Corporate Governance Systems' Impact on the Global Automotive Industry's Communication of Financial Ratios

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Abstract

The influence of corporate governance systems on the reporting practices of the global automotive industry firms is investigated. This industry is important due to its truly global scope and the economic ripple effect of its vastly intertwined supply chain. The extent of financial ratio disclosure information in the annual reports of the world's top automotive firms is measured. The findings show that although most firms are profitable in 2008, they are sparse in communicating their financial ratio positions. Most of these massive automotive firms are deemed to have good corporate governance systems. However, improvements could be made with regard to corporate governance practices. These corporate governance systems are found to be a statistically positive influence on the extent of financial ratio disclosures. Improved communication should enhance stakeholder understanding of the actual financial position of firms in this most highly visible global industry.

Introduction

The global car industry is suffering from a serious loss of demand and financial viability following the recent worldwide global financial crisis (GFC). This is evidenced by the drastic slump in sales among the world's largest carmakers. For instance, BMW announced a 14% drop in sales worldwide for September 2008

whilst Porsche suffered a 44% decrease in sales in the US and registered an average loss worldwide of 27% (Henning, 2008). The Japanese automaker, Toyota also suffered an operating loss for only the second time in the company's history (The Straits Times, December 22, 2008). Though the global contraction of car sales demand is expected, the speed and intensity of the downturn is sharper than anticipated (KPMG, 2008).

Seidel *et al.*, (2005) examine the evolution of the automotive industry and argue that it is currently at the "maturity" stage of its economic life-cycle as evidenced by the industry consolidation and growth as well as the nature of its competition. Seidel *et al.*, (2005) more positively assert four reasons why it is very unlikely that the industry will go into a permanent declining stage. First, the mobility of an automobile makes it difficult to be displaced easily by other products. Second, the car, a metaphor of self-expression and place for socializing, has become a product that is very difficult to be substituted by other modes of transportation. Third, "marginal" differentiation among competitors including the dynamic technical advancement with increased unique attributes such as environmental friendliness and added safety features continue to stimulate demand for the product. Finally, increased sophistication in the consumer's preference places greater emphasis on functional differentiation that provides an extension to the industry life cycle (Schlie & Yip, 2000; Seidel *et al.*, 2005).

The global car industry is chosen for this study because of its prominent contribution towards the Gross National Product (GNP) and employment impact (Irandoust, 1999) for many nations. According to the *Organisation Internationale des Constructeurs d'Automobiles*. (Translated as International Organisation of Motor Vehicle Manufacturers, (OICA)) (2008) the worldwide auto industry's turnover is almost €2 trillion; this figure is equivalent to the sixth largest economy in the world and well over 50 million people worldwide owe their job to the auto industry. These facts help demonstrate the importance of studying the global car industry's communication of their financial characteristics and prowess.

Corporate governance (CG) is concerned about whether managers exercise their judgment in an opportunistic or efficient manner (Bowen *et al.*, 2008). CG plays an important role in determining the financial stability and health of a business (Joh, 2003). Despite the growing recognition of the importance of managing corporate governance for improving the competitive performance of organisations, there has been very little systematic research attention on the influence of the corporate governance systems on voluntary financial ratio disclosure, specifically for the global car industry. This issue is addressed in this paper using cross sectional data from 2008 for 30 of the world's top auto carmakers.

Financial ratios serve as an efficient predictor of a variety of financial problems and future profitability of firms (Horrigan, 1965). Further, it is also a

useful predictor of business failure (Edmister, 1972). This crucial source of information conveys a comprehensive view of the financial position of the firm and is able to trigger a signal to highlight certain key aspects of financial problems which the firm may face.

Agency theory posits that the managers possess insider information that may not be available to the outside investors (Healy & Palepu, 2001). This gives arise to agency conflicts. Voluntary disclosure is viewed as bridging the transparency gap in that it facilitates more efficient allocation of resources in a capital market economy. To overcome the critical challenge of the information asymmetry, a good corporate governance system is required. An effective corporate governance system can act as an efficient mechanism to minimize the agency conflict. Thus, this paper seeks to address these issues by answering the following research questions:

1. What is the extent of disclosure of financial ratio information in the annual reports of the world's top automotive firms?

