Segment reporting in a developing economy: the Indian banking sector

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Received 29 June 2015
Revised 2 August 2016
Accepted 5 September 2016

Abstract

Purpose – The purpose of this paper is to investigate the value relevance of segment information for both public and private sector banks in India. In doing so, this paper examines a rapidly developing economy and perhaps its most critical sector during this period of strong economic growth.
Design/methodology/approach – In this study uses the simplified Ohlson model, for a sample of 136 private sector and public sector banks for the period 2007-2010 in India.
Findings – The paper finds that public sector banks have higher share prices, higher earnings and more equity compared with private sector banks. Segment earnings data is highly value relevant for both sectors; however, segment equity data is only marginally value relevant for Indian banks. The number of segments is also value relevant and associated with higher share prices.
Originality/value – The results of this study contribute additional evidence to the literature on segment reporting by studying the effect of adoption of segment reporting in an emerging market. Findings from the paper are particularly relevant as India is currently in the process of changing its segment reporting requirements and moving to an IFRS-based segment standard.

Keywords Banking sector, Developing economies, International accounting standards, Segment reporting
Paper type Research paper

1. Introduction

Segment reporting requirements have been extended worldwide in response to calls from the investment community and as part of harmonisations projects between countries. Current segment reporting standards include IFRS 8 Operating Segments (IASB) and SFAS 131. FASB previous research has demonstrated that segment data are useful for investors and analysts (for predicting future earnings, e.g. Kochanek, 1974 and Collins, 1976; for foreign earnings valuation, e.g. Bodnar and Weintrop 1997; and for improving forecasting confidence, e.g. Birt and Shailer, 2011)[1]. In this study we extend the research to a developing economy, i.e. India. Segment reporting is important as research studies in accounting have found noticeable variation in the level of segment disclosure across listed reporting entities and this suggests a need for regulators to further monitor the enforcement of required segment disclosures. While the accounting research literature has investigated segment reporting in the banking sector in developed markets, little focus has been directed at emerging markets where the quality of accounting standards and their enforcement is often questioned. The Indian economy has recently witnessed a substantial flow of investment through foreign direct investment and foreign institutional investing in the last decade (Srinivasan and Narasimhan, 2012). The Indian banking sector is a particularly interesting sector to investigate because of the ownership reforms (Sathye, 2003), diversity of the banking sector and the current status of its segment reporting requirements. India currently adopting Indian Accounting Standards (Ind AS) 17 Segment Reporting but will be implementing Indian Accounting Standards (Ind AS) 108 Segment Reporting in the near future, which will result in harmonisation with the current requirements of the international segment reporting standard IASB.

JEL Classification — M40, M41, M48

Asian Review of Accounting
Vol. 25 No. 1, 2017
pp. 127-147

1321-7348
DOI 10.1108/ARA-06-2015-0064

In this study, we hypothesise that a segment-based valuation model provides additional value relevant information than a model based on consolidated data alone. This approach is similar to that adopted in Birt and Shailer (2013) and Kajüeter and Nienhaus (2017). Financial analysts and investors support the notion that an increase in disaggregation assists in understanding the risk profile and growth of diversified entities. Different segments have different streams of cash flows to which are attached separate risks (Troberg *et al.*, 2010). Segment data can be assessed along with external sources of information such as relevant industry data and respective foreign exchange rates for a particular country (US stock market, e.g. Balakrishnan *et al.*, 1990 and Chen and Zhang, 2003; Canadian evidence, e.g. Graham *et al.*, 2005; and Japanese firms, e.g. Troberg *et al.*, 2010). This is consistent with the fineness theorem which posits that a finer information structure will result in greater benefits to the decision maker (Demski, 1973).

The economic growth of Indian economy is highly influenced by the efficiency of its banking sector which includes both public and private sector banks. Indian banks have diversified in recent years to include segments such as retail banking; corporate banking; investment banking; asset management, etc. (Zhao *et al.*, 2010) which resulted into increased growth and bank productivity. Given India's unique ownership structure of public sector and private sector banks, our interest in the topic is based on research that documents that the Indian banking system has undergone significant changes in the last three decades (Zhao *et al.*, 2010). A remarkable trend is the shift from traditional banking activities such as lending and deposits taking to a more universal banking character with financial market activities such as brokerage and portfolio management growing in importance (Kumar and Gulati, 2009).

This paper will investigate the value relevance of segment information for Indian banks focussing on Indian public and private sector banks. There is a lack of value relevance research in emerging economies. This paper will also investigate whether valuation models featuring segment variables under the current Indian segment reporting standard AS 17 provide additional information to users of segment reports of banks in the Indian banking sector. In doing so, the study will examine a rapidly developing economy and perhaps it is most important sector during this period of strong economic growth[2]. We find that segment reporting by Indian banks is value relevant, specifically segment earnings appears to provide incremental information to the valuation model. Further, the explanatory power of the model is much higher for public sector banks compared to private sector banks. Our findings our robust to changes in share price and changes in the scaling of the model's variables. The findings of this paper are timely considering India is currently undergoing changes in its segment reporting regulation and moving to an IFRS-based standard which should result in increases in segment disclosures. The findings have important consequences for standard setters, regulators and investors.

Section 2 of the paper discusses the banking sector and institutional accounting standard setting programme in India. Section 3 discusses the literature and hypotheses investigated in this paper. Section 4 outlines the research design. Section 5 provides the results and discusses the implications of these results. Section 6 concludes the paper, discusses the limitations and proposes avenues for future research.

2. The banking sector and standard setting in India

2.1 The banking sector in India

The banking sector has a dominant role to play in an emerging Indian economy. The sector is heavily regulated in terms of interest rates and credit restrictions, entry restrictions, foreign exchange and financial equity market controls by the Reserve Bank of India (RBI) (Galagedera and Edirisuriya, 2004). Diversity of bank ownership in Indian banking and dominance of public sector banks in this regulated environment has always been a promotional factor for

the Indian banking system. Huge piling of non-performing assets (NPA), declining profitability and increasing inefficiencies of banks, undercapitalisation of banks in the late 1980s led to need for serious reforms in banking industry. Finally, with the liberation of economy in 1991, it started to experience competitive market for financial products with adoption of financial reforms policies. The banking system became more market driven with focus on customer and profitability, more specifically for the public sector banks. The public and private banks started various segments to cater to the need of different customers.

