<th>Number Two Firm (if &gt;5%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>PricewaterhouseCoopers</td>
<td></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>PricewaterhouseCoopers</td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td>PricewaterhouseCoopers</td>
<td>KPMG</td>
</tr>
<tr>
<td>Washington, DC</td>
<td>KPMG</td>
<td>PricewaterhouseCoopers</td>
</tr>
</tbody>
</table>

Panel B: Market Share Determined by Total Number of Clients Audited

<table>
<thead>
<tr>
<th>Region</th>
<th>Number One Firm</th>
<th>Number Two Firm (if &gt;5%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>McGladrey &amp; Pullen</td>
<td></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Alexander Aronson Finning &amp; Co</td>
<td>Melanson Heath &amp; Company</td>
</tr>
<tr>
<td>New York</td>
<td>Loeb &amp; Troper</td>
<td></td>
</tr>
<tr>
<td>Washington, DC</td>
<td>Robinson Farmer Cox Assoc.</td>
<td>Maddox &amp; Associates</td>
</tr>
</tbody>
</table>

As presented in Panel A, PriceWaterhouseCoopers and KPMG are considered asset-based specialists in New York, DC, and the United States as a whole. PriceWaterhouseCoopers is also considered an asset-based specialist in Massachusetts. Using the number of clients audited (Panel B), McGladrey and Pullen is the US specialist and Alexander, Aronson, Finning and Company and Melanson, Heath and Company are the specialists in Massachusetts. Loeb and Troper is a specialist in New York and the specialists in DC are Robinson, Farmer, Cox and Associates and Maddox and Associates.

RESULTS

Survey Participants

Figure 1 presents charts of the size of survey participants. The majority of organizations participating from each geographic area have greater than $5,000,000 in total assets while 21 to 26 percent of organizations have total assets between $1,000,000 and $5,000,000. The distribution of organization sizes was similar across the regions. In untabulated results, the distribution of our participants is generally consistent with the distribution of all non-profit organizations in the Audit Analytics (AA) database from 1997 through 2010. Our sample has a higher percentage of firms with greater than $5,000,000 in total assets and a slightly higher percentage of small organizations (less than $200,000 in total assets) than the complete AA database.

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14 The New York and Washington, DC surveys provided more total asset categories above $5 million. In New York, 19 percent of organizations had total assets between $5 and $20 million, 16 percent had between $20 and $50 million, 11 percent had between $50 and $100 million, and 22 percent had above $100 million in total assets which make up the 67 percent greater than $5 million. The distribution for Washington, DC organizations for these same total asset categories was 23 percent, 9 percent, 12 percent, and 21 percent, respectively, making up the total 65 percent above $5 million.
Table 2 presents descriptive statistics of survey-participating organizations. We received 1,213 usable responses from e-mail requests to 9,635 organizations for an overall response rate of 12.59 percent. Regional response rates were approximately the same, ranging from 11.8 percent to 15.4 percent. Seventy percent of all organizations say they file a Form 990. Close to 90 percent of survey participants currently receive an independent audit and 80 percent have received an independent audit for more than ten years. Almost 80 percent of all survey participants receive federal funding, with two-thirds receiving more than $500,000 in annual federal funding. Consistent with non-response bias. There were no statistically significant differences between early and late responders within each of the geographic regions except significantly fewer NY early responders filed Form 990s than did NY late responders.
this, 70 percent receive an A-133 audit, which is required for all organizations expending more than $500,000 in annual federal funds.

TABLE 2
Characteristics of Survey-Participating Organizations

Panel A: All Survey Participants

<table>
<thead>
<tr>
<th></th>
<th>Massachusetts</th>
<th>New York</th>
<th>Washington, DC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mail requests sent</td>
<td>2,925</td>
<td>4,580</td>
<td>2,130</td>
<td>9,635</td>
</tr>
<tr>
<td>Number of responses</td>
<td>450</td>
<td>504</td>
<td>259</td>
<td>1,213</td>
</tr>
<tr>
<td>Response rate</td>
<td>15.38%</td>
<td>11.79%</td>
<td>12.16%</td>
<td>12.59%</td>
</tr>
<tr>
<td>File Form 990</td>
<td>(70%)</td>
<td>(69%)</td>
<td>(73%)</td>
<td>(70%)</td>
</tr>
<tr>
<td>Currently have an</td>
<td>(88%)</td>
<td>(89%)</td>
<td>(86%)</td>
<td>(88%)</td>
</tr>
<tr>
<td>independent audit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have had an independent</td>
<td>358</td>
<td>416</td>
<td>192</td>
<td>966</td>
</tr>
<tr>
<td>audit for more than</td>
<td>(80%)</td>
<td>(83%)</td>
<td>(74%)</td>
<td>(80%)</td>
</tr>
<tr>
<td>ten years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receive federal funding</td>
<td>359</td>
<td>409</td>
<td>194</td>
<td>962</td>
</tr>
<tr>
<td>Receive more than</td>
<td>(80%)</td>
<td>(81%)</td>
<td>(75%)</td>
<td>(79%)</td>
</tr>
<tr>
<td>$500,000 annual federal</td>
<td>303</td>
<td>346</td>
<td>167</td>
<td>816</td>
</tr>
<tr>
<td>funding</td>
<td>(67%)</td>
<td>(69%)</td>
<td>(64%)</td>
<td>(67%)</td>
</tr>
<tr>
<td>Receive A-133 Audits</td>
<td>(70%)</td>
<td>(72%)</td>
<td>(66%)</td>
<td>(70%)</td>
</tr>
</tbody>
</table>

Panel B: Types of Survey-Participating Non-Profit Organizationsa

<table>
<thead>
<tr>
<th></th>
<th>Massachusetts</th>
<th>New York</th>
<th>Washington, DC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Institutions</td>
<td>47</td>
<td>84</td>
<td>20</td>
<td>151</td>
</tr>
<tr>
<td>Human Services</td>
<td>55</td>
<td>38</td>
<td>31</td>
<td>124</td>
</tr>
<tr>
<td>Health</td>
<td>20</td>
<td>24</td>
<td>10</td>
<td>54</td>
</tr>
<tr>
<td>Housing and Shelter</td>
<td>17</td>
<td>24</td>
<td>13</td>
<td>54</td>
</tr>
<tr>
<td>Municipalities</td>
<td>20</td>
<td>16</td>
<td>13</td>
<td>49</td>
</tr>
<tr>
<td>Mental Health, Crisis</td>
<td>12</td>
<td>13</td>
<td>4</td>
<td>29</td>
</tr>
<tr>
<td>Intervention</td>
<td>(5%)</td>
<td>(5%)</td>
<td>(3%)</td>
<td>(4%)</td>
</tr>
<tr>
<td>Community Improvement</td>
<td>(4%)</td>
<td>(5%)</td>
<td>(4%)</td>
<td>(4%)</td>
</tr>
</tbody>
</table>
Arts, Culture, and Humanities  
8 (4%) 10 (4%) 7 (4%) 25 (4%)  
Crime, Legal Related  
5 (2%) 6 (2%) 8 (5%) 19 (3%)  
All other  
34 (15%) 45 (16%) 44 (28%) 123 (19%)  
Total  
227 (100%) 274 (100%) 156 (100%) 657 (100%)  

Survey participants were invited to provide their contact information to be included in a raffle for a $1,000 contribution. Contact information was provided by 698 participants, for which we found organizational information for 657 of them. This panel includes information about this subset of participants. Organization types are based on Guidestar’s NTEE classification system, and we added “Municipalities” to the classifications.

As mentioned above, participants were invited to provide contact information if they wanted to be included in the contribution raffle. Of the 1,213 participants, 698 provided us contact information. Using the NCCS database and other online resources, we identified the type of organization for 657 of them. The results of this analysis are included in Panel B. The majority of organizations in each geographic area are engaged in Education or Human Services. Housing and Shelter, Municipalities, and Mental Health organizations make up the next highest concentrations in each geographic area. The distribution of organization type is generally consistent across the three geographic regions, although New York has a high percentage of educational institutions included in our dataset.

### Influencing Factors in Non-profits’ Request for Proposal (RFP) Selections

Table 3 summarizes survey participants’ responses on the factors that influence their auditor choices within the RFP process with Massachusetts, New York, and DC presented in Panels A, B, and C, respectively. In each region, “We have had prior experience with the firm” was the most selected reason for the first audit firm listed, and the selection of this criterion decreases across the firms listed from first to fifth. This is consistent with participants listing the most familiar audit firm first, which is probably the firm they currently have. When considering all of the auditors listed, “Reputation for high quality non-profit audits” and “Reputation for specializing in non-profit audits” in the geographic area were the most important reasons an audit firm was considered for an RFP. Across all areas, the next most selected reason was that the firm was recommended by another non-profit organization, followed by the audit firm’s expertise as a business advisor. Interestingly, only organizations in Massachusetts selected having a reputation for providing lower priced audits as one of the top reasons for including firms on their list. In addition, reputation for quality and specialization in non-profit audits nationally or internationally was not very important in participants’ reasons for considering a firm for an RFP.

**TABLE 3**

Influencing Factors in Survey Participants’ RFP Selections

<table>
<thead>
<tr>
<th>Panel A: Massachusetts</th>
<th>Response Percent of Auditor Choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasons to select an auditor candidate for a RFP</td>
<td>1st (n=378)</td>
</tr>
<tr>
<td>We have had prior experience with the firm</td>
<td>78.3%</td>
</tr>
<tr>
<td>The firm was recommended by a Board member</td>
<td>10.6%</td>
</tr>
<tr>
<td>One of our employees worked for the firm previously</td>
<td>3.7%</td>
</tr>
<tr>
<td>One of our prior employees currently works for the firm</td>
<td>0.5%</td>
</tr>
<tr>
<td>The firm was recommended by another organization in our industry</td>
<td>32.5%</td>
</tr>
</tbody>
</table>
The firm has a reputation in this geographic area for providing lower priced audits 51.3% 14.0% 14.2% 11.7% 10.8%
The firm has a reputation in this geographic area for providing high quality non-profit audits 13.2% 47.5% 46.0% 40.6% 39.8%
The firm has a reputation in this geographic area of specializing in non-profit audits 45.2% 40.5% 40.0% 28.1% 25.8%
The firm has a reputation nationally or internationally for providing high quality non-profit audits 9.0% 9.1% 13.1% 14.1% 6.5%
The firm has a reputation nationally or internationally of specializing in non-profit audits 6.1% 7.9% 8.0% 6.3% 5.4%
The firm was recommended by a granting agency 3.2% 2.1% 1.1% 1.6% 0.0%
The firm has run effective advertising in our geographic area 2.1% 4.5% 5.7% 7.0% 6.5%
We like the auditing firm's expertise as a business advisor and not just as an auditor 25.9% 16.1% 11.9% 9.4% 8.6%
Other 13.8% 17.8% 21.0% 26.6% 30.1%

### Panel B: New York

<table>
<thead>
<tr>
<th>Reasons to select an auditor candidate for a RFP</th>
<th>1st (n=425)</th>
<th>2nd (n=310)</th>
<th>3rd (n=139)</th>
<th>4th (n=128)</th>
<th>5th (n=111)</th>
</tr>
</thead>
<tbody>
<tr>
<td>We have had prior experience with the firm</td>
<td>81.2%</td>
<td>53.9%</td>
<td>35.4%</td>
<td>23.0%</td>
<td>18.0%</td>
</tr>
<tr>
<td>The firm was recommended by a Board member</td>
<td>13.9%</td>
<td>9.7%</td>
<td>11.2%</td>
<td>8.6%</td>
<td>11.7%</td>
</tr>
<tr>
<td>One of our employees worked for the firm previously</td>
<td>5.4%</td>
<td>3.2%</td>
<td>4.5%</td>
<td>2.9%</td>
<td>3.6%</td>
</tr>
<tr>
<td>One of our prior employees currently works for the firm</td>
<td>0.2%</td>
<td>0.3%</td>
<td>0.4%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>The firm was recommended by another organization in our industry</td>
<td>33.2%</td>
<td>31.3%</td>
<td>29.1%</td>
<td>19.4%</td>
<td>18.0%</td>
</tr>
<tr>
<td>The firm has a reputation in this geographic area for providing lower priced audits</td>
<td>16.7%</td>
<td>15.5%</td>
<td>19.3%</td>
<td>16.5%</td>
<td>14.4%</td>
</tr>
<tr>
<td>The firm has a reputation in this geographic area for providing high quality non-profit audits</td>
<td>56.0%</td>
<td>47.4%</td>
<td>48.0%</td>
<td>35.3%</td>
<td>36.9%</td>
</tr>
<tr>
<td>The firm has a reputation in this geographic area of specializing in non-profit audits</td>
<td>46.1%</td>
<td>42.6%</td>
<td>31.4%</td>
<td>29.5%</td>
<td>22.5%</td>
</tr>
<tr>
<td>The firm has a reputation nationally or internationally for providing high quality non-profit audits</td>
<td>12.7%</td>
<td>12.6%</td>
<td>18.4%</td>
<td>18.0%</td>
<td>14.4%</td>
</tr>
<tr>
<td>The firm has a reputation nationally or internationally of specializing in non-profit audits</td>
<td>9.4%</td>
<td>7.7%</td>
<td>10.8%</td>
<td>6.5%</td>
<td>6.3%</td>
</tr>
</tbody>
</table>
The firm was recommended by a granting agency 3.8% 1.6% 2.2% 2.2% 0.9%
The firm has run effective advertising in our geographic area 1.2% 2.6% 4.0% 4.3% 2.7%
We like the auditing firm's expertise as a business advisor and not just as an auditor 24.0% 18.4% 13.9% 7.2% 9.9%
Other 11.1% 12.6% 13.0% 23.7% 27.9%

