Value Relevance of Revenue: Gross Method and Net Method

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SEC provided auditors and public corporations with guidelines on recognition, expression and public announcement of revenue by presenting SAB 101 (Revenue Recognition in Financial Statements) in December 1999. FASB subscribed to such recognition of SEC as well, introducing EITF 99-17 (Accounting for Advertising Barter Transactions) and EITF 99-19 (Reporting Revenue Gross as a Principal versus Net as an Agent). EITF 99-17 and 99-19 dealt with revenue related issues from a perspective of the Internet companies, but the details mentioned by EIFT were prepared to provide all the companies with guidelines.

Korea established the Item 4 of Corporation Accounting Standards that allowed department stores and general trading firms with a means of sales under the category of proxy relationship to appropriate commissions as the sales since December 31, 2002. Applying the Item 4 does not create any difference in the profit and loss while resulting in a significant decrease in published amount of sales. Department stores have administered the total amount of purchase at the time of purchasing goods from their suppliers and the total amount of sales at the time of selling the goods to the customers. In the standpoint of accounting standard establishing organization, regulations of consignment sales must be applied to the department stores since the supplier must continue to assume the risk bearing of inventory without reverting it to the department stores. Whether the department stores recognize specified purchase and sales as gross change or net change falling under revenue, there is no difference in net income. The department store industry in Korea, however, claimed that such regulations would create a significant gap from Japan. While adopting the specified purchase and sales method as Korea, Japan appropriates the total amount of sales. If the sales were to be recognized by net change, it would be difficult to show the financial status and operating outcome to the foreigners lacking of understanding of the unique characteristics of Korean department store industry according to them. Upon a series of exhausting discussions, the accounting standard establishing organization opened the door for department stores to recognize revenue with gross change if the industry and suppliers change their general practice of business transactions.

This research focuses on firms, including department stores and general trading firms that are subject to the net method. First, we examine those firms that changed their revenue recognition standards from the gross method to the net method, and we consider how such a change has influenced the financial statements of those firms. Second, we investigate if there is any difference in reaction to sales revenue of firms in the capital market along with the changes in revenue recognition standards from the gross method to net method.

As a result of positive analysis, sales revenue, according to the gross method prior to 2002 and before applying the net method, exhibited a positively (+) comparable relationship with the value of firms. However, since the application of the net method in 2003, such sales revenue has not displayed any relevant relationship with such value. Sales revenue based on the net methods in the fiscal year of 2003, the first year for which the net method was applied, showed a positively (+) comparable relationship with the value of firms, although the change in sales revenue exhibited an inversely proportional relationship to the value of firms. However, the sales revenue based on the net method and the change in sales revenue in the fiscal year of 2002 did not show any significant relationship with the value of firms. According to such results and upon verification, the market does not exhibit adhering phenomena on simple sales revenue information, but react to real information. The market, nevertheless, does not react to the sales revenue by dividing it into the net change sales revenue and simple total change sales revenue on its own before information on the net changes sales revenue is released in the market.

Key words: revenue recognition, gross method, net method, value relevance, specified purchase and sales

I. Introduction

Managers attempt to influence the perceptions held by a firm's stockholders, which includes investors, creditors, employees, suppliers, and customers. They have incentive to care about the accounting numbers they report, since accounting data are part of the information influencing stockholders' perceptions and actions. In prior research, there is evidence that the relationship between stock prices and revenue levels would be consistent with managers having incentive to manage revenue to influence current and potential investors, including employees with stock options. However, it is not clear that reporting grossed or net sales revenue would be an effective means to manage revenue, because the market may value these types of revenue differently.

In his 1998 speech, "The Numbers Game," Arthur Levitt, then chairman of the SEC, argued that manipulation of revenue recognition is one of five popular earnings management tricks.[1] He also indicated in his speech that there is a gray area where the accounting is being perverted, that is, where managers are cutting corners and where earnings reports reflect the desires of management rather than the underlying financial performance of the company. It implies that managers prefer the gross method to the net method because

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1) His speech, entitled "The Numbers Game," addressed five ways in which corporations were managing earnings. He indicated that there are five ways in which companies use trickery and illusions to obscure financial volatility: (1) Big Bath Restructuring Charges, (2) Creative Acquisition Accounting, (3) Miscellaneous "Cookie Jar" Reserves, (4) Abuse of Materiality, and (5) Revenue Recognition. In his speech, Levitt advocated improving the transparency and comparability of financial statements.

it reports bigger sales revenue which affects their incentive and stock price. It was reported in reality some American companies in the internet industry opted to recognize and report revenues using the gross method as a means of affecting interested parties' positive perception of them, in case they reached a limit in increasing revenues with other methods. In December 1999, the SEC issued SAB (Staff Accounting Bulletin) No. 101: Revenue Recognition. The FASB subscribed to this recognition by the SEC as well, introducing EITF Issue No. 99-17 (Accounting for Advertising Barter Transactions) and EITF Issue No. 99-19 (Reporting Revenue Gross as a Principal versus Net as an Agent). EITF 99-17 and 99-19 dealt with revenue related issues from a perspective of Internet companies, but the details mentioned by EITF were prepared to provide guidelines to all companies. The SEC and the FASB focused especially on the accounting practices of Internet companies, including gross-up and barter revenue. In other words, the regulatory authorities judged that financial reporting using the gross-up method and recognizing barter revenues did not reasonably reflect economic substance of transactions.