In India, the formal banking system commenced in the year 1870 with the setting up of the Bank of Hindustan (Goyal and Joshi, 2012). Sathye (2005) reported that India had a well-developed financial system even before its independence in 1947. The RBI was formed under the Reserve Banks of India Act (1935), the peak body with licensing powers and responsibilities of supervising, regulating and controlling the Indian banking industry. In the 1950s-1960s, the major consolidation of the Indian banking sector started taking shape. The Imperial Bank of India was renamed as the State Bank of India after it was acquired by RBI. This was succeeded by the forced merger of less profitable banks and nationalisation of 14 banks in 1969 and six banks in the 1980s. With the financial deregulation in 1993, the doors of banking industry were opened to new private sector and foreign banks.

Steady privatisation, in addition to a well-developed financial market played a major role in the success story of the Indian banking system. The financial sector reforms and deregulation lead to positive trends in the Indian banking industry. The efficiency of all banks improved generally and private banks in particular (Shanmugam and Das, 2004). Public sector banks realised that they were losing their market share to private sector banks thus impacting the profitability adversely. The private banks in a way began to set the performance standards for public banks in India. The public sector started to improve their performance taking benefit of deregulated measures. Thus, financial sector reforms drove Indian banking systems towards higher levels of productivity, profitability and efficiency. These parameters make the banking sector in India vibrant and highly productive (Goyal and Joshi, 2012). Since 1990, Indian banks have diversified their banking operations in six segments comprising retail banking, corporate banking, investment banking, asset management, life insurance and general insurance (Deol, 2009).

The Indian banking system is divided into two parts: scheduled commercial banks and scheduled cooperative banks. Scheduled commercial banks include public sector banks, private sector banks, foreign banks and regional rural banks (RRBs). There are 165 scheduled commercial banks operating in India (as on 31 March 2011). These include 26 public sector banks (State Bank of India and its five associates, 19 nationalised banks and IDBI Bank Ltd.), seven new private sector banks, 14 old private sector banks, 36 foreign banks and 83 RRBs. There is no denying that the public sector banks have a dominant position in the Indian financial system. These banks represent around 80 per cent of the total assets of banking and financial institutions industry (Galagedera and Edirisuriya, 2004); have extensive geographical and rural reach through massive branch network, deposit mobilisation and credit expansion. This paper focusses on the two major competitive parts of scheduled banks namely, public sector banks (26) and private sector banks (21).

Focussing on the public and a private banking sector is an important area of research (the efficiency of banks in India, e.g. Sathye, 2003; measuring performance of Indian public sector banks, e.g. Kumar and Gulati, 2009; privatisation of Indian banks and performance, e.g. Sarkar and Sensarma, 2010). Some studies argue that increased competition from the new private sector banks has led to a more customer centric approach in the Indian banking sector. It paved the way for enhanced productivity, efficiency and profitability of Indian banks (Sanyal and Shankar, 2011). Private sector banks are owned by the financial institutions and the ordinary shareholders. Table I illustrates that public sector banks in India dominate the banking activities in India and are larger in size compared to private

sector banks in terms total assets and the bank profitability. Public sector banks are largely controlled by the government (greater than 51 per cent) and the minority shareholdings are held by financial institutions and ordinary shareholders. Zhao *et al.* (2010) states that public sector banks accounted for 74.5 per cent of the market share in terms of total assets in the year 2004 as compared to 18.5 share controlled by the private sector. However, Table I also highlights that the contribution of the private sector is increasing over time as the comparative positive changes in private banks are higher than those in the public sector. The private sector has maintained a clear dominance over the public sector growth in deposits, total assets, operating profit and most importantly, the control over NPA. Zhao *et al.* (2010) also finds that the market share of the private sector has registered an increasing trend. This provides motivation for the current study comparing the value relevance of segment reporting data between public sector and the private sector banks in India. Our study will contribute to the existing literature by providing descriptive information on the contribution of both public and private sector banks and whether segment data for Indian banks is value relevant and finally whether there is a difference in value relevance of segment data between public and private sector banks. Because of the over-complexity in financial reporting, the segment data would not necessarily help unsophisticated investors unless they have additional time or assistance to understand explanations of banks' activities. Therefore segment reporting and all its detail may alienate such shareholders; therefore some might argue that there is only informational value for a certain audience of more sophisticated investors.

2.2 Standard setting in India

With the liberalisation of the Indian economy since 1991, India has emerged to become a major economic power driven by the combined forces of the technological revolution, the opening up of its borders, higher economic growth rate and the privatisation of many public sector industries (Kumar and Gulati, 2009). This economic liberalisation has exposed Indian companies to foreign competition and foreign investment. As a result, the information needs required by both managers and investors have changed. The Institute of the Chartered Accountants of India (ICAI), India's standard setting body, is increasingly attempting to provide information relevant to various stakeholders by making revisions and additions to the existing accounting standards which aim to bring India more in line with International Financial Reporting Standards (Perumpral *et al.*, 2009). In July 2007, the council of the ICAI announced a plan to converge the Indian Accounting Standards with the International Financial Reporting Standards effective from the accounting periods commencing on or after 1 April 2011.

As a part of the process of development and harmonisation of accounting standards, the Indian accounting standard setters issued AS 17 which became effective from 1 April 2001.

		Public banks			Private banks		
S.No.	Category	2010	2011	% change	2010	2011	% change
1	Deposits	3,692,019	4,372,449	18	822,801	1,002,759	22
2	Investments	1,215,598	1,336,076	10	354,117	422,020	19
3	Advances	2,701,019	3,304,433	22	632,441	797,944	26
4	Total assets	4,440,872	5,294,006	19	1,150,736	1,398,217	22
5	Net NPA	29,644	36,055	22	6,506	4,432	−32
6	Total income	354,876	414,099	17	103,229	117,586	14
7	Operating profit	76,861	99,981	30	29,173	32,831	13
8	Net profit	39,257	44,901	14	13,112	17,712	35

Table I.
Comparison of Indian bank sectors

It was revised in 2004 to increase the scope of its application to additional companies. AS 17 has made it compulsory to all the Indian public companies to disclose more disaggregated financial information, that is the information about the assets, liabilities, revenue, expenses, etc. about the products or groups of products/services that the company is trading or manufacturing. The standard has refrained itself from prescribing any format for the structure of segments. The standard also requires the public companies to disclose segment information for each of the geographical segments in which the company is operating.