Panel C: Washington, DC area

<table>
<thead>
<tr>
<th>Reasons to select an auditor candidate for a RFP</th>
<th>1st (n=221)</th>
<th>2nd (n=148)</th>
<th>3rd (n=103)</th>
<th>4th (n=68)</th>
<th>5th (n=47)</th>
</tr>
</thead>
<tbody>
<tr>
<td>We have had prior experience with the firm</td>
<td>79.6%</td>
<td>48.0%</td>
<td>32.0%</td>
<td>25.0%</td>
<td>29.8%</td>
</tr>
<tr>
<td>The firm was recommended by a Board member</td>
<td>14.9%</td>
<td>16.2%</td>
<td>13.6%</td>
<td>11.8%</td>
<td>10.6%</td>
</tr>
<tr>
<td>One of our employees worked for the firm previously</td>
<td>3.2%</td>
<td>2.7%</td>
<td>1.9%</td>
<td>4.4%</td>
<td>6.4%</td>
</tr>
<tr>
<td>One of our prior employees currently works for the firm</td>
<td>0.5%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.9%</td>
<td>4.3%</td>
</tr>
<tr>
<td>The firm was recommended by another organization in our industry</td>
<td>30.3%</td>
<td>26.4%</td>
<td>27.2%</td>
<td>27.9%</td>
<td>25.5%</td>
</tr>
<tr>
<td>The firm has a reputation in this geographic area for providing lower priced audits</td>
<td>20.8%</td>
<td>16.2%</td>
<td>17.5%</td>
<td>13.2%</td>
<td>17.0%</td>
</tr>
<tr>
<td>The firm has a reputation in this geographic area for providing high quality non-profit audits</td>
<td>53.4%</td>
<td>52.0%</td>
<td>43.7%</td>
<td>38.2%</td>
<td>29.8%</td>
</tr>
<tr>
<td>The firm has a reputation in this geographic area of specializing in non-profit audits</td>
<td>35.7%</td>
<td>33.8%</td>
<td>26.2%</td>
<td>30.9%</td>
<td>23.4%</td>
</tr>
<tr>
<td>The firm has a reputation nationally or internationally for providing high quality non-profit audits</td>
<td>11.3%</td>
<td>15.5%</td>
<td>15.5%</td>
<td>11.8%</td>
<td>8.5%</td>
</tr>
<tr>
<td>The firm has a reputation nationally or internationally of specializing in non-profit audits</td>
<td>5.9%</td>
<td>7.4%</td>
<td>5.8%</td>
<td>7.4%</td>
<td>4.3%</td>
</tr>
<tr>
<td>The firm was recommended by a granting agency</td>
<td>4.1%</td>
<td>2.7%</td>
<td>2.9%</td>
<td>0.0%</td>
<td>2.1%</td>
</tr>
<tr>
<td>The firm has run effective advertising in our geographic area</td>
<td>1.4%</td>
<td>4.7%</td>
<td>5.8%</td>
<td>4.4%</td>
<td>4.3%</td>
</tr>
<tr>
<td>We like the auditing firm's expertise as a business advisor and not just as an auditor</td>
<td>19.5%</td>
<td>10.1%</td>
<td>8.7%</td>
<td>13.2%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Other</td>
<td>13.6%</td>
<td>14.9%</td>
<td>15.5%</td>
<td>27.9%</td>
<td>25.5%</td>
</tr>
</tbody>
</table>

*1st, 2nd, 3rd, 4th, and 5th refer to each auditor choice that the survey participant chooses. The number of responses included in the parentheses after each auditor choice indicate how many participants selected reasons of auditor choice. Some participants listed their auditor choices but did not provide justifications.*
Main Results
Table 4 presents the top 10 audit firms by geographic region identified by survey participants as having a reputation for providing high quality audits in the geographic area, for being a non-profit audit specialist in the geographic area, or both (further referred to as Local High/Specialist). We compare the survey participants’ audit firm listings to the Big 4 firms and market share-based industry specialists as presented in Table 1.

<table>
<thead>
<tr>
<th>Panel A: Massachusetts</th>
<th>Audit Firm</th>
<th>Number of times listed by survey participants</th>
<th>Percentage of times listed by survey participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander Aronson Finning &amp; Company</td>
<td>78</td>
<td>14.61%</td>
<td></td>
</tr>
<tr>
<td>McGladrey and Pullen</td>
<td>36</td>
<td>6.74%</td>
<td></td>
</tr>
<tr>
<td>CBIZ Tofias</td>
<td>32</td>
<td>5.99%</td>
<td></td>
</tr>
<tr>
<td>Grant Thornton</td>
<td>31</td>
<td>5.81%</td>
<td></td>
</tr>
<tr>
<td>Melanson &amp; Heath</td>
<td>22</td>
<td>4.12%</td>
<td></td>
</tr>
<tr>
<td>Daniel Dennis &amp; Co</td>
<td>17</td>
<td>3.18%</td>
<td></td>
</tr>
<tr>
<td>Kevin P Martin &amp; Associates</td>
<td>17</td>
<td>3.18%</td>
<td></td>
</tr>
<tr>
<td>KPMG</td>
<td>16</td>
<td>3.00%</td>
<td></td>
</tr>
<tr>
<td>PriceWaterhouseCoopers</td>
<td>15</td>
<td>2.81%</td>
<td></td>
</tr>
<tr>
<td>Sullivan &amp; Rogers</td>
<td>15</td>
<td>2.81%</td>
<td></td>
</tr>
<tr>
<td>Powers &amp; Sullivan</td>
<td>15</td>
<td>2.81%</td>
<td></td>
</tr>
<tr>
<td>Feeley &amp; Driscoll</td>
<td>15</td>
<td>2.81%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B: New York</th>
<th>Audit Firm</th>
<th>Number of times listed by survey participants</th>
<th>Percentage of times listed by survey participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Bonadio Group</td>
<td>48</td>
<td>7.51%</td>
<td></td>
</tr>
<tr>
<td>KPMG</td>
<td>27</td>
<td>4.23%</td>
<td></td>
</tr>
<tr>
<td>Grant Thornton</td>
<td>26</td>
<td>4.07%</td>
<td></td>
</tr>
<tr>
<td>Loeb &amp; Troper</td>
<td>25</td>
<td>3.91%</td>
<td></td>
</tr>
<tr>
<td>O’Connor Davies Munns &amp; Dobbins LLP</td>
<td>22</td>
<td>3.44%</td>
<td></td>
</tr>
<tr>
<td>PriceWaterhouseCoopers</td>
<td>19</td>
<td>2.97%</td>
<td></td>
</tr>
<tr>
<td>Marvin and Company</td>
<td>15</td>
<td>2.35%</td>
<td></td>
</tr>
<tr>
<td>Freed, Maxick, and Battaglia, PC</td>
<td>14</td>
<td>2.19%</td>
<td></td>
</tr>
<tr>
<td>Lumsden and McCormick, LLP</td>
<td>14</td>
<td>2.19%</td>
<td></td>
</tr>
<tr>
<td>Marks, Paneth, and Shron</td>
<td>14</td>
<td>2.19%</td>
<td></td>
</tr>
<tr>
<td>Toski, Schaefer, and Company</td>
<td>14</td>
<td>2.19%</td>
<td></td>
</tr>
</tbody>
</table>

If there was a tie for 10th place, we list all firms with the same count, resulting in more than ten firms included in some table panels.
Panel C: Washington, DC Area

<table>
<thead>
<tr>
<th>Audit Firm</th>
<th>Number of times listed by survey participants</th>
<th>Percentage of times listed by survey participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robinson, Farmer, Cox and Associates</td>
<td>21</td>
<td>6.38%</td>
</tr>
<tr>
<td>McGladrey &amp; Pullen, LLP</td>
<td>18</td>
<td>5.47%</td>
</tr>
<tr>
<td>Brown, Edwards and Company</td>
<td>17</td>
<td>5.17%</td>
</tr>
<tr>
<td>Cherry, Bekaert &amp; Holland, LLP</td>
<td>17</td>
<td>5.17%</td>
</tr>
<tr>
<td>Goodman and Company</td>
<td>16</td>
<td>4.86%</td>
</tr>
<tr>
<td>Clifton Gunderson, LLC</td>
<td>14</td>
<td>4.26%</td>
</tr>
<tr>
<td>KPMG</td>
<td>13</td>
<td>3.95%</td>
</tr>
<tr>
<td>Raffa</td>
<td>8</td>
<td>2.43%</td>
</tr>
<tr>
<td>Reznick Group</td>
<td>8</td>
<td>2.43%</td>
</tr>
<tr>
<td>Michael D. Sisk and Company, PC</td>
<td>7</td>
<td>2.13%</td>
</tr>
</tbody>
</table>

*a This column provides the number of times an audit firm was listed by survey participants and identified as providing high quality non-profit audits in the geographic area or being a non-profit audit specialist in the geographic area, or both.

*b This column provides the percentage of times the audit firm was included in a list of auditors identified as high quality non-profit audits in the geographic area or being a non-profit audit specialist in the geographic area, or both. It is calculated as the number of times the audit firm was identified as a high quality auditor or specialist divided by the total number of audit firms identified as high quality or specialist.

Massachusetts organizations provided a total of 857 auditor names, representing 179 distinct auditors. Of those, 113 distinct audit firms (63 percent) were perceived to be Local High/Specialist. As presented in Panel A, only two Big 4 firms, KPMG and PriceWaterhouseCoopers, were listed in the top 10, ranked 8th and 9th respectively. PriceWaterhouseCooper is also considered the US and Massachusetts asset-based specialist. The top listed Massachusetts firm – Alexander, Aronson, Finning & Company – is considered a Massachusetts client-based specialist, while the second ranked Massachusetts firm, McGladrey and Pullen is considered the US client-based specialist. Melanson and Heath, ranked 5th by survey participants, is the second Massachusetts client-based specialist. However, CBIZ Tofias and Grant Thornton were both ranked above Melanson and Heath, and they would not have been identified as high quality or specialist auditors using the Big 4 or market share-based measures.

Panel B provides results for the New York participating organizations. From the 504 New York organizations participating, 1,016 audit firm names were provided, representing 242 distinct audit firms. Of these, 173 distinct firms (71 percent) were perceived to be Local High/Specialist. Only two Big 4 firms – KPMG and PriceWaterhouseCoopers – are included in the top 10; these firms are also considered asset-based specialists for the US and/or New York. The New York client-based specialist, Loeb and Troper, is ranked 4th. The Bonadio Group; Grant Thornton; and O’Connor, Davies, Muans & Dobbins, firms not considered Big 4 or market share based specialists, all ranked in the top five, above PriceWaterhouseCoopers and the US client based industry specialist, McGladrey and Pullen which was not ranked in the top 10.

Panel C presents results for the DC area. DC participants provided 549 auditor names, representing 193 unique audit firms. Of these, 125 distinct firms (65 percent) were perceived to be Local High/Specialist. One Big 4 firm, KPMG is ranked 7th. The top listed firm – Robinson, Farmer, Cox and Associates – is a DC market share-based specialist. Maddox and Associates, PriceWaterhouseCoopers, and McGladrey and Pullen, the three other market share-based specialists are not included in the top ten.