ETIF 99-17 rules to the extent that revenues include barter transactions for which there is no ultimate realization in cash and no overall effect on net income, the practice may lead to overstated revenues and artificially inflated market capitalization.

Korea established SKAS (Statement of Korea Accounting Standards) No. 4 that allowed department stores and general trading firms a means of sales, under the category of proxy relationship, to appropriate commissions as sales since December 31, 2002. Applying SKAS No. 4 does not create any difference in the profit and loss while it does result in a significant decrease in the published amount of sales. Department stores have administered the total amount of purchase at the time of purchasing goods from their suppliers and the total amount of sales at the time of selling the goods to the customers. From the standpoint of the accounting standard establishing organization, regulations of consignment sales must be applied to the department stores since the supplier must continue to assume the risk of bearing of inventory without reverting it to the department stores. Whether the department stores recognize specified purchase and sales transaction[2] as gross change or net change falling under revenue, there is no difference in net income.

The department store industry in Korea, however, claimed that such regulations would create a significant gap between Japan. While

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2) It is an old practice for department stores to assign suppliers space in the stores. Then, the suppliers send out their salespeople. They do joint marketing. The department stores pay sales revenue to the suppliers instantly when the products are sold, but they have the right to return unsold products.

adopting the specified purchase and sales transaction method as Korea, Japan appropriates the total amount of sales. If the sales were to be recognized by net change, it would be difficult to show the financial status and operating outcome to foreigners who may lack an understanding of the unique characteristics of the Korean department store industry.

This research focuses on firms, including department stores and general trading firms, that are subject to the net method. First, we examine those firms that changed their revenue recognition standards from the gross method to the net method, and we consider how such a change has influenced the financial statements of those firms. We look at distribution per industry and the transaction form of those firms changing from the gross method to the net method, and we assess the extent to which their financial figures (sales revenue) were affected. Second, we investigate if there is any difference in reaction to sales revenue of firms in the capital market along with the changes in revenue recognition standards from the gross method to the net method.

Studies were performed on those firms that changed their revenue recognition standards from the gross methods to net change standards according to the 'revenue recognition standards' in SKAS No. 4 applied from the fiscal year since December 31, 2002 for the first time. As a result of selecting samples, it was possible to use the data of 127 firms for the research while announcing the effect of applying net method in the notes. The average decreases of sales revenue for department stores and general trading firms reached 53% and 38%, respectively. That is, decline in sales revenue has been significant due to application of the net method. In particular, it is considered that the reason why the industry most strongly objected to the introduction of the net method among all sectors was because the industry's decrease in sales amount was most significant.

The results of positive analysis, sales revenue according to the gross method prior to 2002 before applying the net method exhibited positively (+) comparable relationship with value of firms. However, such sales revenue has not displayed any relevant relationship with such value since the application of net method in 2003. Sales revenue based on the net methods in the fiscal year of 2003, the first year to apply the net method, showed positively (+) comparable relationship with value of firms whereas the change in sales revenue (the total gross sales revenue - net change sales revenue) exhibited inversely proportional to the value of firms. However, the sales revenue based on the net method and the change in sales revenue in the fiscal year of 2002 did not show any significant relationship with the value of firms.

According to such results upon verification, the market does not exhibit adhering pheno-

mena on simple sales revenue information, but reacts to real information. The market, nevertheless, does not react to the sales revenue by dividing it into the net change sales revenue and simple total change sales revenue on its own before information on the net changes sales revenue is released in the market. Therefore, it was upheld that information on firms' sales calculated using the net method rather than the gross method was accounting figures more relevant to their value.

II. Theoretical Background

2.1 SKAS No. 4: Revenue Recognition

The objective of this Statement is to prescribe the standards on recognition of (a) revenue arising either from sale of goods or from rendering of services and (b) interest, dividend, and royalty revenues arising from the use of entity assets by others.

According to paragraph 12 of SKAS No. 4, revenue from the sale of goods shall be recognized when all of the following conditions have been satisfied: (a) the entity has transferred significant risks and rewards of owner-ship of the goods to the buyer, (b) the entity retains neither continuing managerial involvement, to the degree usually associated with ownership, nor effective control over the goods sold, (c) the amount of revenue can be measured reliably, (d) it is probable that the economic benefits associated with the transaction will flow into the entity, and (e) costs incurred or to be incurred with respect to the transaction can be measured reliably.