The exposure draft based on Ind AS 108 was issued pursuant to the decision to converge with IFRSs in respect of accounting periods commencing on or after 1 April 2011. Ind AS 108 will supersede AS 17 Segment Reporting and aims to match the requirements of IASB. The identification of segments under the Exposure Draft of AS 108 (issued 2010) is based on "management approach", i.e. operating segments are identified based on the internal reports regularly reviewed by the entity's chief operating decision maker. The existing AS 17 requires identification of two sets of segments – one based on related products and services, and the other on geographical areas based on the risks and returns approach. One set is regarded as primary segments and the other as secondary segments. Given that India will be moving towards AS 108 in the not too distant future, it is timely to investigate the benefits of segment reporting under the current standard AS 17.

3. Literature and hypothesis development

In this section of the paper we will first discuss findings related to segment reporting research specifically in the Indian Banking sector. Section 3.2 expands on segment reporting research in the banking sector in developed and developing countries. Section 3.3 discusses other value relevance studies based on segment data. And finally Section 3.4 briefly examines IFRS value relevance studies based on financial sector firms.

3.1 Indian banks and segment reporting

An Indian study of diversified manufacturing companies (Jawahar, 1986) found that consolidated financial reports continued to be prepared with no segment information for investors and other users. The study found support for the disclosure of some segmental information in annual reports, but questions were raised over the quality of the segmental information disclosed in annual reports. In the two decades following, Indian accounting standards have mandated the reporting of segment disclosures. Hossain (2008) investigated 38 public and private sector banks in India and found that Indian banks are compliant with the rules regarding mandatory disclosure; however, they seldom disclose voluntary items. Ronald *et al.* (2011) investigated segment reporting in the Indian banking sector compared to Kenya's banking industry. The study found no difference in the segment disclosure practices of both Indian and Kenyan commercial banks yet they are regulated by different accounting standards. Indian-based studies outside the banking sector have found gaps between the prescription of a standard and the application in practice. Hyderabad and Pradeepkumar (2011) investigated the application of the AS 17 Segment Reporting in the Indian IT sector, and concluded that IT firms failed to provide any voluntary segment information that would be of value to shareholders. Singh and Agarwal (2013) analysed the sustainability reports of 49 Indian banks (25 public sector, 15 private sector and nine foreign banks) operating in India. They found that these types of disclosures differ only based on ownership, and number of employees. This study highlights the importance of separately investigating public and private sector banks when examining the Indian banking sector. Perera and Thrikawala (2010) found investors used further value relevant accounting information and non-financial information for commercial banks.

In summary, there is a lack of research that has been conducted in segment reporting in the Indian banking sector and no studies have focussed on the segment reporting practices of public and private sector banks in India.

3.2 Banks and segment reporting: developed and developing countries

Segment reporting studies can be dated as far back as the 1970s. Greenstein and Sami (1994) selected to investigate the SEC's 1970 segment disclosure requirement because of the added information content due to more finely partitioned data. Using a random sample of firms listed in the NYSE for the year end 1970, they found limited evidence that the segment disclosure regulation may have impacted on security valuations.

The US standard SFAS No. 14 Financial Reporting for Segments of a Business Enterprise had long been criticised for most of its 21-year existence because of the vague manner in which it defined a reportable segment (Jordan *et al.*, 2001). A company could easily define a line of business so broadly as to encompass its entire operations under one segment, resulting in no segment reporting under SFAS No. 14 (Jordan *et al.*, 2001). In SFAS No. 131, the FASB attempted to address this concern by changing the definition of a segment. The result led to an increase both in the number of companies reporting segments and in the diversity of the types of segments reported (Herrmann and Thomas, 2000; Jordan *et al.*, 2001).

This was particularly the case for the US Banking Industry. The Link (2003) study summarised the application of FASB No. 131 on the US Banking Industry. The study found that FASB No. 131 had improved segment reporting for US banks, but had not entirely standardised the reporting. The number of segments, the names of the segments and the segment definitions differ among banks that are similarly organised and in similar businesses. Botosan and Stanford (2005) also examined segmental disclosures under FASB No. 131 and found it had increased analysts' reliance on public data, and where companies were perhaps withholding segment disclosures it was more motivated by protecting profits in less competitive industries, than masking poor performance. In sum, regulatory change in segment reporting has implications for the users of financial reports. The research on segmental disclosures under FASB No. 131 is limited and more research was needed to address the impact on SFAS No. 131 on the banking and energy industries (Street *et al.*, 2000).

Nichols *et al.* (2013) reviewed studies of the effect of the application of SFAS No. 131 on reporting and disclosures. Under SFAS No. 131 a company is required to provide a reconciliation of the total reportable segments' profit or loss to the firm's consolidated income. Stanko *et al.* (2011) found that SFAS No. 131 resulted in a greater number of segments being disclosed and provided statement users with information similar to the information management uses in making decisions. While SFAS No. 131 was intended to increase the transparency of financial reporting using a "management approach", there is concern it may have reduced shareholders' ability to interpret segment disclosures relative to the approach used under SFAS No. 14 (Nichols *et al.*, 2013).

In other developed countries there have been similar segment reporting studies on the banking sector. Homolle (2003) investigated the introduction of segment reporting in banks in Germany. Homolle (2003) found that geographical segmentation was not useful for stakeholders. Moreover, they concluded that information should be provided on how the bank performs its "classical" microeconomic functions. The relevant transaction volumes as well as profits and losses for each segment should be published (Homolle, 2003). Birt *et al.* (2007) examined changes in segment reporting in the Australian banking industry following the introduction of the revised AASB 1005 Segment Reporting. The paper evaluated the disclosure practices of seven Australian banks, and indicated that both the number of segments and disclosed items had increased under the revised standard. However, it also was reported in the paper that the disclosure practices by the sample banks were inconsistent in several areas, and that this finding has implications for the qualitative characteristic of comparability.

While the accounting literature has investigated segment reporting in the banking sector in developed markets, little attention has been given to emerging markets where the quality of accounting standards and their enforcement are questionable. Alfaraih and Alanezi (2011) investigated both the segment disclosure practice of firms listed on the Kuwait Stock Exchange and the factors that influence their level of segment disclosures. The banking sector represented approximately 12 per cent of their entire sample. Their study finds noticeable variation in the level of segment disclosure across listed banks suggesting a need for further monitoring of the enforcement of required segment disclosure. A recent segment reporting study from India, Bedia and Shrivastava (2016) found there is a lack of comparability of segment information between companies under IFRS 8 as it provides discretion to the Chief Operating Officer to choose what to disclose and the manner in which the information can be disclosed. That study found that under IFRS 8, the disclosure requirements related to geographical segments are significantly reduced or in most of the cases completely lost, which is a major concern to stakeholders. Other recent studies (e.g. Leung and Verriest, 2015), however, indicate that the impact of IFRS 8 varies with corporate transparency.