2. Does an enhanced corporate governance system lead to better financial ratio disclosure?

This study is significant for a number of reasons. First, despite the fact that ratio disclosures have been studied in the existing literature, there has been very little focus on specific industry groups. Industry is a useful unit of analysis as firm differences can be considered against an industry backdrop (McGahan & Porter, 1997; Rumelt, 1991). Further, due to the pervasive influence of the automotive industry for the global economy (Irandoust, 1999), this study provides a platform to better understand the industry. Third, a wider range of corporate governance attributes is explored as potential influencing factors with the extent of voluntary disclosure. Most prior studies only select one or a very limited number of corporate governance attributes to analyse. This study takes a more comprehensive view of corporate governance through the usage of a broader 13-item matrix. Overall, the empirical findings of this study should provide valuable insights regarding the automotive industry specifically and other industries generally.

The remainder of the paper is organized as follows. Section Two reviews the relevant prior literature. Section Three presents the research approach and empirical results. The final section offers concluding commentary.

Literature Review

The automotive industry serves as a fascinating focus due to its global scope and competitive nature. It is driven by fast technological advancement and resides in a highly competitive global market. Over 80 years ago the automotive industry was recognized as one of the keenest for competition between producers (Epstein, 1931).

The automotive industry has been examined from diverse perspectives. For instance, Malone and Roberts (1996) scrutinize the public interest reports of General Motors from 1971 to 1990 to identify whether the company is socially responsive or otherwise. They argue that their public interest report serves as a disclosure device to disseminate unique information to the public and thus, convey the message that the firm is socially responsive in matters of public interest. Ito (2002), on the other hand, investigates the productivity differentials between foreign and local establishments as well as the productivity determinants of the Indonesian automobile industry. The author concludes that the Indonesian automobile market is unsuccessful in exploiting the benefits of economies of scale due to the small size of its market. Pfaffmann and Stephan (2001) examine how Germany wins the battle for foreign direct investments in the car industry and Seidel *et al.*, (2005) investigate the evolution of the industry in the longer term. Despite these different studies for the automotive industry, there has been no known investigation of the possible corporate governance influences on the voluntary financial ratio disclosure.

KPMG (2008) provides a discussion on the impact of the current financial crisis on the global automotive industry worldwide. They note that that sales of giant car manufacturers dropped significantly in most regions. One reason leading to this situation was the stricter procedure on the approval of automotive loans implemented by the banks and other financial institutions. This tighter credit placed severe pressures on the car producers. The domino effect of this situation was the reduction of production or jobs cut, and closing down of dealer companies. KPMG (2008) suggests several strategies to better face the situation including: (a) seek support from the government in term of various financing assistance, (b) strengthen the supply chain between suppliers and manufacturers, (c) enhance the operational efficiencies and lower the costs, (d) pursue consolidations, divestitures and realignment, (e) develop more aggressive sales and marketing programs and (f) increase the production of smaller and cheaper vehicles.

In an early seminal study, Epstein (1931) examines the profits and the size of the firm in the automobile industry between 1919 and 1927. During that time, there were a very limited number of firms that engaged in the motor manufacturing sector. Epstein (1931) analyses sixteen automobile manufacturing firms' annual reports over a nine-year period. His findings provide little evidence to support the notion that larger firms produce higher earnings. In terms of earnings stability, Epstein (1931) notes the findings also provide little support that larger firms have less earnings fluctuations. He reasons that automotive industry success is not highly dependent upon the size and earnings power but the capacity for innovation and its unique set of specifications.

Irandoust (1999) examines the trade performance in the car industry in terms of the impact of foreign competition, market structure, and barriers to entry on the

trade performance. Irandoust (1999) argues that the purchasing decision is being influenced, to a certain extent, by the quantities sold or the market share. In other words, the most popular models are likely to be the favoured one in the consumer's purchasing decision. The empirical results show that the market share of exporters depends on the market structure, the income level differences, and the cross-country differences in relative unit labour costs.