The results support our contention that using Big 4 or market share-based specialist measures as the only measures of quality may result in an incomplete list of quality non-profit auditors. While most of the size- and market share-based quality firms were identified by participants as having a reputation for quality and/or non-profit specialization, there were also numerous firms that were listed more often. In addition, our differing results across the geographic regions also suggest that non-profit sector specialist measures should be calculated using focused geographic areas rather than a US-wide measure.
Additional Analyses

We performed two additional analyses of audit firm rankings, both untabulated. First, we analyzed results for only those organizations that currently have an audit; the results are consistent with those reported. In addition, we analyzed audit firm rankings by size of the participant organizations. Organizations were grouped into three size categories: assets greater than $5,000,000 (large); assets between $1,000,000 and $5,000,000 (medium); assets less than $1,000,000 (small). While there are some variations in the rankings by size for all of the regions, the top Massachusetts and New York rankings by size were similar to overall rankings. The DC sample had more differences across size, mainly because only one audit firm was listed more than once by small organizations. Both medium and large DC organizations included Robinson, Farmer, Cox and Associates within the top four firms.

CONCLUSION AND FUTURE RESEARCH

We surveyed non-profit organizations in Massachusetts, New York, and the DC area in order to identify which audit firms non-profit organizations perceive provide high quality audits. Within the top five firms listed in each geographic area, two firms in Massachusetts, three firms in New York, and four firms in DC were not Big 4 or local market share-based industry specialists. These results are consistent with our expectation that current measures of audit quality do not provide for a complete population of firms perceived to provide quality audits in the non-profit sector.

While this study may answer some important questions, many questions remain unanswered. First, while organizations perceive these firms as high quality auditors and/or specialists, do these firms actually provide high quality audits? Do empirical analyses of actual audits performed by these firms confirm the organizations’ contention that these firms are objectively “quality” auditors? Second, if market share does not adequately identify all quality non-profit auditors, can we identify empirical measures that will result in a more complete and accurate listing? Further research in this area is warranted to explore these questions and identify more meaningful or complete metrics for audit quality in the non-profit sector.

REFERENCES


**CORRESPONDING AUTHOR**

*Professor Stefanie L. Tate can be reached at Stefanie_tate@uml.edu*
Thank you for considering participating in this short survey. This study, conducted jointly by researchers at ________________ and ________________, is investigating the audit market for non-profit organizations. Your responses will be very important in the success of this research.

The survey should take no longer than 15 minutes and all responses will be kept confidential. Only aggregate data will be used in our research reports.

All organizations completing the survey who wish to participate will be entered into a drawing to receive a $1,000 contribution for your organization. If you would like to be included in the drawing, you can provide your contact information at the end of the survey. If you do not wish to be entered into the drawing, you do not need to provide your contact information. Contact information will only be used to send you the check if you are selected.

If you have any questions about this study, please contact the Institutional Review Board at ________________. If you are interested in receiving a copy of the final report from this study, please send an e-mail to _________________. We will send it to you when the study is completed.

Participation in this survey is completely voluntary. You can refuse to answer any question and can exit the survey at any time. If you would like to participate, please click "Next" below.
1. In what state are you located?
   6

2. In what city are you located?

3. What is your role at your organization?
   1 Chief Executive Officer/Executive Director
   1 Chief Financial Officer/Director of Finance
   1 Treasurer
   1 Controller
   1 Assistant Controller
   1 Accounting Clerk

Other (please specify)
1. **What are your organization’s approximate total assets for the current year?**

   - Less than $50,000
   - $50,000-$200,000
   - $200,000-$1,000,000
   - $1,000,000-$5,000,000
   - Greater than $5,000,000

2. **What are your organization’s approximate total expenses for the current year?**

   - Less than $50,000
   - $50,000-$200,000
   - $200,000-$1,000,000
   - $1,000,000-$5,000,000
   - Greater than $5,000,000
1. Do you file an IRS Form 990?

Yes

No

2. Do you receive federal funding?

Yes

No
1. Do you receive greater than $500,000 annually from federal sources?
   - Yes
   - No

2. Do you receive an A-133 audit?
   - Yes
   - No
1. Are you required by an outside party to obtain an independent audit?

Yes

No
7. Audit Required Yes

1. What organization or organizations require you to obtain an independent audit? List all.
1. Do you currently receive an independent audit?

Yes

No
1. For how many years has your organization had an independent audit?

- Less than 3
- 3 to 6
- 7 to 10
- Greater than 10
1. Do you currently receive a review or compilation of your financial statements?

- [ ] Yes
- [ ] No
For the next series of questions, we want you to think about the process of going out for bid for an independent auditor. Specifically, we want you to consider to which five/up to five firms you would send out a Request for Proposal.

**1. What is one of the five audit firms that you would send a Request for Proposal?**

**2. For what reason(s) would you send a Request for Proposal to this firm? (check all that apply)**

- [ ] We have had prior experience with the firm
- [ ] The firm was recommended by a Board member
- [ ] One of our employees worked for the firm previously
- [ ] One of our prior employees currently works for the firm
- [ ] The firm was recommended by another organization in our industry
- [ ] The firm has a reputation in this geographic area for providing lower priced audits
- [ ] The firm has a reputation in this geographic area for providing high quality non-profit audits
- [ ] The firm has a reputation in this geographic area of specializing in non-profit audits
- [ ] The firm has a reputation nationally or internationally for providing high quality non-profit audits
- [ ] The firm has a reputation nationally or internationally of specializing in non-profit audits
- [ ] The firm was recommended by a granting agency or large funding source
- [ ] The firm has run effective advertising in our geographic area
- [ ] We like the auditing firm's expertise as a business advisor and not just as an auditor.
- [ ] Other (please specify)
1. What is the second firm of five that you would send a Request for Proposal?

2. For what reason(s) would you send a Request for Proposal to this firm? (check all that apply)
   - We have had prior experience with the firm
   - The firm was recommended by a Board member
   - One of our employees worked for the firm previously
   - One of our prior employees currently works for the firm
   - The firm was recommended by another organization in our industry
   - The firm has a reputation in this geographic area for providing lower priced audits
   - The firm has a reputation in this geographic area for providing high quality non-profit audits
   - The firm has a reputation in this geographic area of specializing in non-profit audits
   - The firm has a reputation nationally or internationally for providing high quality non-profit audits
   - The firm has a reputation nationally or internationally of specializing in non-profit audits
   - The firm was recommended by a granting agency or large funding source
   - The firm has run effective advertising in our geographic area
   - We like the auditing firm's expertise as a business advisor and not just as an auditor.
   - Other (please specify)
1. What is the third firm of five that you would send a Request for Proposal?

2. For what reason(s) would you send a Request for Proposal to this firm? (check all that apply)

- We have had prior experience with the firm
- The firm was recommended by a Board member
- One of our employees worked for the firm previously
- One of our prior employees currently works for the firm
- The firm was recommended by another organization in our industry
- The firm has a reputation in this geographic area for providing lower priced audits
- The firm has a reputation in this geographic area for providing high quality non-profit audits
- The firm has a reputation in this geographic area of specializing in non-profit audits
- The firm has a reputation nationally or internationally for providing high quality non-profit audits
- The firm has a reputation nationally or internationally of specializing in non-profit audits
- The firm was recommended by a granting agency or large funding source
- The firm has run effective advertising in our geographic area
- We like the auditing firm’s expertise as a business advisor and not just as an auditor.
- Other (please specify)
1. What is the fourth firm of five that you would send a Request for Proposal?

2. For what reason(s) would you send a Request for Proposal to this firm? (check all that apply)
   - We have had prior experience with the firm
   - The firm was recommended by a Board member
   - One of our employees worked for the firm previously
   - One of our prior employees currently works for the firm
   - The firm was recommended by another organization in our industry
   - The firm has a reputation in this geographic area for providing lower priced audits
   - The firm has a reputation in this geographic area for providing high quality non-profit audits
   - The firm has a reputation in this geographic area of specializing in non-profit audits
   - The firm has a reputation nationally or internationally for providing high quality non-profit audits
   - The firm has a reputation nationally or internationally of specializing in non-profit audits
   - The firm was recommended by a granting agency or large funding source
   - The firm has run effective advertising in our geographic area
   - We like the auditing firm’s expertise as a business advisor and not just as an auditor.
   - Other (please specify)
1. What is the fifth firm of five that you would send a Request for Proposal?

2. For what reason(s) would you send a Request for Proposal to this firm? (check all that apply)
   - We have had prior experience with the firm
   - The firm was recommended by a Board member
   - One of our employees worked for the firm previously
   - One of our prior employees currently works for the firm
   - The firm was recommended by another organization in our industry
   - The firm has a reputation in this geographic area for providing lower priced audits
   - The firm has a reputation in this geographic area for providing high quality non-profit audits
   - The firm has a reputation in this geographic area of specializing in non-profit audits
   - The firm has a reputation nationally or internationally for providing high quality non-profit audits
   - The firm has a reputation nationally or internationally of specializing in non-profit audits
   - The firm was recommended by a granting agency or large funding source
   - The firm has run effective advertising in our geographic area
   - We like the auditing firm’s expertise as a business advisor and not just as an auditor.
   - Other (please specify)
The final question! Consider now the process of selecting the independent auditor once all of the proposals have been received.

1. When selecting an audit firm, which TWO are the most important to you and which TWO are the least important to you? Please select only TWO in the "Most important" column and only TWO in the "Least important" column.

<table>
<thead>
<tr>
<th></th>
<th>Most important</th>
<th>Least important</th>
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<tbody>
<tr>
<td>Price</td>
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<tr>
<td>Timing of the audit</td>
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<td>(when the firm can perform the audit)</td>
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<tr>
<td>Length of time needed to complete the audit</td>
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<tr>
<td>Reputation for quality</td>
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<tr>
<td>Reputation for being a specialist in non-profit auditing</td>
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<tr>
<td>Prior experience with the audit firm</td>
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<tr>
<td>Relationship with the audit firm manager and/or audit team</td>
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<td>Additional services the audit firm can provide</td>
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<tr>
<td>Other</td>
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</table>

Please specify other
Thank you very much for participating in our study. As a token of our appreciation, we will be making a
$1,000 contribution to one organization chosen randomly from those that complete the survey.

1. If you would like to be entered in our drawing for $1,000, please provide the following information. This
information will only be used to contact you if you win. You are not required to provide this information if
you are not interested in the drawing.

Name:
Company:
Address:
Address 2:
City/Town:
State: 6
ZIP:
Email Address:
Phone Number:
EVALUATION OF POST-MERGER OPERATING PERFORMANCE OF EMIRATES NBD

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Abstract

This study analyses the Emirates Bank International merger with National Bank of Dubai - the largest banking merger in the Middle East. The study examines the effect of the merger on the wealth of shareholders post-merger and also on the post-merger operating performance. The study finds share price return of 0.47 per cent and 4.73 per cent respectively for NBD on the day of announcement and the following day.

The stock market monthly returns from the post-merger period April 2007 to April 2012 indicates a cumulative return of -43.89 per cent and average returns of -0.73 per cent respectively. During the period April 2007 to March 2008 the cumulative excess returns was 62 per cent. The average return during this period was 7.79 per cent. This shows that during the year surrounding the post-merger period, stock prices showed substantial gain. But post 2008 the stock price returns fell drastically which could be attributed to recessionary trends.

The operating performance model based on four year cash flow return on assets suggests that corporate performance have improved after merger.

Key Words: Merger, Revenue synergies, Cost Synergies, Stock Price, Operating Profit, Return on Equity.
**Introduction**

For a firm characterized by an objective of stockholder wealth maximization the appropriate test of a Merger's success is the Merger's effect on stock prices. In an efficient capital market, investor’s expectations of the merger's future benefit should be fully reflected in stock prices by the merger date. Formally if the capital markets are semi strong efficient, then the value of future benefits should be fully reflected by the first public announcement of the merger and should certainly be fully reflected by somewhat later merger date. The increase in the equity value of the acquiring firm in the wake of a successful merger is a compelling evidence for the synergy theory of mergers. Basically two types of synergy can be distinguished. The cost based synergy focuses on reducing incurred costs by combining similar assets in the merged businesses. Revenue based synergy focus on enhancing capabilities and revenues, combining complementary competencies. Revenue based synergy can be exploited if merging businesses develop new competencies that allow them to command a price premium through higher innovation capabilities (product innovation, time to market etc.) or to boost sales volume through increased market coverage (geographic and product line extension).

**Objective of the study**

In the theoretical context, where mergers has to lead to synergistic benefits such as complementary resources, greater market share and increased capacities, this study analyses whether the EBI-NBD merger- the largest ever banking merger in the UAE has borne fruitful results with respect to economic value addition and enhancement of shareholder wealth. The analysis was done with respect to both the share price and operating performance.