Paragraph 13 describes the conditions in detail. The assessment of when an entity has transferred significant risks and rewards of ownership to the buyer requires an examination of the circumstances of each transaction. In most cases, the transfer of risks and rewards of ownership coincides with the transfer of legal title or passing of possession to the buyer. In other cases, however, the transfer of risks and rewards of ownership may occur at a time different from the time of transfer of legal title or passing of possession. In particular, in case the vendor, under one of the special types of transactions, assumes most of the risk even after the transaction is completed in accordance with its ownership of the relevant goods, the transaction is not regarded as a sale and therefore the corresponding revenue should not be recognized.[3]

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3) If the entity retains significant risks of ownership even after the transfer of goods, the transaction is not a sale and revenue is not recognized. Examples of such situations are as follows: (a) when the entity retains an obligation for unsatisfactory performance not covered by normal warranty provisions, (b) when the receipt of revenue from a particular sale is contingent on the derivation of revenue by the buyer from resale of the goods, (c) when the goods are shipped subject to installation and the installation is a significant part of the contract that has not yet been completed

In particular, in case, as one of the special types of transactions, the vendor assumes most of the risk in accordance with its ownership of the relevant goods even after the transaction, the transaction is not regarded as a sale and therefore the corresponding revenue should not be recognized. It gives clearer criteria than the former version of revenue recognition standards does. Still, the Korea Accounting Standards do not directly specify regulations relevant to net sales but practical guidelines and applicable cases have rules on net sales.

According to the additional paragraph A34, in case firms sell goods as another's agents without assuming the risk and benefit in accordance with their ownership of the goods, they cannot account for the gross sales amount and should recognize only the sales fees as revenue. As one of applicable cases, when a firm runs a rental business, which is one of department stores' sales types, the lessor is not directly related to the sales by rented stores and only rental fees it receives from lessees should be recognized as revenues. Other examples include general trade companies and companies operating electronic shopping malls. A general trade company, because it carries out exports as proxy of another firm which commissions sales to it, should account

only for sales fees for the above same reason, and an electronic shopping mall operator, which receives only fees in return for mediating sales of goods received from suppliers or in exchange for selling them by auction on the Internet, should recognize only relevant fees. In accordance with such prescribed cases, department stores and general trade companies, which have accounted for revenues using the gross method, had to recognize revenues using the net method. As a result drastic reductions in revenues were expected and heated disputes ensued after the announcement of the accounting standards.

The International Financial Accounting Standards and the Korea Accounting Standards share the same provision that revenues should be recognized using the net method, not the gross method, in the case of agency sales. However, they differ in the way of prescribing it. IAS 18(Revenue) rules that revenue includes only the gross inflows of economic benefits received and receivable by the enterprise on its own account. In an agency relationship, the gross inflows of economic benefits include amounts which are collected on behalf of the principal and which do not result in increases in equity for the firm. The amounts collected on behalf of the principal are not revenue. Instead, revenue is the amount of commission.[4]

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by the entity, or (d) when the buyer has the right to rescind the purchase for a reason specified in the sales contract and the entity is uncertain about the probability of return.

4) The paragraph 8 of IAS 18 is as follows. Revenue includes only the gross inflows of economic benefits received and receivable

However, SKAS No. 4 does not provide related rules and adds that the agent should recognize the sales commission only in additional paragraph A34. SKAS No. 4, paragraph 39 rules that financial statement items related to transactions that occurred prior to the fiscal year in which this Statement is being applied for the first time shall be accounted for in accordance with the Korea Accounting Standards effective during that period.

Still, this standard can be retroactively applied to prior transactions and in this case the effect of change in the revenue recognition method on the financial statements is accounted for in accordance with the accounting changes and error corrections of SKAS No. 1. As a result, retroactive application is not mandatory and depends on firms' arbitrary choices. It impairs accounting figures comparability of period and entity and reduces information content of accounting information. In other words, some firms to which the net method was applied from the financial year 2003 accounted for sales revenue of the year 2003 using the net method, while disclosing sales revenue of the year 2002, which was disclosed for comparison, using the gross

method in accordance with former prescriptions. As a result, it is impossible to compare two years of sale revenue.[5] In these cases, sales revenue is no longer useful information to the users.