Jan and Hsiao (2004) examine the development of the automotive industry, particularly in a developing country. Specifically, they suggest that this industry is characterized by high economies of scale, intense capital and technological entry barriers, strong inter-industry effects, and massive employment. They argue that developing countries need to consider technological transformation issues, nurturing policies, and differences among countries while dealing with their automotive industry. Using Taiwan as a case study, Jan and Hsiao (2004) investigate the interaction of four factors (government, domestic automotive firms, foreign technology partners, and consumers) in the development of this sector. They noted that the Taiwanese Government is involved in making policies relating to technology transfers, tariff, and research and development issues. Moreover, for domestic firms, the Taiwanese Government influences technological development as well as manufacturing and design ability. Other key attributes are good relationships with foreign partners' and the ability to offer new or revised car models for customers. Jan and Hsiao (2004) conclude that the interaction between these four elements is essential for the growth of the automotive industry in developing countries such as Taiwan.

Ito (2004) describes the automotive industry as a capital-intensive industry, intrinsically linked to various related industries and involved with massive technology transfers. The author suggests that Thailand is successful in attracting foreign direct investment for the automotive industry to the country due to several reasons which include the introduction of the Industrial Promotion Act, promotion of joint ventures between foreign and local manufacturers, and reduction of tariffs in the early 1990s. Using plant-level data for 1996 and 1998, Ito (2004) examines the differences in the productivity of local and foreign plants. The result shows that the labour productivity of foreign plants is significantly higher than that of local ones.

Ravenhill (2001) discusses the long history of the Korean car industry producers Kia, Hyundai, Samsung, Daewoo and Ssangyong. The introduction of the Automotive Industry Promotion Law in 1962 is the landmark of the motor vehicle industry in Korea. In order to protect domestic car producers, the import of cars were banned for a significant period of time. Even after the ban was removed, imported cars faced a massive discrimination situation which resulted in only 0.2% of total sales at the end of 1990s. However, after the 1997 financial crisis, the Korean car industry was forced in an opposite direction with more overseas companies having shareholdings in Korean companies. For example,

Samsung is now 70.1% owned by Renault, while DaimlerChysler shareholding in Hyundai is around 15%. Ravenhill (2001) suggests that with this trend towards greater internationalization, the Korean car industry will have a better future.

Tian (2007) investigates whether government's automotive policy in China provides a platform for the advancement of the industry. A comparison is made between China's *laissez-faire* computer industry and the more heavily regulated automotive industry, which is subject to more government protection. There are four phases of development of China's automotive industry, covering the periods of 1953–1978, 1978–1993, 1994–2003, and 2004–present. During the first period, the focus is on small car makers and producers of car parts. The second phase involved greater government policies to strengthen and protect the local car industry such as controlling market price, introduction of tariffs, and approval of foreign direct investment in China. The biggest efforts took place in 1994 with the implementation of Industrial Policy for Automobiles, which resulted in the massive production of affordable cars for Chinese people. Using data between 1998 and 2002, Tian (2007) notes that average production and sales of automobile firms increased by 72%. However, for the less regulated computer industry, average production increased by 164% and average sales increased by 176%. The result reveals that, despite the protective policy introduced by the government, the Chinese automobile industry is more concentrated and less efficient than the computer industry. Hence, it is suggested that competitive forces can act as a preferred mechanism to improve efficiency rather than reliance on regulation and government protection.

Pauwels *et al.* (2004) examine the relationship between the introduction of new products and sales promotion towards the car dealership performance using 1100 California dealerships sales transactions data. Using the data source of expert ratings, these new product introductions are labelled as either major or minor innovations. Pauwels *et al.,* (2004) results reveal that the introduction of new products has significant and positive impact on revenues and earnings which is consistent with previous literature. However, the impact on the market share price is weaker. The effect of sales promotions' intensity is positive on revenues but negative on firms' earnings and share price.

Vickery *et al.,* (2003) studied the relationship between integrated supply chain strategy on customer service and financial performance. They hypothesize a positive impact from integrated information technology (IT) to supply chain integration, customer service and the financial performance of the firms. The results confirmed the positive relationship from; integrated IT to supply chain integration; from supply chain integration to customer service; and from customer service to financial performance. However, the direct path from supply chain integration to financial performance was not significant, but moderated by customer services.