In another developing nation, Malaysia, only a fraction of the Malaysian companies provide any segment reports according to the findings of Benjamin *et al.* (2010). The implementation of IFRS 8 is expected to help solve this problem, if not completely, and should test the effectiveness of the new IFRS 8 in a developing economy context. In a developed economy, Australia, Kang and Gray (2013) found contrary to expectations there is very little change in the identification of reportable segments after the adoption of IASB. So perhaps problems like those experienced in Malaysia will not be resolved.

3.3 Segment reporting and valuation

There have been several studies that have investigated whether segment data is value relevant for the user in decision making. Australian studies such as Aitken *et al.* (1994) investigated the value of industry segment data and found that the earnings surprise was significantly less for the segment reporters. Sinnadurai *et al.* (1996) investigated the value relevance of geographic and industry disclosures under the original AASB 1005 Financial Reporting by Segments and found that there was limited support for the disaggregation of geographic segment data and no evidence of incremental explanatory power for industry segments.

A US study, Thomas (2000) examined whether geographic segment earnings as reported under SFAS 14 provided value relevant information. The paper was concerned with the new requirements under SFAS No. 131, as the disclosure of geographic segment earnings would no longer be required. The study, Thomas (2000), found significant evidence that the market does value geographic segment earnings and that such disclosures reflect information used by market participants in setting security prices. Thomas (2000) suggests the FASB may have to reconsider its changes to the segment reporting requirements. Hope *et al.* (2009) likewise find that these changes to the segment reporting requirements reduce the ability of investors to utilise or generate private information in conjunction with public announcements, and this dampens security trading. However, another study Berger and Hann (2003) found that, SFAS No. 131 by increasing information disaggregation, induced companies to reveal previously "hidden" information about their diversification, and this newly revealed information affected market valuations. So the findings on SFAS No. 131 impact on market valuations is mixed as some studies find a positive impact, while others find a negative outcome. The research on segmental disclosures under FASB No. 131 is not conclusive and as mentioned above, more research was needed to address the impact on SFAS No. 131.

Graham *et al.* (2005) examined the value relevance of information related to the extent of entity operations and found that the variables proxying for the extent of operations in Quebec had a significant impact on book value and earnings. Joliet and Muller (2016)

examined whether foreign region and country-specific segments relate differently compared to domestic segments and find that foreign earnings increases significantly the precision and significance of the value relevance of foreign performance. Birt and Shailer (2013), investigate whether segment earnings and segment book value of equity are value relevant for Australian firms. The results confirm that the inclusion of segment data in a valuation model does result in greater explanatory power compared to a model based on consolidated values alone. Additionally, the valuation model including both segment earnings and segment book value of equity variables performs better than consolidated model, and a model featuring geographic segment data performs better than a model featuring line of business segment data. A recent study by Kajüeter and Nienhaus (2017), examined German companies' segment reports between 2007 and 2010 comparing IAS 14 and the recently adopted IFRS 8. They found that segment earnings does improve the explanatory power of the model but not segment book value of equity. Therefore, information users find segment earnings to be useful in valuation. They also find that the recent standard IFRS 8 is more value relevant compared to IAS 14.

3.4 Valuation and the banking sector

Value relevance studies were mainly based on fair value disclosures that focussed on debt to equity securities for banks (Manganaris *et al.*, 2011). In some studies, the Ohlson (1995) model has been adopted to explore relationships among the market value of equity, and both the book value of equity and earnings per share (Kargin, 2013). Banks and financial institutions were significantly affected by the new IFRS changes to accounting. One of the critical elements of IFRS is that it relies heavily on fair value accounting as opposed to the concept of historical cost. Some recent studies that examined the value relevance of IFRS on the banking industry, find that bank transparency is the key driver in determining the value relevance of book value. For example, Agostino *et al.* (2013) found that the introduction of IFRS enhanced the information content of both earnings and book value for the more transparent European banks, however, by contrast; less transparent banks did not experience significant increases in the value relevance of book value. However, most of this research is yet to be published, and remains an area for future research.

This current study proposes that the disclosure of segment data will lead to greater accuracy in investment decision making due to the ability of the investor to assess the future cash flows relating to each individual segment. In this study we are investigating the value relevance of segment data in the Indian banking sector. Herrmann and Thomas (1997) provide a theoretical framework to justify the importance of disclosing segment information. They discuss the fineness theorem which posits that a finer information structure will result in greater benefits to the decision maker. That is, the information in set X is said to be as fine as or finer than the information in set Y if X is a sub partition of Y (Demski, 1973). Herrmann and Thomas (1997) propose that consistent with the fineness theorem, segment data is more accurate as it allows the investor or analyst to better integrate individual entity data with external sources of information such as relevant industry data and respective foreign exchange rates for a particular country. Previous research has found that segment disclosures are value relevant (in predicting earnings, e.g. Collins, 1976; for geographic segment disclosures, e.g. Balakrishnan *et al.*, 1990 and Herrmann, 1996; and for foreign earnings disclosures, e.g. Joliet and Muller, 2016). Therefore, the first hypothesis is:

H1. Disaggregated segment data for Indian banks in a valuation model will have a significant association with firm value.

In this study we are investigating the value relevance of segment data in the Indian banking sector. Since 1990, Indian banks have diversified their banking operations in six segments

comprising retail banking, corporate banking, investment banking, asset management, life insurance and general insurance (Deol, 2009). We propose that the number of segments will also be a positive sign for the investor as it signals that the entity is diversifying its risk. It is well-known fact that diversification reduces overall risk and improves investment returns. From the year 2006 when RBI allowed diversification the Indian banking sector treaded on the path of deeper penetration into different customer segments and diversification of value added products and services for providing best services to the corporate and other customers, for example, retail finance is considered to extend significant risk diversification benefits because credit risk is allocated to a large number of relatively small individual loans. Axis Bank annual report (2007, p. 24) indicates that portfolio diversification is the key tool used for managing asset quality and preventing concentration risks. Indus Bank annual report (2007, p. 15) claims to have retail exposures to the extent of 58 per cent of the total advances. The diversification of income streams augments non-interest income, and leads to de-risking of the portfolio through management of industry, credit and concentration risk.