It is regarded that the retroactive application of the net method was not made mandatory for firms' convenience, because the introduction of the new accounting standard may increase their task burden. However, in terms of the SKAS No. 1 "Accounting Changes and Error Corrections", which prescribe the usefulness of accounting information and items related to recognition and disclosure of accounting changes, this is an obviously problematic provision. On the other hand, SKAS No. 1, paragraph 11 ruled that a newly implemented accounting policy shall be applied retroactively. However, if there are specific provisions in other Korea Accounting Standards regarding such a change in accounting policy, entities shall adhere to those provisions. Therefore, despite the prescription that when there is a standard change, comparative financial statements should be prepared and announced under the new standard in order to enhance information's usefulness, the SKFA

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by the enterprise on its own account. Amounts collected on behalf of third parties such as sales taxes, goods and services taxes and value added taxes are not economic benefits which flow to the enterprise and do not result in increases in equity. Therefore, they are excluded from revenue. Similarly, in an agency relationship, the gross inflows of economic benefits include amounts collected on behalf of the principal and which do not result in increases in equity for the enterprise. The amounts collected on behalf of the principal are not revenue. Instead, revenue is the amount of commission.

5) Forty-six out of 173 firms did report comparison formats of the financial statements in 2003 without disclosing in notes that they had changed revenue recognition standards. So, the net change method is applicable in 2003, but not in 2002. It means that it is impossible to compare two years of sale revenue.

No.4 does not prescribe the retroactive application as mandatory and permits firms' arbitrary choices. In enacting the standard, only convenience of firms, preparers of financial statements, was considered and much attention was not paid to information users, major interested parties; therefore this standard change poses a problem in its neutrality. There was not much consideration about the confusion investors who would make decisions based on financial statements prepared in accordance with different standards would have.

In particular, the SKAS No. 1, paragraph 12 permits that, when the accumulative effect of change in an accounting policy is hard to reasonably determine, the accounting change is prospectively treated so that the effect can be reflected in the current and upcoming periods. This is a permission of prospective application in case retroactive application is difficult. Therefore, it is a little regretful that, without a separate provision by the SKAS No.4, financial figures attached for comparison in accordance with the SKAS No.1 would have been restated under the changed standard and in case of companies which cannot make retroactive application due to inevitable circumstances, they would have accounted for them prospectively, thereby enhancing the usefulness of accounting information. In other words, I intend to point out whether it was necessary to prescribe the prospective treatment to the extent of making the SKAS No.1

invalid, even though comparative financial statements may not be prepared according to companies' choices.

According to this study's result, most of those to which the net method is applied revised the sales revenue in the previous year's financial statements attached for comparison using the net method. In addition, they disclosed the year 2003's amount of sales revenue when the gross method was applied as before. The reason why most firms made retroactive application even though they were not obliged to retroactively apply the net method is that not only they found it not so difficult because the provision of the net method retroactively applied to the sales revenue does not affect the calculation of the net income but also they intended to avoid the confusion of information users resulting from comparative presentation of financial statements prepared according to different standards.

2.2 Gross method and Net method

Firms were not counseled in conservative accounting by the U.S. capital market in the 1990s. Until recently, many firms maintained high stock prices without large earnings by way of capitalization of revenue. As the market places great emphasis on revenue, firms tend to inflate the figures through creative accounting, which is a common example of earnings management. As Arthur Levitt, chairman of

the SEC mentioned, when there are no earnings stock prices are determined based on figures of revenues, an index of future earnings.

Korea established SKAS No. 4 that provided department stores and general trading firms with a means of sales, under the category of proxy relationship, to appropriate commissions as the sales since December 31, 2002. Applying SKAS No. 4 does not create any difference in profit and loss while it does result in a significant decrease in published amount of sales.

As the net method became mandatory, the Korean Department Store Association filed a civil petition to the Korea Accounting Institute, the Financial Supervisory Service, the Ministry of Commerce, Industry and Energy, and the Ministry of Finance and Economy for permission of department stores' recognition of revenue using the gross method by explaining Korean department store operation's particularity. In other words, with regard to the standard of department stores' revenue recognition of specified purchase and sales transactions, positions between organizations enacting accounting standards, led by the Korea Accounting Institute and the Financial Supervisory Service, and those under regulation, represented by the department store industry and the Korean Institute of Certified Public Accountants (KICPA), differ.

Department stores have administered the total amount of purchase at the time of purchasing goods from suppliers and the total amount of sales at the time of selling goods to the customers. From the standpoint of the accounting standard establishing organization, regulations concerning consignment sales must be applied to the department stores as the supplier is obliged to continue to assume the risk of bearing the inventory without applying this to the department store. In other words, department stores are just consignees, not the parties to transactions and therefore should report sales revenue amounting to the fees, the difference between sales and purchases.

Even though a department store may recognize a purchase and sales[6] transaction as gross change or net change falling under revenue, this makes no difference to net income. The department store industry in Korea, however, claimed that such regulations would create a significant break with Japan. Although adopting the same specified purchase and sales method as Korea, Japan appropriates the total amount of sales. In addition, compared with the counterparts in the United States and Europe, whose industry practices are different, Korean departments may look like petty businesses. If the sales were to be considered as net change, it would be dif-

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6) Under specified purchase and sales transactions, stores within department stores are assigned to suppliers and their sales staff and the department stores jointly sell goods. The department stores make payment right after the goods are sold and later return unsold inventories to the suppliers.

ficult to show the financial status and operating outcome to foreign investors lacking an understanding of the unique characteristics of the Korean department store industry.