Schlie and Yip (2000) posit four factors that influence the competitiveness of the automotive industry, including global car demand, global supply-side forces, rapid technology change, and environmental and regulatory concerns. They conclude that different countries' car manufacturers had varying levels of success in different regions. Where Saccani *et al.*, (2006) empirically studied the role of after-sales services for automotive, household appliance, IT, and consumer electronics industries, they also investigated the performance measurements related to the after-sales services. In terms of a time horizon, only 50% of the automotive companies considered after-sales service as valuable for the long term.

World Trade surveys the world trade's Top 100 for the USA imports and exports in 2005. The results reveal that both Top 50 USA goods imports and goods exports are led by automotive vehicles, parts and engines commodities. However, higher fuel prices are forcing consumers to decide whether to: 1) change the choice of vehicle type when buying; 2) reduce travelling by car; 3) and/or delay the purchase of their next vehicle. The survey results reveal that GM was having an average loss of $1227 per vehicle sold as compared to Ford (loss of $139 per vehicle). In contrast Japanese car makers such as Nissan, Toyota and Honda earned a profit of $1825, $1488 and $1203 respectively for the first half of 2005. The *Economist Magazine* in 2009 provides an important update on the USA automotive light-vehicle sales drop between December 2007 and 2008. They note the following declines in sales: Chrysler (-30%), Hyundai (-12.6%), Toyota (-15.4%), BMW Group (-9.7%), Honda (-7.9%), Ford (-21.8%), GM (-22.7%), Nissan (-10.9%), Daimler (-1.5%), and VW Group (-4.4%).

Overall, the review of the above studies reveals an ultra-competitive global automotive car industry under duress. Worldwide sales were lacklustre even before the recent global economic recession. Some firms lost their innovative edge whilst new competitors arose – especially from the emerging economic giants of China, India, and Brazil. This study examined the transparency of this industry's financial situation. Their communication level is measured as an aggregate score of their financial ratio disclosures. It is argued that the higher the number of financial ratios provided by the firm, the better the transparency and accountability (Aripin *et al.*, 2009). The possible link of corporate governance to the transparency of global automotive industry's financial position is then analysed with the sole hypothesis that stronger corporate governance systems are positively related to financial ratio disclosures.

Research Findings

An empirical positivist research approach is adopted in this study. Data is gathered and analysed quantitatively using descriptive and inferential statistics. Two research questions are addressed: 1) what is the extent of disclosure of financial ratio information in the annual reports of the world's top automotive firms; and 2) does an enhanced corporate governance system lead to better financial ratio

disclosure? Inferential statistics is employed using corporate governance as the predictor variable regressed (using OLS regression techniques) against financial ratio disclosure with the common control variables of size, leverage, profit and region (Taylor *et al.,* 2008; Ho *et al.,* 2008). The sample data focuses on the largest global automotive firms. The top 50 firms worldwide are listed in Table 1.