**Emirates NBD**

UAE Banking sector is the largest by assets in the GCC dominated by 23 banks which account for more than 75 per cent of banking assets, 28 foreign banks. Emirates NBD, the leading banking group in the Middle East region was formed on 16th of October 2007 when the shares of emirates NBD were officially listed on the Dubai Financial Market (DFM). As of 2011, Emirates NBD had the largest market share in UAE which consisted of 16 per cent assets, 19 per cent loans and 18 per cent deposits. The retail market shares consisted of personal loans 10 per cent, home loans 7 per cent, credit cards 15 per cent and debit cards 20 per cent. The bank offers fully fledged financial services offerings which include retail banking, wholesale banking, global markets and trading, investment banking, brokerage, asset management, merchant acquiring and cards processing. In 2011, Emirates NBD acquired 100 per cent stake in Dubai Bank. Dubai Bank added 21 branches, 42 ATMs and 15 Cash deposit Machines (CDMs) and 688 employees to Emirates NBD.

It is a major player in the UAE corporate banking arena with a combined market share of almost a fifth of corporate loans. It has also strong Islamic banking, investment banking, private banking, asset management and brokerage operations. Currently, more than 8,000 employees from over 50 nationalities are employed by Emirates NBD, making it one of the largest and most culturally diversified employers in the UAE.
Highlights of the Merger

Emirates NBD is the biggest banking group in the Middle East in terms of assets. On March 6, 2007, the merger between Emirates Bank International (EBI) and National Bank of Dubai (NBD) to form “Emirates NBD” was announced. Emirates were the second largest and National Bank of Dubai was the fourth largest bank in UAE. This merger was in tune with the high levels of growth achieved by the banking industry over the past few years on the back of the booming UAE and regional economies. During the period of pre-merger three years, the UAE GDP grew at an average rate of 20 per cent. In 2007 the total assets of UAE banks grew by 45 per cent to US $337 billion. The value of deposits grew by 35 per cent to US $204 billion.

The merger resulted in the union of two powerful legacies which was aimed to become a leading regional financial institution with an increasing international presence. The merger was aimed to leverage financial strength, scale and market positioning to capture domestic and regional opportunities. The merger facilitated the partnership for wholesale, retail, investment, treasury and Islamic banking clients. The total income of the two banks reached AED 7.1 billion, an increase of 50 per cent year on year. The group became a major player in the corporate banking arena with a joint market share of almost a fifth of corporate loans. This strategic merger was meant to create a bank with scale, financial strength and service quality standards to compete effectively in a dynamic market.

Significance of the merger

Increased Power

The merger created a national champion and a regional powerhouse

- Largest UAE bank by assets and market capitalization
- Significant strengthening of competitive positioning
- Highly diversified business mix
- Corporate/retail banking powerhouse
- Significantly enhanced distribution network in the UAE

Increased Financial Strength and Scale

- Largest bank by assets in the GCC
- Top 5 regional bank by market capitalization
- Well capitalized with the highest shareholders’ equity in the UAE on a combined basis.
- Expanded regional presence
- Strategically positioned to capture high growth potential of domestic and regional markets

Superior Value creation potential

Expected significant cost and revenue synergies driving value creation
**Significant Events**

<table>
<thead>
<tr>
<th>Date</th>
<th>Events</th>
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<tbody>
<tr>
<td>06 March 2007</td>
<td>The merger between Emirates Bank and National Bank of Dubai was announced</td>
</tr>
<tr>
<td>14 March 2007</td>
<td>A Merger steering committee was appointed</td>
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<tr>
<td>09 April 2007</td>
<td>Goldman Sachs International appointed as lead financial advisors on the merger</td>
</tr>
<tr>
<td>12 July 2007</td>
<td>Emirates Bank and National Bank of Dubai announced terms of their merger</td>
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<tr>
<td>05 September 2007</td>
<td>Emirates Bank Shareholders approved the merger terms at Extraordinary General meeting</td>
</tr>
<tr>
<td>06 September 2007</td>
<td>National Bank of Dubai shareholders approved the merger’s terms at an Extraordinary General Meeting</td>
</tr>
<tr>
<td>18 September 2007</td>
<td>Emirates NBD closed its initial offer to shareholders of National Bank of Dubai and Emirates Bank</td>
</tr>
<tr>
<td>08 October 2007</td>
<td>Emirates bank and National Bank of Dubai’s shares were suspended from trading on the Dubai Financial Market</td>
</tr>
<tr>
<td>16 October 2007</td>
<td>Trading began on shares in Emirates NBD PJSC, the newly merged banking group listed on the Dubai Financial Market.</td>
</tr>
<tr>
<td>18 October 2007</td>
<td>Emirates NBD announced the integration of its ATM Network making it the largest in the UAE.</td>
</tr>
<tr>
<td>04 November 2007</td>
<td>The National Bank of Dubai’s building became the new headquarters for Emirates NBD.</td>
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</table>

Emirates NBD’s strategy is focused on seven key areas.

1) **Retail banking**
   The merger was intended to consolidate the bank’s leadership position in the retail business. The merger facilitated the creation of a strong brand for the combined retail business which had the largest distribution network in the UAE.

2) **Wealth Management**
   Wealth management services have been growing strongly in the UAE on account of sustainable economic growth. Emirates Private banking offers immense potential for growth. The consolidated bank would be in a position to leverage the bank’s investment banking, asset management, structured product, real estate, trust and family office product capabilities in order to further enhance the wealth management business.

3) **Corporate banking**
   The merger was also aimed to boost the combined bank’s leading position in the corporate banking arena. The rapid growth of small and medium sized enterprises in the region was meant by Emirates NBD’s sophisticated and tailored product offerings. This forms a core strategy for the bank to further increase the growing corporate and institutional client base.

4) **Investment Banking**
   Dubai’s emergence as a financial centre has facilitated Emirates NBD’s attempt to create a world class investment banking platform. The merger also intended to enhance the product capabilities that ranged from corporate finance advisory and execution to private equity offering.
5) Islamic Banking
Emirates NBD also envisages enhancing and expanding Islamic banking. The strategic perspective involved expanding the current branch network and increasing innovation in the Shariah compliant product portfolios. Expansion was also possible from cross selling to the Bank’s broader customer base.

6) Strategic Expansion
The merger aimed to strength the bank’s presence in the GCC particularly in the Kingdom of Saudi Arabia and Qatar. The merged bank could leverage the scale, financial strength and existing regional network to pursue this strategic objective.

7) IT and operations
The synergistic benefits would also result from the integration of the two banks information systems and operations which could result in value addition through reduction in costs.

Financial Highlights
The significance of the merger of Emirates Bank International (EBI) and National Bank of Dubai (NBD) was reflected in the strong pro forma results of Emirates NBD. Total income reached AED 7.1 billion on a pro forma basis. The primary drivers for the increase in total income were robust growth in customer assets supported by a rise in customer deposits across both the retail and wholesale businesses. The group continued to maintain a healthy mix of funded and non-funded income. The growth in income was supported by a steady increase in fee based product revenue.

The operating costs for Emirates NBD was AED 2.7 billion on a pro forma basis, an increase of 51 per cent over 2006. The increase in costs was driven by continued investments in expanding distribution and product capabilities building robust infrastructure and developing strong governance capabilities.

Net profits of the Group were AED 4 billion (excluding amortization of intangibles) for 2007 on a pro forma basis, an increase of 35 per cent over 2006. Emirates NBD reported a 25.12 per cent return on average shareholder equity, a 1.6 per cent increase over 2006. Total assets recorded at the end of 2007 were AED 253.8 billion an increase of 53 per cent for EBI and NBD’s combined assets in 2006. This positioned Emirates NBD with a 20.5 per cent market share of banking assets in the UAE and as the largest bank in the Middle East.

In 2009, the interest income increased to AED 1197.2 million from AED 1115.5 million in 2008 representing growth of 7.317 per cent. During the same period the assets registered a growth rate of 17.7 per cent. The total income grew by 2 per cent in the year 2011 compared to the year 2010. The net profit grew by 6 per cent to an amount of AED 2483 million in 2011 compared to the amount of 2339 million in 2010. The ROE was 10.3 per cent and 10.2 per cent respectively in the year 2010 and 2011 respectively. The ROA was 0.8 per cent and 0.9 per cent respectively in the year 2010 and 2011.

Business Highlights
Emirates NBD’s wholesale banking’s net income (excluding IPO business) grew by 38 per cent and its assets by 42 per cent in the year 2007. The Structured Finance and Syndication Division (SFS) remained at the forefront of the UAE’s loan syndication market in 2007. The division gained a significant share in the local debt syndication market in value and number of deals acting as mandated lead arrangers and book runners in a number of high profile
transactions. The division also led managed multiple benchmark transactions for the UAE’s largest and highest profile issuers in the year 2007. The Financial Institutions Division (FDI) became an important contributor to the wholesale banking sector in the year 2007. Emirates NBD is a market leader across core business lines, it is the leading retail banking franchise in the UAE, with over 141 branches and over 740 ATMs / Cash Deposit Machines spread across the UAE. The Group is also a major player in the corporate banking arena. With a fast growing Islamic banking affiliated entities, strong investment and private banking services and a leadership in the field of asset management products and Brokerage services, Emirates NBD is well positioned to grow and deliver outstanding value to its shareholders, customers, and employees.

**Consumer Banking and Wealth Management**

As a result of the merger, the Group’s distribution network became the largest in the UAE. Emirates NBD ended the year with a total of 88 retail branches following the opening of 13 new outlets. The number of ATMs increased to 440. The expansion of the Al Shaheen and Suhail branch network to 27 in 2007 positioned the Bank with the largest network of affluent banking centers in the country. Growth in customer deposits and loans was strong in 2007 outperforming the market growth. With the advent of cross selling across the integrated group, improved delivery across all channels and a partnership with the UK’s John Charcoal Brokers facilitated NBD to become the UAE’s leading non Islamic home loans provider in 2007. These additional advantages increased the importance of the mortgage business for the bank.

In April 2007, ahead of the Emirates Bank and NBD merger, the asset management business of EBI merged with the asset management business of Emirates Financial Services to form Emirates Investment Services (EIS).

Income for the Division increased by 18 per cent for year ended 31 December 2011 to AED 3,910 million from AED 3,322 million in 2010, driven by 22 per cent growth in net interest income to AED 2,910 million from AED 2,382 million and a 6 per cent improvement in fee income to AED 1,000 million from AED 940 million.

**Private Banking**

As part of its expansion strategy, Emirates NBD acquired two new locations in 2007. The Private Banking division worked with its London Office in the introduction of the Hammersmith project to its client base. The Investment Management Group added a mix of mutual funds to its platform in 2007 covering emerging markets, multi manager, global real estate and commodities.

During 2011, Private Banking recorded a 52 per cent increase in revenues to AED 475 million, a 69 per cent improvement in net profit to AED 194 million and net new money inflows of AED 5.6 billion. This was achieved through a more focused approach to market segmentation, bringing relationship managers closer to clients and prospects, and continued growth in the relationship manager network to almost 70.

**Investment Banking**

NBD Investment Bank provides integrated investment banking, financial markets and private equity solutions and serves the needs of corporations, governments, institutional and high net
worth clients across the GCC and wider MENATSA region. A number of transactions were successfully managed by the investment bank on behalf of prestigious clients such as Nakheel, Dubai Aerospace, Istithmar, Dubai World Trade Centre and GEMS (loan syndication and bridge finance).

**Group Treasury and Markets**

In 2007, the group treasury activities included USD 1.5 billion 5 year syndicated deposit facility; USD 1 billion Sukuk –Trust Certificate Issuance program arranged for Emirates Islamic bank. The Group’s new credit structuring and trading areas became fully operational in 2007. The Foreign Exchange and Interest rate trading volumes increased positioning the newly merged group as a leading market maker in GCC currencies. As a result of the merger, the Group’s direct International footprint extended to a number of countries outside of UAE namely, the Kingdom of Saudi Arabia, Qatar, the United Kingdom, Singapore and Jersey (Channel Islands), and representative offices in India and Iran.

**Information Technology and Operations**

A number of major system initiatives were implemented in the year 2007 including core banking system replacement, the adaptation of an ERP system for eHR and Enterprise Financial Management and the implementation of a state of the art treasury system which enables integrated processing of the front, middle and back offices. A new consumer finance system that processes the complete life cycle of loans was implemented in the year 2007.

According to bank officials, merger synergies achieved in the year 2008 exceeded the initial expectations in the year 2008 with total synergies achieved during 2008 of AED 235 million exceeding the targeted synergies of AED 124 million by 90 per cent. The integration of the combined banks Group ATMs and Smart Deposit Machines (SDMs) were completed by 2008 which rose to more than 650 across UAE making it the biggest network in the country. Mobile and online banking has also been fully integrated with enhanced functionalities and 13 payment partners available to all of the bank’s customers.