The KASB (Korea Accounting Standards Board) announced the Roadmap toward IFRS adoption in Korea on March 15, 2007.[7] Over the past decade, as businesses and financial markets have become more globalized and liberalized, there has been an increasing awareness of the importance of worldwide political trends such as those represented by IFRS. It was in this context that KASB enacted SKAS No. 4: Revenue Recognition on December 31, 2002. According to this regulation, if this party is the firm, and the agent, the firm retains an insignificant risk of ownership after the transfer of goods, the transaction is recognized just a commission.

This is a limitation for department stores, leasing services, general trading companies, Internet auctions, and so on as it allows only commissions as revenue.

The amendment of the revenue recognition legislation directly affected those department stores that had recognized a large amount of their sales revenue with specified purchase and sales.[8] Almost all department stores have specified purchase and sales transactions which is a unique characteristic of the Korean department store industry. In the early days, this seemed like an abuse brought on by a dominant position. However, the Korea Fair Trade Commission (KFTC)[9] has examined this issue and deliberated on how to deal with the situation. As a result, KFTC announced that specified purchase and sales transactions bring a benefit[10] not only to department stores

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7) Under the Roadmap, all companies, including unlisted ones, are permitted to apply the Korean International Financial Reporting Standards (K-IFRS) from 2009, and all listed companies are required to apply the K-IFRS from 2011. With the adoption and application of the International Financial Accounting Standards, the level of trustworthiness in accounting transparency is anticipated to improve internationally. The understandability and comparability of the accounting information of Korean companies will also be enhanced.

8) Specified purchase and sales transaction means large retailers sell products consigned by a supplier and return the inventory. "Supplier" means a person who supplies products to a large retailer, regardless of the type of transaction such as subcontract, direct purchase, specified purchase, etc.

9) The Korea Fair Trade Commission (KFTC) is a ministerial-level central administrative organization under the authority of the Prime Minister. It also functions as a quasi-judiciary body. The Commission formulates and administers competition policies, and deliberates, decides, and handles antitrust cases. The KFTC is committed to four main mandates: promoting competition, strengthening consumers' rights, creating a competitive environment for SMEs, and restraining concentration of economic power. To that end, the Commission enforces nine laws including the Monopoly Regulation and Fair Trade Act (MRFTA).

10) The benefits of specified purchase and sales transactions to suppliers are as follows. First, department stores can excellently perform marketing and sales promotion activities, thereby small- and medium suppliers reducing sales costs. In particular, petty businesses which have limits in independently developing new outlets may securely obtain buyers. Moreover, large suppliers also can expect additional sales thanks to department stores' sales promotion activities. Second, after goods have been warehoused, their ownership is transferred to department stores and inventories are managed by their integral system. As a result, suppliers may save the cost of managing inventories.

but also to suppliers, and so it was accepted that a certain type of transaction can promote mutual understanding.

As the net method has been applied to the department store industry, not only has sales revenue decreased remarkably but its status has also altered. In effect, both Lotte Department Store and Shinsegae Department Store reported KRW 7,268 billion and KRW 6,837 billion of gross sales revenue respectively, but Shinsegae reported KRW 2,262 billion larger net sales revenue than Lotte did. Whether a department store recognizes specified purchase and sales transaction as gross change or net change as coming under revenue, there is no difference in net income and future cash flow so as firm value.

The department store industry insisted that such accounting change did not take into consideration unique transaction traits of the domestic industry and therefore it would result in artificial alteration of the way department stores and their suppliers made deals, only likely to trigger overall degradation or extinction of the industry as a whole. In fact, the industry may be gradually declining due to such changes to the system.

Table 1 presents a summary of the procedure relating to revenue recognition of specified purchase and sales transactions. The KASB issued a directive([KAI Opinion 03-2]) including two subject indexes and six sub-indexes for a criterion of relevant economic substances.[11]

The KASB addressed [2003-KAI 058] the issue of the specified purchase and sales revenue recognition standard in accordance with [KAI Opinion 03-2]. This allows firms and auditors to decide practicalities in terms of the relevant economic conditions, though specified purchase and sales transactions still required a guideline for attaining consistency.

Against the backdrop, a movement to introduce new types of specified purchase and sales transactions (new specified purchase and sales transactions) limiting the returning of unsold inventories, in particular, among the department store industry, took place. The Korean Accounting Association (KAA) and the Korean Institute of Certified Public Accountants (KICPA) have held several public hearings and meetings to discuss the problem. The two bodies entered into a consensus of

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11) The subject indexes are as follows.
    (1) The company as a party to the transaction assumes major responsibility for supplying goods or services.
    (2) The company assumes overall risk of inventories.
    Meanwhile, the sub-indexes are as follows.
    (1) The company has the authority to decide prices. (2) The company makes additional processing of goods or performs part of services. (3) In case there are multiple suppliers which can provide goods or services demanded by customers, the company has the discretion to select a supplier. (4) The company is a main decision maker in determining the nature, traits, or features of goods or services. (5) The company assumes the risk of physical damage of inventories. (6) The company assumes credit risk.