Table 1: World Ranking of Automobile Manufacturer Year 2008

Rank	GROUP	Total	CARS	LCV	HCV	HEAVY BUS
	Total	69,561,356	55,846,163	10,652,432	2,598,495	464,266
1	TOYOTA	9,237,780	7,768,633	1,102,502	251,768	114,877
2	GM	8,282,803	6,015,257	2,229,833	24,842	12,871
3	VOLKSWAGEN	6,437,414	6,110,115	271,273	46,186	9,840
4	FORD	5,407,000	3,346,561	1,991,724	68,715	
5	HONDA	3,912,700	3,878,940	33,760		
6	NISSAN	3,395,065	2,788,632	463,984	134,033	8,416
7	PSA	3,325,407	2,840,884	484,523		
8	HYUNDAI	2,777,137	2,435,471	85,133	151,759	104,774
9	SUZUKI	2,623,567	2,306,435	317,132		
10	FIAT	2,524,325	1,849,200	516,164	135,658	23,303
11	RENAULT	2,417,351	2,048,422	368,929		
12	DAIMLER AG	2,174,299	1,380,091	330,507	395,123	68,578
13	CHRYSLER	1,893,068	529,458	1,356,610	7,000	
14	B.M.W.	1,439,918	1,439,918			
15	KIA	1,395,324	1,310,821	83,159		1,344
16	MAZDA	1,349,274	1,241,218	105,754	2,302	
17	MITSUBISHI	1,309,231	1,175,431	128,233	5,567	
18	AVTOVAZ	801,563	801,563			
19	TATA	798,265	489,742	160,966	128,169	19,388
20	FAW	637,720	637,720			
21	FUJI	616,497	552,096	64,401		
22	ISUZU	538,810		47,101	488,488	3,221
23	CHANA AUTOMOBILE	531,149	531,149			
24	DONGFENG	489,266	489,266			
25	BEIJING AUTOMOTIVE	446,680	446,680			
26	CHERY	350,560	350,560			
27	SAIC	282,003	282,003			
28	VOLVO	248,991		17,964	218,542	12,485
29	BRILLIANCE	241,553	241,553			
30	HARBIN HAFEI	226,754	226,754			
31	GEELY	220,955	220,955			
32	ANHUI JIANGHUAI	207,711	207,711			
33	BYD	192,971	192,971			
34	GAZ	187,053	22,043	140,985	24,025	
35	MAHINDRA	162,816	100,615	62,201		
36	PROTON	157,306	156,813	493		
37	GREAT WALL	129,651	129,651			
38	PACCAR	125,084			125,084	
39	CHONGQING LIFAN	122,783	122,783			
40	M.A.N.	108,053			100,566	7,487
41	JIANGXI CHANGHE	107,422	107,422			
42	CHINA NATIONAL	106,377		106,377		
43	PORSCHE	96,721	96,721			
44	LUAZ	90,548	88,316	2,232		
45	NAVISTAR	90,264			76,302	13,962
46	SCANIA	79,874			72,067	7,807
47	SHANNXI AUTO	75,220	75,220			
48	UAZ	72,181	30,953	41,228		
49	ASHOK LEYLAND	71,485		1,019	50,539	19,927
50	KUOZUI	67,891	63,827	1,792	2,272	

LCV = Light commercial vehicle; HCV = Heavy commercial vehicle; Heavy Bus = Buses and coaches
Source: World Motor Vehicle Production by Manufacturer: OICA. World Ranking of Manufacturer, Year 2008. http://www.oica.net.

Table 1 reveals a broad array of automotive firms from all over the world with what many non-experts would consider a surprisingly high number from the Asian/Eastern regions. There were almost 70 million sales of motor vehicles in 2009 with cars being 80% of the purchases. To generate the data sample for this study the initial list is composed of the Table 1 50 largest automotive firms. Eighteen firms are then removed: two (General Motors and Chrysler) are removed as they were in bankruptcy in 2008; 16 others have incomplete data and/or are not in the English language.

Therefore, 32 of the 50 largest automotive firms comprise the final data set. Interestingly, 18 (56.3%) are headquartered in the Asian/Eastern regions and only 14 (15.6%) in the West.

Table 2 reveals demographic characteristics of the sample firms. The (logged) firm size highlights the massive scale of these companies and the average leverage percentage is 65.9%. Their average profit is 3.44% with 27 of the 32 firms (84.4%) showing a profit in 2008. A key focus of this study is corporate governance. Table 2 shows that the strength of the corporate governance system exceeds 80% on average. This high figure implies a vibrant and activist independent-minded board of directors that may well insist on high levels of corporate transparency including the disclosure of financial ratios.

Table 2: Independent and Control Variables Descriptive Statistics

	Independent Variable		Control Variables	
	CG	FSIZE	ROA	LEV
Mean	0.8197	23.9267	0.0344	0.6592
Median	0.8462	23.6115	0.0306	0.6702
Std. Deviation	0.1229	1.7182	0.0454	0.1765
Minimum	0.460	20.830	-0.070	0.000
Maximum	1.000	26.970	0.140	1.130

Note: Data set is 32 of the world's largest auto manufactures for all variables. Std. Deviation is Standard deviation. FSIZE is logged firm total assets. ROA is return on assets. LEV is leverage (total leverage/total assets). CG is a composite measure of 13 important corporate governance attributes (see Table 3 for details).