Public sector banks have a dominant position in the Indian financial system. Previous research has found that public sector banks are considerably less efficient than private sector banks. They have a higher share of non-performing loans and do not provide increases in levels of financial development and growth (Barth *et al.*, 2004). Sensarma (2008) finds that the public sector banks are more profit efficient than private banks prior to deregulation and no significant difference in the efficiencies after deregulation. New private banks, starting from low levels of profit efficiency have demonstrated rapid growth in the recent years. However, prior research also finds that public sector banks that are more diversified (i.e. more segments) have benefits over private sector banks including a reduction in portfolio risk (Pennathur *et al.*, 2012). It is surprising to find that productivity of private banks has negative association with diversification as Sanyal and Shankar (2011) concluded that their productivity has declined by moving away from core banking activities. It is surprising to find that Sanyal and Shankar (2011) argue that productivity of banks has negative association with diversification as they highlight that bank productivity has declined by moving away from core banking activities. They argue that when banks diversify and the range of services offered increases, bank productivity is negatively affected while their business growth remains unaffected.

Therefore, our next two hypotheses will investigate whether the number of segments disclosed by an entity is value relevant, and whether or not segment reporting in public sector banks is more value relevant than in private sector banks. Therefore our second and third hypotheses are as follows:

H2. The number of segments disclosed by Indian banks is positively and significantly associated with firm value.

H3. Segment reporting by public sector Indian banks is more value relevant than segment reporting in private sector banks.

4. Research design

4.1 Research models

In this study we will be using the simplified Ohlson (1995) model, which has been adopted in similar value relevance studies such as Joos and Lang (1994) which provided evidence from the European Union on accounting diversity; Francis and Schipper (1999) and the questioning of the value relevance of audited financial statements, Birt and Shailer (2013) which presented Australian evidence and the German study by Kajüeter and Nienhaus (2017). Other studies have also tested various disaggregations of income statement and balance sheet items (Lipe, 1986) which focussed on earnings components (Giner and Reverte, 2001), that examined

valuation implications of capital structure. Mitrione *et al.* (2013) which focussed on R&D in Australia's health care industry and Birt and Shailer (2013), investigate whether segment earnings and segment book value of equity are value relevant for Australian firms. In this study we first estimate the extent to which the book value of equity and earnings explains the market values of equity, as expressed in the simplified Ohlson model (1). We then extend this model by disaggregating the book value of equity and earnings into segments, as expressed in model (2):

$$P_{it} = \beta_0 + \beta_1 BVE_{it} + \beta_2 E_{it} + e_{it} \quad (1)$$

where P is the price per ordinary share 90 days after the end of the financial year t; BVE the consolidated book value of equity per ordinary share; E the consolidated earnings result per ordinary share.

$$P_{it} = \beta_0 + \beta_1 BVE1_{it} + \beta_2 BVE2_{it} + \beta_3 E1_{it} + \beta_4 E2_{it} + \beta_5 RE_{it} + \beta_6 RBVE_{it} + e_{it} \quad (2)$$

where $BVE1$ is the book value of equity per ordinary share for largest EPS segment; $BVE2$ the book value of equity per ordinary share for second largest EPS segment; $E1$ the largest segment earnings per share, before tax; $E2$ the second largest segment earnings per share, before tax; RE the residual earnings per share, before tax after deducting $E1$ and $E2$; $RBVE$ the residual BVE per share, before tax after deducting $BVE1$ and $BVE2$.

$$P_{it} = \beta_0 + \beta_1 BVE1_{it} + \beta_2 BVE2_{it} + \beta_3 E1_{it} + \beta_4 E2_{it} + \beta_5 RE_{it} + \beta_6 RBVE_{it} + \beta_7 NUMSEG_i + e_{it} \quad (3)$$

where *NUMSEG* is a continuous variable measuring the number of segments for each Indian bank.

All other variables as defined earlier.

To test *H1*, we estimate model 2. It is hypothesised that the disaggregated segment variables representing both segment profits and segment book value of equity will be value relevant and positively associated with firm value. To provide further support for *H1* we compare models 1 and 2. It is hypothesised that model 2 based on the Indian segment data will provide greater explanatory power than model 1 (the simplified Ohlson's, 1995 model) as represented by the adjusted R^2. To test *H2*, we estimate model 3 and determine if the continuous variable *NUMSEG* is associated with firm value. We include *NUMSEG* following studies that have highlighted that diversification at the investor level has both value-enhancing and value-reducing impacts (Berger and Ofek, 1995). To test *H3*, we split the sample into public banks and private banks and estimate the regression for each of the sub-samples. We then compare the R^2 of both samples and the significance of the segment variables to determine which type of bank's segment variables contribute to greater explanatory power of the respective models.

4.2 Sample selection and descriptive statistics

In this paper, we utilise the Centre for Monitoring the Indian Economy's Prowess database to identify segment reporters with two or more segments[3]. This database provides us with a total of 175 private sector and public sector banks for the period 2007-2010. We remove firms that are missing share price information, segment data and missing annual report data. Totally, four firms with extreme values were also removed from the sample. This reduces our sample to a total of 136 banks including 80 public sector and 56 private sector Indian banks. We also obtain share prices 90 days after each relevant financial year from the Prowess database.

Tables II-IV reports the descriptive statistics for the entire sample and separately for public and private sector banks. The share price mean is \$643.48 for public sector banks and \$294.72 for private sector banks. The mean E is \$87.03 and \$21.94 for public sector and private sector banks, respectively. The mean BVE is \$448.42 for public sector banks and \$167.25 for private sector banks. The average number of segments for public sector banks is 3.12 and for private sector banks is 3.45. We also ran an ANOVA to test the differences between the means for the public sector and private sector samples. As reported in Table V the means for share price, E and BVE are all significantly different at the 0.05 level.