During 2011, Group Information Technology (IT) continued to contribute to the delivery of both innovative and cost savings initiatives, with the launch of electronic statements to its customers across both conventional and Islamic franchises and the successful implementation of server virtualization. Group IT successfully maintained the ISO 9001: 2008 Quality Management certification in March 2011.

**The Key terms of the merger**

The creation of Emirates NBD was by the merger of common ownership of EBI and NBD. The salient features of the consideration were 1) Exchange ratio of 0.95 Emirates NBD shares for every NBD share. 2) Exchange ratio of 1 Emirates NBD for every EBI share.

As on July 01 2007, the implied share price for NBD was AED 8.84. The implied share price for EBI was AED 9.30. The implied total consideration was AED 13.75 billion. The offer price represented 14 per cent premium to the prices on the day prior to announcement.

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1 Share price of EBI of AED 10.48 on 5 March 2007, implying a share price for NBD of AED 9.96 based on 0.95x exchange ratio. Market price of NBD on 5 March 2007 of AED 8.75 implying 14% premium. All share prices adjusted for bonus share issues.
Key Merger benefits

Shareholders
- Creation of the leading UAE banking Franchise
- Enhanced regional and international expansion opportunities
- Increased financial strength and capital position to support growth
- Value creation through revenue and cost synergies established management expertise and exchange of best practices

Customers
- Greater Convenience through broader domestic branch and ATM Networks
- Wider access to regional and international markets through the Group’s expanded presence
- Broader product suite and delivery of more customized financial solutions

Employees
- Enhanced career opportunities through a growing and more diversified organization
- Improved training and career development capacity
- Greater ability to attract and retain top talent

Synergies expected from the Merger

Revenue synergies
In the corporate banking, the cross selling of new product capabilities is expected to result in revenue synergy through increase in fee income. In the retail banking sector, the focus will be on incremental revenue generated through market share/pricing advantages and the leveraging of the largest distribution network in the UAE. In the Investment banking sector, expansion of client base and cross selling of new product capabilities is expected to lead to revenue synergies. Revenue synergies also result from improved cost of funding due to a stronger capital base and improved sales due to integrated broader offering.

Cost Synergies
Cost synergies is expected to result from retail banking due to a) Branch and ATM network consolidation b) Integration of card acquiring business c) Pricing advantages on advertising /marketing spend. The cost synergy was also expected from Optimized head office and group functions. Cost synergies would also result from reallocation of IT personnel from NBD to EBI IT dedicated centre. Cost synergies were also expected from brokerage due to improved efficiency from integrated operations and IT platform. Cost synergies are also expected from leveraging Emirates Islamic bank as a platform for unified Islamic offerings.

Review of Literature
Two main research approaches explain Mergers and Acquisition profitability. The event studies examine the abnormal returns to shareholders in the period surrounding the announcement of a merger or acquisition. The accounting studies examine the reported financial results of acquirers before and after the acquisitions to see how the financial
performance changes. It is a well-established fact that target shareholders gain when a
merger, acquisition or tender offer is announced. Research in the area of mergers has more
than kept pace with the increasing number of mergers in the economy.

A. Stock Market Studies

Most of the broad-based risk-adjusted studies on mergers like those of Mandelker (1974) and
Langeteig (1978) have shown that the stockholders of acquiring firms either gain a small,
statistically insignificant amount or as in the study by Dodd (1980) lose a small significant
amount from the announcement of a merger bid. The study by Asquith et al (1983) examines the effect of mergers on the wealth of bidding
firms shareholders. Bidding firms gain significantly during the twenty-one days leading to the
announcement of each of their first four merger bids. The results fail to support the
capitalization hypothesis that bidder’s gains are captured at the beginning of merger
programs. The study by Langetieg (1978) employs four alternative two-factor market
industry models in combination with a matched non-merging control group to measure
stockholder gains from mergers. Moeller et al (2004) examined the announcement returns
using a sample of 12,023 acquisitions by public firms during the period 1980-2001. The
results of this study show that the equally weighted abnormal announcement returns is 1.1 per
cent but acquiring firm shareholders lose $25.2 million on average upon announcement.
Moeller et al find that acquisition announcements in the 1990s are profitable in the aggregate
for acquiring firm shareholders until 1997, but the losses of acquiring firm shareholders from
1998 through 2001 wiped out all gains made earlier thereby making acquisitions
announcements in the latest merger wave costly for acquiring firm shareholders.

B. Operating Performance Studies

Krishna Palepu (1985) finds that there is no significant cross-sectional difference between the
1) profitability of firms with predominantly related and unrelated diversification and 2) Profitability of firms with high and low total diversification. Moreover, the study finds that
the superior profitability growth of related diversifiers is significantly greater than that of
unrelated diversifiers. Herman and Lowenstein (1988) examined the post merger performance of a sample of hostile acquisitions between 1975 and 1983. The study by Paul M Healy and Krishna G Palepu (1992) examines the post merger cash flow performance of
acquiring and target firms and explores the sources of merger induced changes in cash flow
performance based on 50 largest US mergers between 1979 and mid 1984. The study finds
that merged firms show significant improvements in asset productivity relative to their
industries, leading to higher operating cash flow returns. These improvements were particularly strong for transactions involving firms in overlapping business. The study further
suggests that post merger cash flow improvements do not come at the expense of long term
performance since sample firms maintain their capital expenditure and R&D rates relative to
their industries after the merger. The study also found strong positive relation between post
merger increases in operating cash flows and abnormal stock returns at merger
announcements indicating that expectations of economic improvements explain a significant
portion of the equity revaluation of the merging firms. Cornett and Tehranian (1992) examine
the post acquisition performance of large bank merger between 1982 and 1987. The results of
their study indicate better performance for merged banks due to the improvements in ability
to attract loans and deposits, in employee productivity and in profitable asset growth. Further,
the study finds a significant correlation between announcements period abnormal return and
the various performance measures indicating that the market participants are able to identify
in advance the improved performance associated with bank acquisitions. Switzer (1996) examined the change in operating performance of merged firms using a sample of 324 combinations, which occurred between 1967 and 1987. The results indicated that the performance of the merged following their combinations and also the results are not sensitive to factors such as offer size, industry relatedness between the bidder’s and target’s businesses or bidder’s leverage. The study also found positive association between the abnormal revaluation of the firms involved around the merger and changes in operating performance observed. The study by Healy et al (1997) finds that strategic takeovers which are generally friendly transactions involving stock and firms in overlapping business are more profitable than financial deals which are usually hostile transactions involving cash and firms in unrelated business. The results of this study also showed that the acquiring companies did not generate any additional cash flows beyond those needed to recover the premium paid. Aloke Ghosh (2001) compares the post and pre acquisition performance of merging firms relative to matched firms to determine whether operating cash flow performance improves following acquisition. The result finds no evidence of improvement of operating performance following acquisitions.

Methodology

Stock Price Analysis

The studies of abnormal returns provide a basis for examining the issue of whether or not value is enhanced by mergers. The study analyses the share price performance using Market adjusted method.

The market’s reaction to a merger bid is measured using daily stock return data to compute excess stockholder returns. These excess returns are a measure of the stockholder’s return from the new information, which becomes available to market. The daily excess return for the security is estimated by

\[ \text{XR}_t = \text{R}_t - \text{E( R}_t) \]

Where \( t \) = day relative to an event.

\[ \text{XR}_t = \text{Excess return on the security for day } t. \]

\[ \text{R}_t = \text{Actual Return on the security for day } t. \]

\[ \text{E( R}_t) = \text{Expected rate of return on the security for day } t. \]

The excess return for a time window period is cumulated to get the Cumulative Abnormal Return (CAR).

The choice of the benchmark is probably the most important factor in making accurate measurement of a merger’s impact.

The expected rate of return on the security is found out using the Market Return Adjusted Method.

The predicted return for a firm for a day in the event period is just the return on the market index. The market index used in the study is DFM index.

\[ \text{R}_t = \text{R}_{mt}. \]
Where $R_t$ is the expected return. $R_{mt}$ is the market index return. The merger date used was the announcement date. The day of announcement of the merger is titled $t=0$, the days before as -1, -2 etc and the post merger days as +1, +2 etc.

**Operating Performance Analysis**

**Model for Analysis of operating performance:**

Total Operating cash flow return on assets is defined as profit before depreciation, interest and taxes divided by the book value of assets.

**Share Price Analysis and Interpretation**

**Table 1:** NBD Share price daily returns during the announcement period

<table>
<thead>
<tr>
<th>Day $t$</th>
<th>Return in %</th>
<th>Cumulative Return in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>-5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-4</td>
<td>0.975</td>
<td>0.975</td>
</tr>
<tr>
<td>-3</td>
<td>1.44</td>
<td>2.415</td>
</tr>
<tr>
<td>-2</td>
<td>-1.9</td>
<td>0.515</td>
</tr>
<tr>
<td>-1</td>
<td>1.94</td>
<td>2.455</td>
</tr>
<tr>
<td>0</td>
<td>0.47</td>
<td>2.925</td>
</tr>
<tr>
<td>1</td>
<td>4.73</td>
<td>7.655</td>
</tr>
<tr>
<td>2</td>
<td>0.45</td>
<td>8.105</td>
</tr>
<tr>
<td>3</td>
<td>-5.8</td>
<td>2.305</td>
</tr>
<tr>
<td>4</td>
<td>-0.47</td>
<td>1.835</td>
</tr>
<tr>
<td>5</td>
<td>1.92</td>
<td>3.755</td>
</tr>
</tbody>
</table>

**Figure 1:** Share Price returns for NBD during the merger announcement period (-40 to + 40 day)
The figure 1 shows that there have been increased returns for NBD during the immediate merger announcement period. There has been a drastic upward movement in the cumulative share price returns after day -22 of the merger announcement period followed by volatility in the share price returns and finally a drastic downfall in the price movement after +13 day of announcement.

Table 2: Cumulative Returns for NBD during different time windows

<table>
<thead>
<tr>
<th>Time Window surrounding announcement</th>
<th>Cumulative Return in percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>-40 to +40 days</td>
<td>1.70</td>
</tr>
<tr>
<td>-20 to +20 days</td>
<td>-8.6</td>
</tr>
<tr>
<td>-10 to +10 days</td>
<td>7.62</td>
</tr>
<tr>
<td>-5 to +5 days</td>
<td>3.755</td>
</tr>
<tr>
<td>-3 to +3 days</td>
<td>1.29</td>
</tr>
<tr>
<td>-2 to +2 days</td>
<td>5.70</td>
</tr>
<tr>
<td>-1 to +1 days</td>
<td>7.15</td>
</tr>
</tbody>
</table>

The announcement day return for NBD was 0.47 per cent. The share price return for NBD was 4.73 per cent for the day immediately after the announcement. The previous day before the announcement documented a return of 1.94 percent for the NBD bank. An analysis of different time window period reveals that the maximum cumulative return of 7.62 per cent was observed during the 21 day period (-10 to +10). During the three day window period (-1 to +1) the cumulative return was 7.15 percent. During the time window of 11 days (-5 to +5) surrounding the merger announcement, the cumulative share price returns was 3.755 per cent. The cumulative returns during the 81 day period were 3.30 per cent.

Abnormal return (Excess return) and cumulative abnormal return analysis²

Table 3: NBD’s excess returns during the announcement period

<table>
<thead>
<tr>
<th>Day t</th>
<th>Excess Return in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.89</td>
</tr>
<tr>
<td>2</td>
<td>3.39</td>
</tr>
<tr>
<td>3</td>
<td>-3.25</td>
</tr>
<tr>
<td>4</td>
<td>5.74</td>
</tr>
<tr>
<td>5</td>
<td>1.44</td>
</tr>
<tr>
<td>6</td>
<td>7.07</td>
</tr>
<tr>
<td>7</td>
<td>0.95</td>
</tr>
<tr>
<td>8</td>
<td>-9.02</td>
</tr>
<tr>
<td>9</td>
<td>9.05</td>
</tr>
<tr>
<td>10</td>
<td>1.78</td>
</tr>
</tbody>
</table>

² The time window period for the abnormal or excess return takes the lower limit of time period as t=1(day after the announcement period of merger) due to non availability of DFM index values. The data values were available only from the last day of the first week of March 2007.
The excess return or abnormal analysis for NBD reveals that on the day after the merger announcement NBD had an abnormal return of 3.89 per cent. The highest abnormal return was observed on the 9th day after merger announcement (9.05%). Negative abnormal returns were observed during the +3 and +8 day of announcement.