Table 3 provides much more detail on the key corporate governance predictor variable by breaking down this construct into 13 sub-components (taken from the comprehensive list created by Taylor *et al.*, 2008). Table 3 highlights the overall high (81.97%) of corporate governance structures by the top global automotive firms. They all had a formal code of conduct, remuneration policy (share option and direct payments), risk management policy and continuous disclosure procedures. Most also had an audit committee with at least some financial expertise, an audit committee charter, CEO/CFO sign-offs, and the presence of a finance committee charter. There is more variance on the first four

corporate attributes of independent chairperson, duality of chairperson/CEO, percentage of independent directors, and nomination committee policies for appointment of directors.

Table 3: Corporate Governance Items

	Descriptions of Corporate Governance Items	%
CG1	Is chairman of the board an independent director? 1=Yes; 0=No	18.75
CG2	Are the roles of the chairman and chief executive officer performed by different persons? 1=Yes; 0=No	50.00
CG3	Are the percentage of independent directors on the BOD>=50%? 1=Yes; 0=No	50.00
CG4	Does the nomination committee have a policy for the appointment of directors? 1=Yes; 0=No	71.88
CG5	Has the board adopted a formal code of conduct that deals with personal behaviour of directors and key executives relating to insider trading, confidentiality, conflicts of interest and making use of corporate opportunities(property, information, position)? 1=Yes; 0=No	100.00
CG6	Does the company have a formal plan, policy or procedures in respect of equity (shares and options) based remuneration paid to directors and key executives? 1=Yes; 0=No	100.00
CG7	Does the company have a remuneration policy that outlines the link between remuneration paid to directors and key executives and corporate performance? 1=Yes; 0=No	100.00
CG8	Does the audit committee have at least one member that has financial expertise (i.e. is a qualified accountant or other financial professional with experience of financial and accounting matters)? 1=Yes; 0=No	93.75
CG9	Has the board adopted a formal integrated risk management policy that deals with risk oversight and management and internal control? 1=Yes; 0=No	100.00
CG10	Has the CEO/CFO stated that the company's risk management, internal compliance and control systems are operating effectively and efficiently? 1=Yes; 0=No	96.88
CG11	Does the company have an audit committee (AC) charter? 1=Yes; 0=No	93.75
CG12	Does the company have a continuous disclosure policy? 1=Yes; 0=No	100.00
CG13	Does the company have a finance committee, charter or policy? 1=Yes; 0=No	90.63
	Total Average Score	**81.97**

Note: CG1 – CG13 represent the thirteen important corporate governance attributes. BOD is Board of Directors. CEO/CFO is Chief Executive Officer or Chief Operating Officer.

Tables 4 and 5 present the levels of communication of financial ratios. A 43-point financial ratio index is derived [labelled as EFRD (Extent of Financial Ratio Disclosures)] and used as the benchmark figure based on the earlier work of Aripin

et al., (2009). An aggregate EFRD is calculated by dividing the actual number of financial ratios disclosed by each firm by the 43 total possible items. Five key sub-categories [share market measures (SMM), profitability (PROF), capital structure (CS), liquidity (LIQ) and cash flow (CF)] are also analysed.

Table 4: Extent of Financial Ratio Disclosures (EFRD) and Five Sub Categories

	EFRD	SMM	PROF	CS	LIQ	CF
N	32	32	32	32	32	32
Mean	0.1054	0.1051	0.2257	0.1563	0.0268	0.0069
Median	0.0930	0.0909	0.2222	0.1429	0.0000	0.0000
Std. Deviation	0.0622	0.0867	0.1727	0.1326	0.0920	0.0273
Minimum	0.000	0.000	0.000	0.000	0.000	0.000
Maximum	0.260	0.360	0.560	0.430	0.430	0.110

Note: EFRD is the Extent of Financial Ratio Disclosure. The five key sub-categories are: share market measures (SMM), profitability (PROF), capital structure (CS), liquidity (LIQ) and cash flow (CF).

Key items of note in Tables 4 and 5 data are:

- The overall level of financial ratio disclosure is only 10.54%. Eighteen of the 43 items in the EFRD are disclosed by none of the global automotive firms.

- The means and medians are quite similar throughout with the minimums at zero and the maximum only 56%.