We also prepare a correlation matrix for the entire sample and the results are presented in Table VI. As you would expect with disaggregated variables, E and $E1$ are highly correlated (0.553). BVE and $BVE2$ are also correlated (0.191). We do not anticipate any

	n	Minimum	Maximum	Mean	SD
*SP*90	136	23.45	7,625.00	494.67	1,093.64
EPS	136	−5.05	875.72	60.05	143.64
BVE	136	10.71	3,827.26	333.57	686.41
*E*1	136	−0.39	3,412.34	100.27	356.97
*E*2	136	−252.96	1,430.37	35.10	141.23
*BVE*1	136	−30,187.39	3,100.16	−626.71	3,541.22
*BVE*2	136	−12,933.33	92,686.15	979.53	8,389.15
REPS	136	−4,811.59	24.04	−75.32	426.10
RBVE	136	−93,884.34	30,471.65	−19.25	8,837.26
SEGNUM	136	2.00	11.00	3.26	1.32

Table II. Descriptive statistics for entire sample of Indian banks

	n	Minimum	Maximum	Mean	SD
*SP*90	80	23.75	7,625.00	643.48	1,392.15
EPS	80	2.51	875.72	87.03	182.08
BVE	80	31.67	3,827.26	448.42	865.75
SEGNUM	80	2.00	5.00	3.12	0.93
*E*1	80	0.15	1,414.83	109.15	273.19
*E*2	80	−252.96	566.67	32.77	94.13
*BVE*1	80	−30,187.39	3,100.16	−1,073.70	4,550.04
*BVE*2	80	−12,933.33	20,898.88	489.74	3,563.03
REPS	80	−790.95	24.04	−54.90	151.35
RBVE	80	−3,222.10	30,471.65	1,032.38	4,508.27

Table III. Descriptive statistics for public sector banks

	n	Minimum	Maximum	Mean	SD
*SP*90	56	23.45	1,144.10	282.09	271.61
EPS	56	−5.05	105.69	21.51	21.30
BVE	56	10.71	1,004.81	169.48	182.47
SEGNUM	56	2.00	11.00	3.46	1.736
*E*1	56	−0.39	3,412.34	87.58	453.09
*E*2	56	−3.56	1,430.37	38.42	190.30
*BVE*1	56	−2,608.61	2,203.01	11.83	581.38
*BVE*2	56	−3,190.33	92,686.15	1,679.24	12,396.09
REPS	56	−4,811.59	10.22	−104.50	641.31
RBVE	56	−93,884.34	3,635.60	−1,521.59	12,593.37

Table IV. Descriptive statistics for private sector banks

problems with the high correlation of these variables as both *E* and *E*1 will not be used in the same segment model, likewise for *BVE* and *BVE*2. The variables *E*1 and *BVE*1 and *E*2 and *BVE*2 are also highly correlated (−0.216) and (0.799), however, high correlations amongst the explanatory variables in this type of model are common. We also run condition indexes in a separate regression (untabulated) for the variables *E*1, *E*2, *BVE*1 and *BVE*2 and all VIFs are under 10 (5.014, 3.514, 1.164 and 3.773, respectively).

5. Results

Our *H1*, tests whether disaggregated segment data for Indian banks in a valuation model will have a significant association with firm value. Based on previous research by Birt and Shailer (2013), Graham *et al.* (2005) and Bodnar *et al.* (2003) we predict that the disaggregation of consolidated data will have a significant association with share price. This is due to the application of the fineness theorem (Demski, 1973). Table VII column 2 reports our results for this regression. Our results show that *E*1 and *E*2 are both statistically significantly associated with share price for the full sample (*E*1 = *p*-value 0.000, *E*2 = *p*-value 0.012). *BVE*1 is positive but not significantly associated with share price (*BVE*1 = *p*-value 0.985), and *BVE*2 is also not significantly associated with share price (*p*-value 0.994). The lack of significance with *BVE*1 and *BVE*2 concurs with Kallapur and Kwan (2004) which also found no significance for the *BVE* variable. The variable capturing the remaining earnings per share is significant (*RE* = *p*-value 0.003) but the remaining *BVE* is not significant (*RBVE* = *p*-value 0.889). These results indicate that both our segment earnings variables have a positive association with share price at a significant level, i.e. segment data is value relevant and associated with increases in share prices. The adjusted R^2 for the disaggregated model is 0.89 which is slightly higher than other studies in this area

Table V.
ANOVA private sector vs public sector banks

	Mean private	Mean public	ANOVA
*SP*90	282.09	643.48	0.058
EPS	21.51	87.03	0.008
BVE	169.48	448.42	0.019
SEGNUM	3.46	3.12	0.144
*E*1	87.58	109.15	0.730
*E*2	38.42	32.77	0.819
*BVE*1	11.83	−1,073.70	0.078
*BVE*2	1,679.24	489.74	0.418
REPS	−104.50	−54.90	0.506
RBVE	−1,521.59	1,032.38	0.097

Table VI.
Correlation matrix for entire sample

	*SP*90	*EPS*	*BVE*	*SEGNUM*	*E*1	*E*2	*BVE*1	*BVE*2	*REPS*	*RBVE*
*SP*90	1	0.935**	0.927**	−0.103	0.572**	0.285**	−0.479**	0.121	−0.259**	0.149
EPS	0.935**	1	0.984**	−0.159	0.553**	0.294**	−0.422**	0.088	−0.224**	0.162
BVE	0.927**	0.984**	1	−0.163	0.635**	0.371**	−0.408**	0.191*	−0.323**	0.060
SEGNUM	−0.103	−0.159	−0.163	1	−0.182*	−0.099	0.087	−0.110	0.132	0.057
*E*1	0.572**	0.553**	0.635**	−0.182*	1	0.815**	−0.216*	0.840**	−0.921**	−0.662**
*E*2	0.285**	0.294**	0.371**	−0.099	0.815**	1	−0.008	0.779**	−0.915**	−0.708**
*BVE*1	−0.479**	−0.422**	−0.408**	0.087	−0.216*	−0.008	1	−0.085	0.041	−0.351**
*BVE*2	0.121	0.088	0.191*	−0.110	0.840**	0.779**	−0.085	1	−0.932**	−0.900**
REPS	−0.259**	−0.224**	−0.323**	0.132	−0.921**	−0.915**	0.041	−0.932**	1	0.844**
RBVE	0.149	0.162	0.060	0.057	−0.662**	−0.708**	−0.351**	−0.900**	0.844**	1

Notes: ***$p < 0.01$, **$p < 0.05$ and *$p < 0.1$ levels, respectively

	Model 1	Model 2	Model 3
*E*1		4.236 (0.000)***	4.446 (0.000)***
*E*2		2.551 (0.012)***	2.640 (0.009)***
RE		3.070 (0.003)***	3.207 (0.002)***
*BVE*1		0.019 (0.985)	−0.082 (0.935)
*BVE*2		−0.008 (0.994)	−0.112 (0.991)
RBVE		0.140 (0.889)	0.043 (0.966)
E	4.221 (0.000)***		
BVE	1.223 (0.223)		
NUMSEG			2.364 (0.020)**
Constant	1.289 (0.200)	2.129 (0.035)*	−1.221 (0.224)
n	136	136	136
R^2	0.876	0.901	0.906
Adj. R^2	0.874	0.897	0.900
F stat.	468.717	196.532	175.246