⟨Table 1⟩ Main Issues Related to the Revenue Recognition Method

Date	Regulators	Topic	Subject
2000.7	FASB	[FASB EITF 99-19] Reporting Revenue Gross as Principal versus Net as Agent [FASB Exhibition 99-19]	The Gross Amount as Revenue, as if any customer returns within 60 days (150 days in practical) of the end of the season.
2002.05.20 2002.07.25	KASB*	[Q&A 02-085] Department Stores Sales and Lessee company Revenue Recognition [Q&A 02-119] Department Stores and Lessee company the Point of Sales Revenue Recognition	Applying Net method to Specified Purchase and Sales Transaction.
2002.12.27	KASB	[Q&A 02-215] Sales Revenue Recognition of Specified Purchase and Sales Transaction	Applying Gross or Net Method based on the in accordance with the Relevant Economic Substances.
2003.01.30	KASB	[Q&A 03-014] The Suppliers of Department Store Revenue Recognition and Measurement	Net reporting treats the transaction as the end-user making a purchase from the supplier, with the Specified Purchase and Sales Transaction.
2003.03.31	KASB	[KAI opinion 03-2] Gross or Net (commission) Sales Revenue Recognition	Suggest major and subsequent Indexes for Specified Purchase and Sales Transaction
2003.04.07	KASB	[2003-KAI 058] Suggestion of the Sales Revenue Recognition of Specified Purchase and Sales Transaction	For Applying to [KAI opinion 03-2], The firm and Auditors practically decide based on the in accordance with the Relevant Economic Substances.
2003.04.17	FSS**	[Financial Supervisory Service]	The Net Amount as Revenue, Regarding Specified Purchase and Sales Transaction as a kind of Consignment sale.
2002.05.20	FSS	[Q&A] Revenue Recognition Method of Specified Purchase and Sales Transaction	The Net Amount as Revenue, as if that Amount were a Commission paid by the Supplier for Generating a Sale from the Supplier to the End-user.
2003.10.23	KAA	Research paper: The study on Revenue Recognition of Department Store (Lee, Jung, and Shin 2003)	Suggest that Gross Method is in accordance with the Relevant Economic Substances.
2004.03.08	FSS	[Q&A] Sales Revenue Recognition for The Department Store and the Suppliers: New Specified Purchase and Sales Transaction	Seasonal goods: the Gross Amount as Revenue, as if it is unreturnable within 60 days after warehousing. Unseasonal goods: the Gross Amount as Revenue, as if it is paid and unreturnable after season off.

* Korea Accounting Standards Board
** Financial Supervisory Service
† Reconstructed from Lee et al. (2004)

opinion with reference to the gross method that more realistically reflected the relevant economic conditions. Lee et al. (2003) insisted that the gross method is suitable for the new types of specified purchase and sales transactions[12] on inventories with limited refund.[13] [14]

As a result, FSS allowed the gross amount to be treated as revenue, as if it is unreturnable within 90 days after warehousing.[15] Lee et al. (2004) examined harmonizing accounting standards and industry specific characteristics. They argued that the specified purchase and sales transactions of the Korean department store industry had few differences to that of direct purchase and sales to the extent that the specifying of net amounts as sales revenue was inappropriate.[16] They also insisted that the type of unique transaction -specified purchase and sales transactions of the Korean department store industry- differs from consignment and refundable sales, therefore, the gross method measured what was appropriate to the situation.

Cheon(2004), on the other hand, argued that it was the case not to harmonize with international standards because of industry specific characteristics. In other words, Cheon stated that the revenue recognition issue of the Korean department store industry was

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12) Differences between existing and new types of specified purchase and sales transactions are as follows. ① The payment date was formerly within 40 days after the sales had been completed, but that of new types of specified purchase and sales transactions is within four months after the sales were completed. ② There was no restriction on the returning of unsold inventories, but now the returning of unsold inventories is possible only within four months after the supply was completed.

13) Lee et al. (2003) argued that the method of regarding department stores as lessors which provided stores to suppliers and as a result calculating department stores' sales revenues based on sales fees was wrong. Furthermore, he pointed out that domestic department stores were likely to be regarded as companies relegated to petty businesses, compared with the counterparts in other countries such as the United States, Europe, and Japan. As a result, he asserted, domestic department stores' competitiveness may be undermined, and he raised the issue of re-changing the standard of revenue recognition in specified purchase and sales transactions. He also argued that application of the method of recognizing sales revenues in net amount did not take into consideration unique transaction traits of the domestic industry and therefore it would result in artificial alteration of the way department stores and their suppliers made deals, only likely to trigger overall degradation or extinction of the industry as a whole and called for the re-changing of the method to one recognizing sales revenues in gross amount.