- Financial ratios related to profitability are the most disclosed (22.57%) with over a third of the global automotive firms showing ROE, net profit and gross profit margins.

- Capital structure ratios are the next highest communicated at a 15.63% rate with gearing and equity ratios the most popular.

- Share market measures follow at a 10.51% pace with dividend payout and yield the only items addressed with any frequency.

- The last two sub-categories of financial ratio disclosures (Liquidity and Cash Flows) demonstrate an almost complete lack of transparency (2.58% and 0.7% respectively) for all items.

Tables 4 and 5 highlight an overall lack of information of the financial ratio characteristics of the global automotive firms. This lack of transparency is especially noticeable for liquidity and cash flow issues.

Table 5: Extent of Financial Ratio Disclosures (EFRD)

Five Key Sub-categories (% disclosure score)	Specific Ratio	% Disclosure score
1. Profitability (22.57%)	1.Return on equities (ROE)	46.88
	2.Net profit margin	46.88
	3.Gross profit margin	37.50
	4.Pre-tax profit margin	21.88
	5.Return on assets (ROA)	15.63
	6.Total expenses/revenue	15.63
	7.Return on sales	12.50
	8.EBITDA/ Revenue	6.25
	9.Sales turnover	0
2. Capital Structure (15.63%)	1.Gearing	34.38
	2.Equity ratio	28.13
	3.Total debt/equity	28.13
	4.Times interest earned	9.38
	5.Liabilities/ Assets	6.25
	6.Capitalisation ratio	3.13
	7.Long term debt/equity	0
3. Share Market Measure (10.51%)	1.Dividend payout	50.0
	2.Dividend yield	34.38
	3.Price-to-earnings (P/E)	12.5
	4.Net assets per share (NAB)	9.48
	5.Total shareholder return (TSR)	6.25
	6.Book value per ordinary share	3.13
	7.Market-to-book ratio	0
	8.Price-to-book	0
	9.Net tangible assets per share (NTAB)	0
	10.Market capitalisation	0
	11.Earnings yield	0
4. Liquidity (2.68%)	1.Inventory turnover	9.38
	2.Accounts receivable turnover	6.25
	3.Current ratio	3.13
	4.Collection period	0
	5.Days to sell inventory	0
	6.Quick ratio	0
	7.Payment period	0
5. Cash Flow (0.69%)	1.Cash flow ratio	3.13
	2.Debt coverage	3.13
	3.Cash flow to revenue	0
	4.Operation index	0
	5.Cash flow adequacy	0
	6.Dividend payment	0
	7.Repayment long term borrowings	0
	8.Reinvestment	0
	9.Cash flow return on assets	0
Overall EFRD		**10.54%**

Source: Aripin, Tower & Taylor (2009).

Ordinary Least Square regression analysis is applied to test whether the corporate governance attributes (measured as an average score of 13 key CG

items) influence the level of financial ratio disclosures (measured by EFRD). Table 6 shows that the Pearson and Spearman correlation coefficients suggest the multicollinearity between the independent and control variables is not a concern as the correlation coefficients between these variables are less than 0.7 (Lind *et al.*, 2004).

Table 6: Pearson and Spearman Correlation Matrices

	EFRD	SMM	PROF	CS	LIQ	CF	FSIZE	ROA	LEV	CG	ROACat	Region
EFRD	1	0.497*	0.794*	0.771*	0.333***	0.144	0.109	0.148	0.120	0.398**	0.283	0.157
SMM	0.383**	1	0.040	0.456*	-0.102	-0.180	0.055	0.167	-0.050	0.332***	-0.020	0.055
PROF	0.795*	-0.014	1	0.400**	0.187	0.163	0.176	0.097	0.191	0.329***	0.459*	0.064
CS	0.706*	0.365**	0.340***	1	0.078	0.115	0.067	0.119	0.161	0.175	0.044	0.323***
LIQ	0.390**	-0.040	0.268	0.167	1	-0.076	-0.237	0.044	-0.196	0.127	0.127	-0.161
CF	0.205	-0.199	0.130	0.148	-0.083	1	0.229	-0.213	0.198	-0.026	-0.244	0.293
FSIZE	0.053	0.197	0.154	0.000	-0.127	0.231	1	-0.243	0.114	0.036	0.057	0.459*
ROA	0.125	0.133	0.091	0.104	0.071	-0.322***	-0.257	1	0.133	-0.211	0.663*	-0.212
LEV	0.155	0.022	0.263	0.166	-0.182	0.322***	0.369**	-0.177	1	-0.016	0.300***	0.230
CG	0.350**	0.268	0.283	0.134	0.212	-0.014	0.099	-.0095	0.153	1	0.070	0.313***
ROACat	0.269	-0.076	0.485*	0.030	0.138	-0.244	0.065	0.629*	0.163	0.058	1	-0.141
Region	0.097	0.045	0.039	0.293	-0.081	0.293	0.450*	-0.232	0.471*	0.425**	-0.141	1