Table 4: Cumulative Abnormal Returns for NBD during different time windows

<table>
<thead>
<tr>
<th>Time Window surrounding announcement</th>
<th>Cumulative Abnormal Return in percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1 to +40 day</td>
<td>-31.97</td>
</tr>
<tr>
<td>+1 to +20 day</td>
<td>-4.97</td>
</tr>
<tr>
<td>+1 to +10 day</td>
<td>21.06</td>
</tr>
<tr>
<td>+1 to +5 day</td>
<td>11.22</td>
</tr>
<tr>
<td>+1 to +3 day</td>
<td>4.02</td>
</tr>
<tr>
<td>+1 to +2 day</td>
<td>7.2</td>
</tr>
</tbody>
</table>

The CAR analysis for NBD documents positive abnormal returns during the shorter time window period surrounding the merger announcement. The CAR during the time window period of +1 to +10 day was 21 per cent. The CAR analysis revealed negative abnormal returns during the longer time window period.

Figure 2: CAR for NBD during the post merger announcement period (+1 to +40 day)

The figure 2 shows that the cumulative abnormal returns for NBD were showing a positive upward movement during the days immediately after the announcement day. The CAR increased up to +6 day and then started fluctuating. Beyond +14 day of announcement, the CAR showed a negative downward movement.
The stock market monthly returns from the post-merger period April 2007 to April 2012 indicates a cumulative return of -43.89 per cent and average returns of -0.73 per cent respectively. During the period April 2007 to March 2008 the cumulative excess returns was 62 per cent. The average return during this period was 7.79 per cent. This shows that during the year surrounding the post-merger period, stock prices showed substantial gain. But post 2008 the stock price returns fell drastically which could be attributed to recessionary trends.

Table 5: Stock Returns and Cumulative abnormal returns surrounding post merger announcement

<table>
<thead>
<tr>
<th>Months after merger</th>
<th>Returns</th>
<th>CAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.027624</td>
<td>0.056033</td>
</tr>
<tr>
<td>2</td>
<td>-0.01075</td>
<td>0.045281</td>
</tr>
<tr>
<td>3</td>
<td>0.005435</td>
<td>0.050715</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0.050715</td>
</tr>
<tr>
<td>5</td>
<td>0.702703</td>
<td>0.753418</td>
</tr>
<tr>
<td>6</td>
<td>-0.1746</td>
<td>0.578815</td>
</tr>
<tr>
<td>7</td>
<td>0.115385</td>
<td>0.6942</td>
</tr>
<tr>
<td>8</td>
<td>0.006897</td>
<td>0.701096</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0.701096</td>
</tr>
<tr>
<td>10</td>
<td>-0.07877</td>
<td>0.622329</td>
</tr>
<tr>
<td>11</td>
<td>-0.09294</td>
<td>0.529392</td>
</tr>
</tbody>
</table>

Figure 3: Graphical representation of CAR during the first 15 months post merger announcement
Operating Performance Analysis

Table 6: Financial Parameters: Emirates NBD Consolidated data for premerger and post merger period

<table>
<thead>
<tr>
<th>Value in Billion AED</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assets</td>
<td>110.82</td>
<td>165.1</td>
<td>253.8</td>
<td>282.4</td>
<td>281.5</td>
<td>286.07</td>
<td>284.61</td>
</tr>
<tr>
<td>Total Liabilities</td>
<td>97.5</td>
<td>150.2</td>
<td>228.6</td>
<td>256.6</td>
<td>249.6</td>
<td>252.32</td>
<td>249.7</td>
</tr>
<tr>
<td>Loans and Advances</td>
<td>66.5</td>
<td>102.4</td>
<td>151.9</td>
<td>188.0</td>
<td>194.70</td>
<td>177.00</td>
<td>176.80</td>
</tr>
<tr>
<td>Customer deposits</td>
<td>66.5</td>
<td>86.2</td>
<td>126.1</td>
<td>139.9</td>
<td>157.97</td>
<td>159.8</td>
<td>154.01</td>
</tr>
<tr>
<td>Total Operating Income</td>
<td>3.8</td>
<td>4.7</td>
<td>4.9</td>
<td>8.4</td>
<td>10.79</td>
<td>9.72</td>
<td>9.93</td>
</tr>
<tr>
<td>Net Profit</td>
<td>2.8</td>
<td>2.9</td>
<td>2.7</td>
<td>3.6</td>
<td>3.34</td>
<td>2.33</td>
<td>2.48</td>
</tr>
</tbody>
</table>

Source: annual reports of EBI, NBD and Emirates NBD

The year of merger was 2007. The data for the year 2005 and 2006 consists of consolidated figures for Emirates Bank International (EBI) and National Bank of Dubai for comparative purposes. Net profit decreased during the period 2007. Assets were showing an increasing trend except in the year 2009. The total operating and net profit is showing fluctuating trend during the post merger period.

Table 7: Comparative growth rate

<table>
<thead>
<tr>
<th>Percent changes in growth rate</th>
<th>Premerger period</th>
<th>Post Merger Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assets</td>
<td>49%</td>
<td>11.26%</td>
</tr>
<tr>
<td>Total Liabilities</td>
<td>53.90%</td>
<td>12.24%</td>
</tr>
<tr>
<td>Loans and Advances</td>
<td>54.12%</td>
<td>23.72%</td>
</tr>
<tr>
<td>Customer deposits</td>
<td>29.65%</td>
<td>10.97%</td>
</tr>
<tr>
<td>Total operating Income</td>
<td>22.50%</td>
<td>70.31%</td>
</tr>
<tr>
<td>Net Profit</td>
<td>5.76%</td>
<td>32.85%</td>
</tr>
</tbody>
</table>

For the comparative analysis two base periods were selected: 2005 for the premerger period and 2007 for the post merger period. The growth rates of the financial parameters were examined in the year 2006 (for premerger period) and 2008 (for the post merger period) with respect to their base period. It is observed that the growth rate in total assets and liabilities were greater during the pre merger period in comparison to the post merger period. The growth rate in loans and advances and customer deposits were higher during the premerger period. The growth rate in total operating income and net profit were higher in the post merger period compared to the pre merger period. The operating income and net profit increased by 70 per cent and 33 per cent respectively in the post merger period compared to an increase of 22.5 per cent and 5.76 per cent respectively in the pre merger period.

The return on equity registered a decrease of 6 per cent in the post merger period. The earnings per share also displayed a decrease of 7 per cent in the post merger period.

Compared to the merger year of 2007, operating profit to date has increased by 102 per cent. But the net profit decreased by 8 per cent.
Model for Analysis of operating performance

Total Operating cash flow return on assets is defined as profit before depreciation, interest and taxes divided by the book value of assets.

Cash flow return on Assets (CFA) = Total Operating cash flow ÷ Book Value of assets

Table 8: Cash flow return on Assets

<table>
<thead>
<tr>
<th>Parameters</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assets (A)</td>
<td>110.8</td>
<td>165.15</td>
<td>253.81</td>
<td>282.41</td>
<td>281.5</td>
<td>286.07</td>
<td>284.61</td>
</tr>
<tr>
<td>Operating cash flow (B)</td>
<td>3.880</td>
<td>4.75</td>
<td>4.95</td>
<td>8.46</td>
<td>10.79</td>
<td>9.72</td>
<td>9.93</td>
</tr>
<tr>
<td>CFA (B/A)</td>
<td>0.035</td>
<td>0.0288</td>
<td>0.0195</td>
<td>0.0299</td>
<td>0.038</td>
<td>0.033</td>
<td>0.034</td>
</tr>
</tbody>
</table>

The operating cash flow return on assets model analysis reveals that the cash flow returns have decreased by 17 per cent during the pre merger period compared to an increase of 53 per cent during the post merger period of analysis with respect to year after merger. Comparing the merger year of 2007, the return on assets model analysis revealed that the cash flow returns have increased by 74.3 percent. The increase in returns had been 53 per cent, 94 per cent, 69 per cent and 74.3 per cent respectively during the post merger period of analysis.

Conclusion

The synergistic benefits of merger would be realized if the merger would lead to stock holder wealth enhancement and improvement in operating performance. This study analyses the impact of the merger announcement on the shareholder wealth of National Bank of Dubai. On the assumptions of market efficiency, the study reveals that merger announcement led to excess positive returns for the shareholders of both banks in the different shorter time window period.

The study documents a share price return of 0.47 per cent and 4.73 per cent respectively for NBD on the day of announcement and the following day. The cumulative share price return was positive in all the time window period except the period of -20 to + 20 day. The excess return or abnormal analysis for NBD reveals that on the day after the merger announcement NBD had an abnormal return of 3.89 per cent. The CAR analysis for NBD reveals positive double digit returns during the time window of + 1 to +10 and +1 to +5 day of announcement.

The operating performance analysis suggest that the growth rate in total operating income and net profit were higher in the post merger period compared to the pre merger period. The operating cash flow return on assets model analysis reveals that the cash flow returns have decreased by 17 per cent during the pre merger period compared to an increase of 53 per cent during the post merger period of analysis of one year. Comparing the merger year of 2007, the return on assets model analysis revealed that the cash flow returns have increased by 74.3 percent. The increase in returns had been 53 per cent, 94 per cent, 69 per cent and 74.3 per cent respectively during the post merger period of analysis.
REGULATING SYSTEMIC RISKS – PROBLEMS AND PROSPECTS

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Stratford University

ABSTRACT

In this paper, we argued that the 2007/2008 financial crises and recession would have been averted if effective regulation of systemic risks and tighter financial standards were imposed by the Federal Reserve and Congress. We confirmed this claim by providing an overview of how to effectively regulate this risk to avoid the occurrence of a similar crisis in the future. We equally provided a simple way for measuring systemic risk in the financial sector as well as presented novel suggestions as they relates to the regulations for limiting this type of risk.

Key words: Financial crises, Systemic risk, Mortgage-backed securities

INTRODUCTION

The available published evidence on systemic risks, surveyed in-depth by the International Monetary Fund (2010) and by Leiss (2010) generally showed that systemic risk refers to the failure of a significant part of the financial sector which leads to a reduction in credit availability – a situation that typically has the potential to impact the real economy adversely. Because of the financial industry’s intermediate role in the economy, the scope of the proposal we will make in this study will be limited to this industry rather than on any other cyclical sector in the economy. It is important to recognize that given that financial institutions act as intermediaries between parties willing to lend and the parties that need to borrow money, they are considered to be a unique part of every economy. In this regard, poor performance of the financial industry has the capability of imposing significant losses to every sector of the economy, from business sector to the public sector as well as their retirees.

Given the degree of interconnectedness that exist in the modern financial sector, and to simplify the task of systemic risk regulation, the logical way for describing the “financial firm” is to explain that it include not only the commercial banks taking deposits and making loans but also include the shadow banking sector consisting of insurance firms, private equity funds, hedge funds, investment banks, and money market funds (Acharya et al, 2009; Rezaee, 2004). In this study we will take a top level look into the manifestation and effects of systemic risk in the 2007/2008 financial crises and provide an overview of how to effectively regulate this risk. We argue that effective regulation should be focused on limiting systemic risk which, for the purpose of this study, means the risk of a crisis in the financial sector which has the capability of having a spillover effect on other sectors of the U.S. economy. In the light of this, we will present the arguments in favor of regulating systemic risk. We will also provide a simple, intuitive and logical way for measuring systemic risk in the financial sector as well as make novel suggestions as they relates to the regulations for limiting this type of risk.
THE PROBLEM

For a world in desperate for transparency, growth and efficiency in the financial industry, effective regulation of the financial sector will be a step in the right direction. The world’s financial market risks another crisis unless the activities of the major players in the industry are effectively regulated. Given that financial risks affects world banks and other investment opportunities, government regulation of the financial industry with respect to measuring systemic risks equally needs to be closely monitored. Hence, as a practical matter, the fact that the 2007/2008 financial crises was precipitated by loose regulation calls for a study on how to enhance the operation of the financial sector so as to make valid proposals that will not only strengthen the financial industry but also revamp the housing market, boost consumer confidence as well as improve the country’s consumer price index for years to come. In that regard, the strategies for measuring and mitigating systemic risk in the industry will be examined in this study.

ARGUMENTS IN FAVOR OF REGULATING SYSTEMIC RISK

Our argument for supporting regulation is twofold. First, to avoid moral hazard: Our consensus is that the 2007/2008 financial crisis revealed that the U.S. banking system was not sufficiently equipped to handle the failure of large, systematically-important financial institutions such as the Lehman Brothers. What is clear is that the U.S. government’s response to the crises, which was to bail out large banks lest they destroy the broader economy, was not particularly pragmatic and satisfactory for one important reason: The moral hazard stoked by the bailout option brought risks of its own, including corruption concerns and taxpayers exposure to large bank losses (Lawder, 2009). We thus argue that the scale of the moral hazard created should be enough to justify more regulation of the industry through the implementation of rules that would ensure that in the future too-big-to-fail (TBTF) banks should be allowed to fail. This will force the executives of such financial institutions to rethink their operations from the ground up.