14) In domestic department stores' specified purchase and sales transactions, the returning of unsold inventories was possible without any limitation. Therefore, opinions that the net method should be applied were raised. As a result, the most important issue in the standard of recognizing specified purchase and sales transactions is the index ②, "overall risk assumption of inventories" among major indexes of [KAI Opinion 03-2].

15) In accordance with this standard, Lotte Shopping Co., Ltd. changed the way of making deals—for example, by signing contracts under which the returning of goods was made impossible after certain period of time, thereby recognizing the sales revenue using the gross method.

16) Lee et al.(2004) noted that department stores' application of the net method for the economic substance of specified purchase an sales transactions triggered four problems: degradation of qualitative characteristics of information such as relevance, reliability, and comparability ; problems in terms of auditing; problems with changes in the way department stores and their suppliers made deals ; and occurrence of logical contradiction where consigners assumed the responsibility for sales allowances (Lee et al.(2004) Report for Announcement by Topic p.30-32)

the matter of what the relevant industry's economic substance was.

The concept of economic substance requires looking into the commercial background of the underlying transaction. When the seller acts as a department store, it should report revenue based on the gross amount under the contractual arrangement. When the seller acts as a supplier (lessor), it should only report revenue as the commission for its performance. Cheon pointed out the fact that the requirement for industry specific accounting standards should be based on benefit to the industry. Moreover, Cheon also pointed out the fact that such industry specific accounting standards should not precede the object of financial accounting, which is to provide useful information to users. Therefore, the unique transaction-specified purchase and sales should report sales revenue as a net method because the supplier (lessor) represents the economic substance.

III. Prior Research

In the accounting field, studies of accounting variables other than accounting income are relatively few. Bowen et al.(2002) stated that most studies in prior literature concentrate on explaining accounting choices that affect earnings rather than those that affect

revenue level. Managing revenues via accounting choice had not received attention prior to Feroz, Park, and Pastena(1991) and Bonner, Palmrose, and Young(1998). They found that revenue fraud is the most frequent cause of the SEC's accounting enforcement actions. Palmrose and Scholz (2001) found that revenue changes are the most frequent cause of restatement. However, research investigating enforcement actions and restatements relies on relatively infrequent cases that may not generalize to a broader sample of firms.

Bowen et al.(2002) revisited our understanding of the economic motives underlying management's accounting choices in the context of the revenue reporting practices of Internet companies. More importantly, both the SEC and the FASB have expressed concern regarding the use of these accounting practices (SAB 101, EITF 99-17). Researchers paid attention to the SEC's and the FASB's interest in the trend under which internet companies reported huge amounts of revenues and made a hypothesis that they would opt for an accounting method to maximize their sales revenue in order to influence their stocks' market valuations. In order to verify the hypothesis, they proved relevance between companies' revenues and their value and investigated economic factors likely to affect their adoption of "an accounting method of aggressive revenue recognition". In particular, they made empirical analyses of factors that

affected companies' selection of a reporting method, focusing on companies' practices of recognizing barter revenues and internet-related companies' reporting based on the gross-up method. Bowen et al.(2002) found that firms with greater cash burn rates and higher levels of activity on Motley Fool message boards are consistently associated with barter and grossed-up revenue reporting. This suggests that the pressure to seek external funding and the extent of active individual investor interest in a firm influences Internet managers' use of allegedly aggressive revenue reporting practices. In addition, it appears that firms reporting barter revenue are more likely to enter into marketing and content alliances, suggesting the potential for future alliances may be another motivation for managers to enter into barter transactions. In addition, they reported that companies' selection of an accounting method for revenue recognition may be related with underwriters' reputation at the time of the initial public offering (IPO), and the greater economic incentives in managing revenues, they were more likely to opt for barter revenue and grossed-up methods.[17]

Since the mid 1990's, there have been many studies of internet companies. In particular, they have consistently concluded that there is relevance between revenue level and company value, while inconsistently having reported on the relevance between income level and company value. Bowen et al.(1995) viewed that managers were likely to attempt to influence decision makings by interest parties such as stockholders, creditors, employees, suppliers, and customers with specific intentions. They noted that because accounting data was part of information set which could influence interest parties' decision making behaviors, managers had incentives to manage (adjust) reported accounting figures. Verification of value relevance between stock prices (Price to Earnings ratio) and revenue revel (non-expected return level) led to a consistent result that managers had incentives to manage revenue level as a source of information which affected existing and potential investors including employees with stock options.