Notes: This Table reports results of OLS regression models testing *H1-H3* for 136 firms in the Indian Banking Industry for the period (2007-2010). Model 1 provides the results of the consolidated Ohlson (1995) model. Model 2 provides results of disaggregated segment variables. Model 3 provides the segment models with the *NUMSEG* variable. Share price data was collected from the PROWESS database. All other accounting data were hand collected from annual reports. Dependent variable: $Share\_Price_{it}$ is price per share of firm *i*, three months (90 days) after fiscal year-end *t*. *t*-Stats shown above and *p*-values in parentheses. ***$p < 0.01$, **$p < 0.05$ and *$p < 0.1$ levels, respectively

Table VII.
Regression analysis

but probably reflects the Indian sample. Factors that have contributed to the higher profitability of overall Indian banking system include less regulatory market system (Bhattacharyya *et al.*, 1997; Sathye, 2005), adaptation to competitive environment in an efficient manner by foreign banks (Bhattacharyya *et al.*, 1997), technological adaption by public sector banks, improvements in efficiency of all banks in general and private banks in particular (De, 2003; Galagedera and Edirisuriya, 2004), convergence in financial performance of public and private sector banks in post reform era (Mohan and Ray, 2004), well-developed financial markets and gradual privatisation (Sathye, 2005) and the partial privatisation of public sector banks (Sarkar and Sensarma, 2010).

We also determine whether a model including segment data has more explanatory power than a consolidated model based on the simplified Ohlson (1995) model. Table VII column 1 reports the results for the simplified Ohlson (1995) model. For the consolidated model, *E* is statistically significant and positively associated with share price (*p*-value = 0.000), however, total *BVE* is not significantly associated with share price (*p*-value = 0.223). These results are similar to our results based on our disaggregated models. The adjusted R^2 for the simplified Ohlson (1995) model is 0.87 which is slightly lower than the disaggregated model ($R^2 = 0.89$) featuring the disaggregated segment variables.

Our *H2*, investigates whether the number of segments is value relevant for Indian banks. As discussed earlier, Indian banks have diversified their banking operations in six segments comprising retail banking, corporate banking, investment banking, asset management, life insurance and general insurance (Deol, 2009) and we propose that diversification will be positively associated with share price. Table VII column 3 reports the results of our third regression and shows that the number of segments is positively and significantly associated with share price (*p*-value = 0.020). This indicates that diversification in banks does send a positive signal to the market leading to higher stock prices through higher ROA/financial performance in banking sector. These findings are supported by Becerra and Santaló (2006) concluding their segment-level analysis that diversified firms had better financial performance than specialised firms across all types of industries because their large size

leads to competitive advantage. The higher level of performance is reflected in higher market prices (Cho and Pucik, 2005; Brealey *et al.*, 2008).

Our *H3*, examines the value relevance of segment reporting for both public and private sector banks. As stated earlier, public sector banks are considerably less efficient than private sector banks. However, it has been found that public sector banks are likely to benefit more when they are highly diversified compared to private sector banks. The obvious advantage of diversification is spreading the risk of the bank's investments. Therefore we propose that segment reporting by public sector Indian banks will be more value relevant than segment reporting in private sector banks, especially in the case of diversification, i.e. number of segments.

To test this hypothesis we split the sample into public sector and private sector banks. We run both the consolidated (model 1) and disaggregated segment models (model 3) for both sectors. Table VIII illustrates the results. For public sector banks, model 1 shows that E is again highly significant (p-value = 0.009) and similar to the consolidated results BVE is not significant (p-value = 0.804). For the disaggregated segment models, both $E1$ and $E2$ are significant (p-value = 0.000 and 0.006, respectively). The number of segments is significant (p-value = 0.029). The adjusted R^2 for both models 1 and 3 is 88.2 and 93.7 per cent, respectively.

For private sector banks, model 1 shows that E is again highly significant (p-value = 0.000) and BVE is also significant (p-value = 0.041). For the disaggregated segment models, both $E1$ and $E2$ are significant (p-value = 0.000 and 0.000, respectively). $BVE1$ is not significant (p-value = 0.532), however, $BVE2$ (p-value = 0.000) is significant. The adjusted R^2 for both models is 48.1 and 52.5 per cent, respectively). These findings support previous research which has found that public sector banks have benefits over private sector banks because of the recent increase in diversification which consequently decreases portfolio risk. In a recent study, Pennathur *et al.* (2012) state that that in the case of India, diversification does indeed reduce risk, and that this effect is strongest for the public sector banks. In a study on efficiency of Indian banks, Bhattacharyya and Pal (2013) highlight that efficiency scores of public sector banks as opposed to private sector banks, may be the result of public banks catering mostly to government borrowing programmes, enjoying the benefits of state support, public confidence

	Public sector Model 1	Model 3	Private sector Model 1	Model 3
E	2.679 (0.009)**		4.080 (0.000)***	
BVE	0.249 (0.804)		2.098 (0.041)**	
CONSTANT	0.204 (0.839)		1.959 (0.055)*	
*E*1		4.120 (0.000)***		4.670 (0.000)***
*E*2		2.848 (0.006)**		4.007 (0.000)***
RE		1.615 (0.111)		6.406 (0.000)***
*BVE*1		−1.790 (0.078)*		0.629 (0.532)
*BVE*2		−1.764 (0.082)*		4.526 (0.000)**
RBVE		−1.717 (0.090)*		−1.731 (0.090)
NUMSEG		2.231 (0.029)**		1.955 (0.056)**
CONSTANT		−1.537 (0.129)		−0.035 (0.972)
n	80	80	56	56
R^2	0.885	0.943	0.500	0.576
Adj. R^2	0.882	0.937	0.481	0.525
F stat.	295.637	169.538	26.479	11.116

Table VIII.
Regression analysis – public and private sector banks

Notes: This Table reports results of OLS regression models for private and public sector banks. All other accounting data were hand collected from annual reports. Dependent variable: $Share\_Price_{it}$ is price per share of firm i, three months (90 days) after fiscal year-end t. t-Stats shown above and p-values in parentheses. ***$p < 0.01$, **$p < 0.05$ and *$p < 0.1$ levels, respectively

with respect to safety of deposits and easy access to subsidised loans to the priority sectors that increase the amount of output. The results of our study support the argument that with this government-based established background; the public sector banks have better resources and opportunities to capitalise the benefits of diversification and consequently decreased their portfolio risk.