Second, financial legislation such as Dodd-Frank, when properly and effectively implemented, can increase accountability and transparency in the financial industry – a situation that would help to restore investor’s confidence in the market as well as prevent the occurrence of future crises. Even though critics may argue that such legislation imposes heavy burdens on the banks, the overall benefits in terms of less frequent and less costly financial crises will blunt or outweigh the economic costs of regulatory reforms in the long run (Bank for International Settlement, 2012; Wolters Kluwer, 2012).

In retrospect we hereby infer that the overall financial industry trading strategies still needs improvement with respect to stocks and dividends increase so as to spark investor confidence. However, the banking industries requires ongoing reviews to determine the effectiveness due to the changing world procedures and structures that are in place to further examine the overall future market (Ai-Chi & Szu-Hsien, 2010). In Al-Shboul & Alison(2009) it was noted that systemic risk and corporate governance effectively examine the use of derivatives in the sustainability of capital planning and capital project performance. The political theory played a factor in the crisis from economics in organizing strategies in both domestic and international investing. However, economic techniques used to examine the cost to implement a structured sustainability in the financial banking industry preferential treatment temporarily fix the financial crisis. Measuring the sustainability indicators such as economic, social, and environmental outcomes are elements that affects the investor confidence. The cost-benefit approach appears to be useful data in the regulating systemic risk process when comparing investment options (e.g., mortgages, etc.) with the same interest.

In Ameer(2010) the adjustment factors were applied to examine market risk of loss due to changes in the international market rates, currency exchange rates, and optimal trade-off between maximizing profit and investment risk. The main objective is to investigate the effect of systematic risk level and capital upon the optimal levels to improve investor confidence. The main findings were evident: The financial processes that needed to be changed to help identify deficiencies in government regulations affecting the financial market are areas that affected foreign currency hedging and industry services financial position. Reforming any financial industry thus requires planning,
strategy, and competent individuals who understand the complete financial picture to the benefit of minimizing investment lost and maximizing return on investments.

Bartram, Brown, and Fehle (2009) determined that international stock market return on investments and housing market play a key role in systemic risk policies. Investment leaders described in their study focused on resource allocation and derivatives to collaboratively achieve goals. The financial institution’s debt maturity and investment policies must be rigorously examined. Although the financial markets are important for the survival of domestic and international housing market, including strict regulations applies to all areas and other investments to support systemic risk. Recommendations were used to determine if any deficiencies within the financial institutions increase investor’s confidence.

However, statistical comparatives internationally could have been used in this study to give a better idea of which area of the country needs to be re-allocated to the national standards and documents used to conduct the research that was not disclosed. Derivatives could benefit cash flow investments and resolve conflict between management and owners. Therefore, positive direction for priority settings in an operational approach determines the mission and values of an organization. When it comes to managing systemic risk, over regulating could slow the economy making the necessary adjustments to the ‘Long Term Capital’ ratios or advocating law makers to make the right call to improve the nation’s economic position could be valuable to the house market and other key economic recovery measures (Sharfman, 2011). The high mortgage defaults and foreclosures adversely affect the ‘Systemic Risk’ levels.

Moreover, the subprime mortgage crisis account for approximately 13% of residential private mortgages. Financial institutions with high diversified portfolios concentrated high mortgage lending are at risk (Lang & Jagtiani, 2010). The government bailed out auto manufactures, banks, and etc. to spur the economy. So why not bail the little people out of financial turmoil. This theory could potentially increase consumer confidence and decrease regulation on ‘Systemic Risk.’ Too many financial institutions receive extreme amounts of interest revenue and pardoned on debts from government loop holds.

MEASURING A FIRM’S CONTRIBUTION TO SYSTEMIC RISKS –FROM THE MARGIN TO THE MAINSTREAM

To shed light into our proposed measurement of systemic risk, let us consider a hypothetically large negative aggregate shock, for instance, a 1 percent worst-case scenario of this shock’s distribution at a monthly or quarterly frequency. An open question becomes how any financial firm contributes to the aggregate economic collapse during the month (or week or quarter) under review. In our current analysis, we will describe aggregate economic collapse as the banking sector’s loss of profitability, stock market crashes (assuming that these precedes real sector losses) or a severe fall in the aggregate economy’s output (which may be represented by negative GDP growth rates). Hence our emphatic stand in this regard becomes that a financial firm posses systemic risk if it contributes a lot to such aggregate economic risk.

State-of-the-art scientific research has repeatedly confirmed that there is an analogy between the allocation of economic capital within an organization and the allocation of capital within any given economy (Acharya, 2001; Lester et al, 2008; Levy, 2011; Mork et al, 2009). Broadly, it can be inferred that both the regulator and the senior management of any firm faces similar problem when trying to avoid financial distress and fire sales: The later generally examine the contributions made by various trading desks and divisions to the organization’s total risk. In this regard, all units of the organization are backed by the same pool of its equity – an equity which is regarded as a public good for the organization. Thus each unit of the organization is charged on the basis of how it implicitly uses the organization’s equity to support its operations. In a similar vein, regulators often measure how much of the economy’s capital is being put at risk by each organization through its operations and hence charge the affected organization accordingly in order to create incentives that would make them to allocate risks efficiently (Acharya et al, 2009). We now summarize how this important feat can be done through the use of two methods, namely, statistical measures and stress tests.
In order to measure the potential loss incurred by a firm in an extreme event, two statistical measures are used by regulators, namely, the value at risk (VaR) and the expected shortfall (ES). By using these measures, the aggregate loss can be broken down into its components—an activity that is facilitated by the use of the marginal ES (often called the component ES) and marginal VaR (also known as the component VaR). For the purpose of this paper, we recommend the use of the marginal ES approach as a better statistical measure. For instance, each bank’s contribution to the aggregate risk can be estimated by using its marginal ES for an aggregate shock (Cai et al, 2012; Lester et al, 2008). According to Lester et al (2008) the method for this estimation runs as follows: First, the historical data on the losses experienced by each firm (or each department within the firm) for several years is collected. Second, the quarters where these aggregate losses are large are identified. Next, the contributions of each affected firm (or each department or line of business) to the aggregate losses are then computed for these quarters. This contribution becomes the marginal expected shortfall which measures the systemic risk posed by the affected firm.

Viewing the above explanations more broadly, it should be acknowledged that this method can be implemented in a more forward-looking way if the regulator has data on the current position of each firm. For instance, the regulator can compute the losses the firm would have experienced with its current positions regardless of the loss it experienced in past contractions—a computation that will, to a very significant extent, capture increased risks for firms that recently increased their positions. Generally speaking, many financial institutions perform this type of calculations on a daily basis. This is because such computations provides them with reliable metric for allocating capital across divisions, measure and compare performance across lines of business and integrate firm-wide capital management activities (Acharya et al, 2009).

A practical illustration of how the regulator can implement this calculation for the aggregate economy is afforded by a hypothetical example presented by Lester et al (2008). It should be noted that the appropriate measure to use in this regard depends, to a very large extent, on what the systemic externalities are. According to economic theory, there are two main sources of externalities. The first one is highly dependent on not only the scope but also the scale of the firm’s activities. For instance, one form of externality known as liquidity externality depends on the scale of liquidations undertaken in times of distress (Bassembinder et al, 2005). This means that the starting point for the regulator would be to use the firm-level daily market-to-market profit and loss statements (P & L) or its overall value (equity or asset value). The occurrence of a default is another major source of externality. In this case we stress that implementing the calculations described in the previous paragraphs requires that the regulator should supplement the measures that are based on the firm’s overall assets with those that reflects its credit risks, such as the firm’s credit default Swap (CDS) spreads (Acharya et al, 2009).

Acharya et al (2009) also presented a veritable illustrative example for validating the above arguments by using equity market value approach. First, they conditioned on aggregate shocks which, in their view, is measured by the 5 percent worst drops in the market value of all publicly traded stocks. Second, they estimated each financial firm’s systemic risk as its average loss during these crises (that is, each financial firm’s marginal ES) based on these aggregate shocks. While doing this, they proxy each firm’s loss by its drop in the equity market values. After ranking these firms by their marginal-ES contribution, they were able to produce the report shown in figure 1.
It is important to note here that the contributions of each firm to systemic risk over the period 2006 – 2007 are illustrated by the numbers in figure 1. In addition, these contributions specifically take into account not only the size of the firms but also their extreme downside correlation with the overall market. This calculations brought out two additional facts of importance. First, even though they were done by using equity returns, it is also possible to conduct similar downside risk decompositions for credit losses. Second, given the appropriate data, further decompositions can be done for divisions within a firm, asset classes and geographical regions.

**STRESS TESTS AND SCENARIO ANALYSIS**

According to the available published evidence, (Theodoros, 2011; Bertran et al, 2012) statistical risk models generally have limitations. As such they must always be complemented with both stress tests and scenario analysis. Broadly, when measuring systemic risk, emphasis should be on such concepts as concentration risk, cyclical risk taking and forward-looking scenarios (Acharya et al, 2009).

Academic research confirms the relevance and applicability of stress test in the assessment of risk concentration and interconnected counterparty risks. Thus stress tests are like a financial barometer: First, it enables the regulator to estimate the consequences of the failure of a large institution. Second, they can be used as a tool for refining the concept of large, complex financial institutions (Bank for International Settlement, 2000; FSOC, 2011; Acharya et al, 2009).

In good times, scenario analysis can limit excessive risk taking by organizations. It should be noted that statistical measures of risk go down after prolonged period of low volatility. When this happens the likelihood and severity of a financial crisis will be increased because risk taking will become more pro-cyclical. Hence scenario analysis has one important advantage: It does not induce pro-cyclical risk taking. This important point may be clarified by the following example. Even if the economy is quiet, say, between 2010 and 2015, the “September – October 2008” scenario will remain in effect with the same parameter values in 2010 and in 2015. Simply put, it will become an essential part of standard scenarios, such as “Russia – LTCM 1998” or “9/11” (Acharya et al, 2009). It is important to acknowledge here that scenarios can sometimes be subjective and, in some cases, become outdated. However, to mitigate this, regulators and firms would need to engage in a constructive dialogue – a dialogue whose goal would be to find out how downside risks to the economy evolve over time. Having identified how to measure each firm’s contribution to systemic risk, we will turn our attention to the next issue: the regulation of systemic risk. This will be the focus of the next section.
REGULATING SYSTEMIC RISKS – THE GRIM FACTS AND PROPOSALS

For the purpose of proper elucidation and proper understanding of the discussion on regulating systemic risks, it is germane that a detailed description of how distress in a financial firm can create risks to overall financial stability be clarified, at least, to further shed light to how an understanding of those dynamics should inform prudential regulatory policies. Broadly speaking, distress in a financial firm can create risks to overall financial stability in four principal ways. First, is the classic domino effect. The logic of the domino effect runs as follows: The counterparties of a failing firm are placed under severe strain when the affected firm fails to meet its financial obligations to them. In this case, the counterparties’ resulting inability to meet their own obligations leads, in turn, to severe strains at their other significant counterparties, and the process spreads in a spiral wave through the financial system (Tarullo, 2011; Helwege, 2009).

The second way is known as the fire-sale effect in asset markets, which occurs when a failing firm engages in distress sales with the goal of obtaining its needed liquidity. The resulting effect of this action may be summarized thus: The sudden increase in market supply of the assets will significantly drives down prices. This effect will obviously transmit to other firms particularly those of them that must sell assets to meet immediate liquidity needs. In addition, as we saw in the recent 2007-2008 crisis, because of margin calls and mark-to-market accounting requirements, it also transmits too many other firms as well. The overall result becomes an adverse feedback loop, as these steps will naturally force more sales (Jotikasthira et al, 2009; Tarullo, 2011).

The third way in which distress in a financial firm can create risks to overall financial stability is known as the contagion effect. This occurs when market participants conclude from the firm's distress that other firms that holds similar assets or who applies similar business models are likely themselves to be facing similarly serious problems (Tarullo, 2011; Helwege, 2009). Finally, the fourth way occurs as a result of the discontinuation of a critical function played by a failing firm in financial markets particularly when other firms lack the expertise as well as the capacity to provide ready substitutes for these functions (Tarullo, 2011; Safire, 2008; Federal Reserve Bank of Kansas City, n.d).