Note: Data set is 32 of the world's largest auto manufactures for all variables. EFRD is the Extent of Financial Ratio Disclosure. The five key sub-categories are: SMM (share market measures), PROF (profitability), CS (capital structure), LIQ (liquidity) and CF (cash flow). Std. Deviation is Standard deviation. FSIZE is logged firm total assets. ROA is return on assets. LEV is leverage (total leverage/total assets). CG is a composite measure of 13 important corporate governance attributes (see Table 3 for details).

The multiple regression results within Table 7 provide clear evidence that a stronger corporate governance system is a positive influence upon the level of financial ratio disclosure (p-value 0.020). None of the control variables are significant suggesting that other firm financial attributes do not affect the level of financial ratio disclosures. However, these conclusions should be taken with caution as the overall model power is low.

Table 7: Multiple Regression Analysis

	Extent of Financial Ratio Disclosure (EFRD)		
Adjusted R square	0.100		
Observations	32		
F Statistics	1.690		
Significance	0.172		
Variables	**Coefficients**	**t-stat**	**p-value**
(Constant)	-0.251	-1.265	0.217
FSIZE	0.006	0.802	0.430
ROA	0.368	1.466	0.155
LEV	0.028	0.437	0.666
CG	0.231	2.479	0.020
Region	-0.002	-0.093	0.926

Note: FSIZE is logged firm total assets. ROA is return on assets. LEV is leverage (total leverage/total assets). CG is a composite measure of 13 important corporate governance attributes (see Table 3 for details).

Although not shown for brevity, separate multiple regression runs for each of the five EFRD categories reveal similar positive significant results with corporate governance influencing share market measures and profitability (but not capital structure ratios or the almost non-existent liquidity and cash flow ratios). T-tests (again not shown for brevity) find that although global automotive firms that are profitable (11.28% EFRD compared to loss firms' EFRD of 6.51%) and Western headquartered (11.04% as compared to Oriental/Eastern EFRD of 9.69% automotive) have higher EFRD scores, these differences are not statistically significant (p-value 0.064 and 0.417 respectively).

Corporate Governance and Transparency of Financial Ratio Disclosures

The global automotive industry is the focus of this study. This industry has had unprecedented problems with rising and powerful competition in a global economic market of recession and pessimism. This industry is very important in the world scene due to its massive scope, role as large-scale employer and ripple effect of its vastly intertwined supply chain.

The analysis of 32 of the top global automotive firms reveals that although most firms made profits in 2008, they are sparse in their communication of their financial ratio position. Overall levels of transparency are under 11% with liquidity and cash flow ratio data virtually non-existent in ratio form.

Table 3 shows that most firms have "good" corporate governance systems. However, improvements could be made with greater moves towards an independent chairperson, greater insistence on the duality of separate chairperson and CEOs, a higher percentage of independent directors, and more explicit

nomination committee policies for appointment of directors. Corporate governance systems are important as demonstrated by the Table 7 statistical analysis which notes the positive statistically significant relationship between corporate governance and the extent of financial ratio disclosures.

The implications are that the global automotive industry has made great strides towards better corporate governance systems, but even more efforts are likely to result in better financial ratio disclosures. Such improved communication should enhance stakeholder understanding of the actual financial position of firms in this most highly visible industry. Better business and public policy decisions may well then follow.

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