5.1 Robustness tests

Following on from previous research (Mitrione *et al.*, 2013), we also carry out a number of robustness tests to further substantiate our results using different dependent and independent variables. For the main results we have used the share price 90 days after the end of the financial period. As a form of robustness, we use the share price at the end of the financial period to proxy for firm value. The results (untabulated) show that all earnings variables are highly significant at the (p-value = 0.000) level. The adjusted R^2 for this model is very high at 94.1 per cent. We compare this to the simplified Ohlson's (1995) model (adjusted $R^2 = 0.918$) and again only E is significant in this model.

We also run our disaggregated model based on segment variables alone. Recall, that in the main tests we also include the residual E and residual BVE. Again, we find that the segment variables are all highly significant (p-value < 0.01). The adjusted R^2 for this model is lower as it would be expected without the "missing" residual variables (adjusted $R^2 = 0.833$). In this paper we have used a pooled cross-sectional model. We follow Berry and Wright (2001) and control for value relevant information specific to each year, by creating separate year dummies for each of the years of data, i.e. years 2007-2010. The results (untabulated) show that the adjusted R^2 for this model is again high at 89.8 per cent. Both segment earnings variables are again highly significant (p-value < 0.01). Both year 2 and 4 are significant dummies for the segment model. We compare this to the consolidated model including year dummies. Again the adjusted R^2 is slightly lower than the segment model 87.7 per cent and all years apart from year 3 are also significant. In conclusion, our segment-based model provides higher explanatory power compared to the consolidated simplified Ohlson model and the segment earnings variables appear more relevant in 2008 and 2010.

Finally, in this paper we use number of shares as a scalar, i.e. we express all of our variables as per share variables. Suggestions from other studies recommend using other scalars such as book value of equity, market capitalisation, total assets, etc. For robustness, we use both book value of equity and market capitalisation as alternative scalars. We find that overall, our results hold and our segment earnings variables remain highly significant and positively associated with firm value.

6. Conclusions, limitations and future research

This paper contributes to the accounting research literature as follows. First, it extends prior research to the banking industry, which is often excluded from sample companies due to the sector's more stringent regulatory regime. Second, it adds to the limited number of studies that have examined segmental reporting practices in developing countries. And finally, we provide further evidence that segmental reporting information is value relevant, thus supporting findings of recent studies such as Birt and Shailer (2013) and Kajüeter and Nienhaus (2017).

With the liberalisation of the Indian economy since 1991, India has emerged to become a major economic power. The banking sector has a dominant position in the Indian financial system and is characterised by two components: scheduled commercial banks and scheduled cooperative banks. The Indian banking sector is predicted to become the third largest in the world over the next 14 years (*The Economic Times*, 2011). Indian banks have diversified in recent years to include segments such as retail banking, corporate banking, investment banking, asset management, etc.

In this paper we first test whether disaggregated segment data in a valuation model will have a positive association with firm value. We find that segment earnings for the Indian banking industry is highly value relevant and significantly associated with share price. We find that a valuation model featuring disaggregated segment data is more value relevant than a model based on consolidated data alone. This finding supports previous research by Birt and Shailer (2013) and Kajüeter and Nienhaus (2017) who also incorporate segment data into a valuation model to examine the value of disaggregated segment information. We find mixed results for our segment *BVE* variables. Our tests are robust to changes in share price and year dummy variables.

Our second hypothesis, investigates whether the number of segments is value relevant for Indian banks. We find that the number of segments is positively and significantly associated with share price indicating that diversification in banks does send a positive signal to the market leading to higher stock prices through higher ROA/financial performance in banking sector. These findings are supported by Becerra and Santaló (2006).

Our third hypothesis, examines the value relevance of segment reporting for both public and private sector banks. Our results concur with other studies that have examined the value of segment information in a valuation model. Firms that are more diversified (i.e. have more segments) are positively associated with share price. Finally, segment disclosures in public sector Indian banks are more value relevant than segment disclosures in private sector banks. Again, we rerun our tests with the substitution of share price at balance date and also a slightly modified model without the residual segment earnings and segment *BVE*, and we find that our results remain unchanged.

There are several limitations to our study. Our sample size has been reduced due to a lack of segment and share price data that is reported by Indian banks. Our value relevance model is based on the simplified Ohlson (1995) model and may be misspecified by failing to include unknown predictor variables in the model. We based our research on the use of two segments in our disaggregated model as two segments is the minimum number of segments for our sample.

Future research could expand the sample to include foreign owned banks and incorporate three segments into the model. It would be useful to know whether segment data is value relevant to foreign owned banks. This would be interesting to investigate as foreign owned banks may have dual reporting requirements where they may have implemented alternative segment reporting standards compared to the Indian banking sector which may impact on the results. Other studies could compare our results to other BRIC countries, i.e. China, Brazil or South Africa where significant changes in the structure of the banking industry have also recently occurred. In the near future, India will be adopting an IFRS-based segment reporting standard which should lead to increases in segment disclosures. Further research could also investigate the value relevance under a different segment reporting regime and focus on a pre and post comparison of disclosures under the two regimes.

Notes

1. The disclosure of results from operating in markets with different profits, different degrees of risk or different opportunities for growth is known as the segment report. The Organisation for Economic Cooperation and Development (OECD) define a segment as "a distinguishable component of a diversified entity or group of entities, engaged in operations which are more closely related to each other than to those of the rest of the group". The disclosure of segment information by industry and geographical area facilitates the analysis of a company's or group of companies' past performance. It can also help assess future profit prospects and risk exposure when making investment and credit decisions (Source: www.oecd.org).

2. During the year 2008 India's economic growth suffered a fall to about 3.9 per cent, however, recovered by 2009 to 8.5 per cent. Overall, these are much superior economic growth rates in comparison to leading developed countries during that same period (Source: India Economic Survey, 2010).

3. We base our models on firms with two or more segments. We use two segments for both earnings and book value of equity as our entire sample has at least two segments. If we ran a three segment model our sample would be reduced in size by at least 35 per cent.

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