It should be noted here that the first two effects are largely a function of the interconnectedness of the distressed firm with other large firms, either through common exposures of the firm's balance sheet with those of other firms or through direct counterparty exposures. Generally speaking, these first two effects will, to a large extent, scale with a firm's size as well. The fundamental lesson here is that these effects are directly relevant to concerns about the too-big-to-fail (TBTF) syndrome – a syndrome that have animated much of the reform debate in the past decade. Here is an overly simplified explanation of how the traditional TBTF syndrome worked: The main concern of policy makers with respect to the traditional TBTF is that of moral hazard, which refers to the expectation that the government authorities will provide funds or guarantees to the TBTF firm to keep it functioning when faced with the prospect of either variant of a major blow to the financial system. As a result of this, the creditors and managers of firms who anticipate such support may not have the incentive to price into their credit or investment decisions the full risk associated with those decisions. Given this scenario, the affected firms may become not only more leveraged but will equally grow larger in size. This outcome would only reinforce the belief that the government will not allow them to fail – a situation that would definitely produce negative consequences in the form of competitive funding advantage for these large firms and more underlying risk to the financial system (Tarullo, 2011; Safire, 2008; Federal Reserve Bank of Kansas City, n.d).

It is also important to acknowledge that moral hazard is not the only worry engendered by very large, highly interconnected firms in financial markets. Available published evidence amply testify that the growth of these types of institutions would presumably be somewhat circumscribed even when a government overcomes time-consistency problems and credibly binds itself not to rescue these institutions. This is because it is possible, perhaps likely, that some combination of oligopolistic tendencies, path dependence, scale and scope economies, and even chance would nonetheless produce a financial system with a number of firms whose failure is capable of bringing about the very serious negative consequences described by the domino and fire-sale effects for financial markets (Tarullo, 2011; Federal Reserve Bank of Kansas City, n.d).

The contagion effect is, in contrast to these first two effects, not necessarily a function of size at all. An example of this is provided by the run on money market mutual funds which began in September 2008 after the "breaking of the buck" by the Reserve Primary Fund (Lynch, 2012). Our experience the Reserve Primary Fund case would seem to support this conclusion: The run on the money market mutual fund during the time occurred less because of its size than because of what its vulnerability told investors about the balance sheets of other funds.
Earlier that year, the failure and subsequent nationalization of Northern Rock, a mid-sized British bank that is heavily concentrated in residential mortgage activity, significantly increased the stress on the British banking system. Again, the stress arose not from the direct effects of Northern Rock's failure but because the bank focused attention more on the problems in British mortgage markets (Tarullo, 2011). Ideally, this distinction is very important because it shows that, depending on circumstances in financial markets as a whole, the contagion effect can plausibly originate in a very large number of firms. Centrally speaking, as long as the assets of a financial institution are associated with considerable degrees of leverage, maturity transformation, or both, its failure could bring about systemic problems if markets believe that failure reveals heretofore unrecognized problems with one or more significant classes of assets held by many financial actors. The overall implication of this is that the broader economic and financial environment interacts with the new knowledge produced by a firm’s failure in order to determine whether a contagion effect develops (Tarullo, 2011; Federal Reserve Bank of Kansas City, n.d).

The fourth effect, which relates to an essential role in financial markets, also need not be a function of size. It is, however, related to a particular kind of interconnectedness: The kind of interconnectedness that rest on the firm's status as a node through which an important class of financial transactions flows and hence have little to do with the assets of the firm.

In the preceding paragraphs we have discussed how distress in a financial firm can create risks to overall financial stability. We will now extend the discussion into two related areas. The first embraces the various implications of a regulating policy. The second considers the best approach for implementing any stipulated supervisory and prudential requirements.

Turning first to the implications of a regulatory policy for the financial industry, it can be inferred with considerable confidence that the foregoing observations calls for a more prudent and effective policy for regulating systemic risks. This is because the bad effect of doing nothing is clear: It would allow as well as encourage the presence and growth in the markets of large unregulated firms – a situation that would create the potential for large negative effects on the financial system if these firms follow the path trodden by firms of similar size and category in the years preceding the 2007/2008 financial crises (Geithner, 2008; Tarullo, 2011). In addition, the use of a good regulatory policy remain significant for another important reason: In addition to the effect of poor regulation, the intensity of the 2007/2008 crises is also a function of the size of the preceding financial boom as well as the speed of the deterioration in confidence about both the prospects for growth and in some of the basic features of the affected financial markets. From an entirely practical standpoint, the damage to confidence (including confidence in ratings, in the capacity of the investors to evaluate risk and in the valuation tools themselves) has the capacity to prolong the process of adjustment in the markets. Thus, in a practical sense, this process carries with it risks to the broader economy. Judged from this perspective, our most important concession becomes that good macroeconomic and supervisory policies have an important role to play in terms of containing those risks.

An open question then becomes whether the 2007/2008 crises was preventable. A highly important point to bear in mind in this connection is that, typically, both asset price and credit booms are not preventable for the simple reason that they cannot be effectively diffused preemptively. Besides, our experience with the crises brought out one additional fact of importance: The existing early warning systems for financial shocks are not reliable. This further means that the benefits of a sound regulatory policy are hard to overstate. Such a policy can play an important role with respect to determining the dimensions of financial booms as well as the ability of both the economy and the financial system to adjust to its aftermath. Thus it is crucial at this stage to understand that the affected nations need to undertake a broad set of changes necessary for addressing those vulnerabilities in their financial system which were revealed by the 2007/2008 crises. The bottom line here is that there is no single reform that offers the promise of sufficient change due to the long list of factors that contributed to the crises.

Having explained the implication of a sound a regulatory policy for the financial industry, we turn our attention to the discussion of the best approach for implementing any stipulated supervisory and prudential requirements. Five recommendations stand out in this regard.
First, the elimination of “off-balance sheet vehicles or transactions,” includes those financing transactions that do not appear on the balance sheet of a company due to the fact that the applicable accounting principles allow for a different treatment in the financial statements. These items include the acquisition of assets on operating leases, collateralized debt obligations (CDOs) and the use of special purpose vehicles such as partnerships or trusts (Greuning & Bratanovic, 2009). Because the resulting liabilities are not shown on the balance sheet of the affected company, using off balance sheet items might be seen as beneficial to a company since its financial position might appear in a better light to investors or lenders. What had became clearer in the 2007/2008 financial crises is that these off balance sheet items are harder to track and may become toxic assets before investors or lenders realize a company’s exposure. With this standpoint in mind, we suggest two proposals: A regulation that mandates the movement of all risky investments back on bank balance sheet and the provision of adequate capital to support those investments (Crotty & Epstein, 2008). Broadly speaking, even during the liquidity crises that occur from time to time, such capital requirements should be sufficient enough to protect bank solvency. The argument for supporting this proposal is clear: It would bring about transparency to investors, markets and regulators as well as prevent financial crises by stopping the spread of the bad loans, securitizations, and derivative transactions that brought the financial system to the brink of collapse (Crotty & Epstein, 2008). The fundamental lesson here is that transparency remains one of the central pillars of a well-functioning market since it provides investors and markets with information regarding a company’s exposures to risks accompanying derivative transactions, and the potential impact of such risks on cash inflows and outflows. In addition, it provides information regarding how “interconnected” companies are to one another as a result of such toxic transactions.

Second, the requirement of due diligence by the creators of complex structured investment products. This requirement means that those investment banks that create complex structured investment products (such as CDOs and mortgage-backed securities) should be mandated by the regulators to perform “due diligence” on the individual securities contained in these products. In this way, they will not only be obligated to evaluate the risks of each underlying mortgage but they will also use the information therein to evaluate the risks of the asset-backed security under varying conditions that might affect the value of the underlying mortgages. Given that, when done properly, this task would be difficult and costly, it is capable of making the most complex securities unprofitable. Simply put, our argument for backing this proposal is self-evident: The sale of these securities would be prohibited if such due diligence is not done to the regulators’ satisfaction. In addition, the market for CDOs and other complex securities based on CDOs may be closed through the imposition of this requirement (Crotty & Epstein, 2008). Furthermore, the deleterious role played by the rating agencies in the 2007/2008 crises can be reduced by this requirement of due diligence.

Third, those financial firm incentive structures that induce excessive risk-taking need to be transformed. Generally speaking, one of the major cause of the 2007/2008 crises include those perverse incentives for top decision makers in important financial firms. With fair justification it can be inferred that the existing asymmetric pay structure in corporate America has greatly exacerbated the inherent pro-cyclical behavior experienced in the financial market. Hence it might not be possible to create an effective regulatory regime without solving this key problem. Thus, more than anything else, implementing “claw-backs” through which excessive salaries and bonuses paid during the upturn would have to be re-paid in the downturn would be one mechanism to make the pay-off structure more symmetrical, thereby reducing the incentive for risk-seeking. Simply put, those executives who get bonuses in good years would be required to pay them back in bad years (Crotty & Epstein, 2008). Ideally, this can be done in two principal ways: Requiring such claw-backs in compensation contracts or implementing them via the tax system, which may involve the use of a series of escrow funds and placing a limit on the deductions from losses. There is a strong possibility that this approach may create great incentive to engage in tax or restriction avoidance. However, the appropriate response here is to enforce tax laws more vigorously and not to stop trying to use appropriate taxes. As a practical matter, there is also the need to change incentives to rating agencies: The incentives to give excessively optimistic ratings would be eliminated if they were paid by institutional investors or associations of security buyers rather than the investment banks who sell complex products.

Fourth, implementing lender-of-last resort actions with a sting is equally important. From our point of view, no executive should be too big to fail even if their institutions are considered such. According to Crotty & Epsteing (2008), even though the market capitalization of some firms declined by as much as $364 billion from their peak values in 2004-2007, (an average fall of 49 percent) the executives of the affected firms received a total of $3.6
billion during the same period. Generally speaking, even if the policies made in this paper are implemented, there will still be a need for some lender of last resort bailouts as long as there is financial capitalism. Both practical and logical reasoning thus suggests that a key distinction must be made here between two stakeholders: the agents who made the decisions to take risks and benefitted from these decisions (including top management, key traders and other richly rewarded operators) and the financial institutions themselves. As a concession to practicality, we suggest that the agents in particular must be compelled by the regulators to pay significantly whenever their firms are bailed out. From our observations, as things currently stand, the apex bank and U.S. Treasury often underwrite the perverse incentives embodied in the country’s financial firm’s asymmetric reward structure - a situation that generally create extreme moral hazard(Katz, 2013; Safire, 2008; Crotty & Epstein, 2008).

In closing, the creation of a bailout fund that would be financed by Wall Street is also an important proposal. The logic of this proposal runs as follows: When the FDIC rescues failing commercial and savings banks, it did not use insurance funds paid for by the taxpayer. Instead, it used the insurance funds paid for by the banks themselves. Thus in a more practical sense, we suggest that a similar insurance scheme should be created to serve on important purpose, which is to finance bailouts for other kinds of financial institutions. One way of funding this insurance scheme is the imposition of a small transaction tax on all security sales. As long as such a tax rate is properly calibrated, it can generate as much as $100 billion in annual tax revenue(Crotty & Epstein, 2008). It should be noted here that in normal and boom times prior to the outbreak of a financial downturn, the fund is capable of accumulating hundreds of billions of dollars. Thus the fund will have more than enough money to rescue those institutions that fail, provided that effective regulations are put in place to prevent a truly dangerous risk build up in the expansion phase of the financial cycle.

CONCLUSIONS

In this paper, we have elaborately shown that the importance of effective regulation of systemic risks aimed at preventing the occurrence of crises can never be overstated. The discussions we made in this paper also showed, fairly clearly and comprehensively, that the world might have avoided the 2007/2008 financial crises if the bankers and other financial executives had only bought the tickets to the movie “Mary Poppins” where one of the characters stated thus:

A British bank is run with precision
A British home requires nothing less!
Tradition, disciplines and rules must be the tools
Without them – disorder! Chaos!
Moral disintegration!
In short, we have a ghastly mess!(Disney, 1964)

Suffice it to state here that regulating the ‘Systemic Risk’ policies and procedures, benefits the World’s financial market risk and international investment opportunities. Since the 2007/2008 financial crisis, stricter government regulations boosted the housing market and consumer confidence enhanced the overall economy (e.g., publicly traded stocks, job growth, etc.) nationwide. Government bailed out auto manufactures and banks to improve the economy current position. Citizens who are responsible tax payers contributing to society financial position should be giving the same treatment as public entities. This theory could potentially increase consumer confidence and decrease regulation on ‘Systemic Risk.’ Therefore, increase in family income, less increase on debt improves the overall economy could be a win-win situation globally. The World Banks needs to improve relations that benefit the weaker nation economic system.
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