In a study whose sample subjects included companies performing B2C e-commerce, Rajgopal, Kotha, and Venkatachalam (2000) reported that there was positive relevance between companies' revenue levels and their market values. However, in contrast, it was not verified that there existed consistent, significant value relevance between companies' market values and their income level (Rajgopal et al.(2000); Trueman et al. (2000)).

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17) According to previous studies, whatever an accounting method to recognize top-line items in the structure of income statement may be, it did not affect net income or cash flow amount, bottom-line items. Therefore, the study result by Bowen et al. (2002) is astounding. This empirical outcome may mean that marginal investors had unreasonable view point of revenues or managers believed that marginal investors were unreasonable. (Bowen et al. 2002)

Davis(2002) provides evidence on the market's response to revenue and revenue announcements, the extent of the use of grossed-up and barter revenue by Internet firms, and whether the value relevance of revenue differs when Internet firms report grossed-up or barter revenue. Results indicate that revenue announcements are highly associated with three-day market returns and provide information incremental to that contained in earnings announcements. Evidence suggests that the value relevance of revenue for firms reporting grossed-up and barter revenue declined subsequent to the "crash" in April 2000. The following alternative explanations were raised about the phenomenon of values of companies which had adopted the gross method being reduced. Views were that the value relevance of revenue for companies which adopted the gross-up and barter revenue recognition methods decreased after the market collapse compared to before the market collapse or investors' behaviors were different between before the market collapse and after the market collapse. Additional analyses explore the effect of individual investors on the pricing of revenue for firms reporting grossed-up and barter revenue. Findings suggest higher pricing of revenue for firms reporting grossed-up or barter revenue with relatively greater individual investor following. In particular, this outcome was consistent with the regulatory authorities' view that individual

investors trusted revenue figures reported by internet businesses in estimating their values.

There was almost no domestic research to profoundly verify revenue (sales amount) information, but with the advent of 1990s studies focusing on the effect of revenue information on price to earnings ratios and relevance between the information and other accounting information were conducted.

Song(1987) researched the reliability of financial information. The results show that information users recognize sales revenue as more reliable than earnings. It implies that investors use sales revenues to estimate returns. Song(1989a) expected that other financial information except earnings is also potentially timely and useful for investment decisions. Song(1989b) thinks highly of the sales revenue which is disclosed earnings at the same time but less affected by manager's strategy. Therefore, sales revenue is more reliable and contains cash inflow information. He examined the relationship between sales revenue and returns. But he didn't find its additional informativeness. Unexpectedly, Song (1989a, 1989b)'s results indicated that the sales revenue isn't as informative as earnings.

Meanwhile, Lee and Na(1992) expanded Song(1989b) and made an empirical analysis of additional information on income derived from sales revenue using a random walk model and a financial analyst's prediction model as expected values in calculating non-expected

income and non-expected revenue. The result showed that information on income had high correlation in the two models but information on revenues had different outcomes in the two models. In case the previous year's actual values measured by the random walk model was used, additional information on sales revenue was not verified, resulting in the same outcome as in Song(1989b). However, when the sales revenue calculated by the financial analyst's prediction model was applied, there was statistically significant relevance, and it was reported that the sales amount included additional information. The study by Lee and Na(1992) is the first domestic research which empirically verified the value relevance of information on revenue (sales amount).

IV. Research Design

4.1 Research Model

This study examines the companies that changed their revenue recognition standards from the gross methods to the net methods and how such a change has influenced the firm value. It considers whether the value relevance of revenue differs when the companies report gross method or net method revenue. In this section, we investigated how the changing revenue recognition method influences sale revenue and stock price. The Korean regulators assist those department stores and general trading firms which report their revenue with gross method, the sales revenue doesn't reveal their figures. Specifically, department stores and general trading firms are very sensitive about how their sales revenues rank as compared to those of other industries. Gross method which doubles count purchase and sales does not carry any cash flow but also affects net income. Therefore, it makes sales revenue and stock price appear inflated.[18]

It is hardly possible to expect reaction of the market about gross method revenue to net method revenue without theoretical modeling. First, gross method provides more

18) Recently, the market was seriously agitated by the rumor that Samsung C&T Corporation would be divided into trade and commerce division and construction division. In particular, this situation catches our eyes because it is in stark contrast with the situation a decade ago. The company's construction division was created by merging it with Samsung Construction in 1995, aimed at reviving then Samsung Construction with poor performance. However, Samsung C&T Corporation gradually began to decline with the advent of the 1990s. Moreover, the changes in accounting standards in 2003 played as a disheartening factor because only fees for consignees were included in sales revenue of companies. An optical illusion has disappeared. In case of the trade and commerce division, sales revenue which amounted to 32 trillion won in 2002 drastically decreased to 4.4 trillion won in 2003. On the other hand, the construction division has expanded since the financial crisis. An insider of the industry said, "The Samsung C&T Corporation, composes of elites, used to isolate the construction division. Now the situation has changed and the company is very reluctant to spin off the construction division. In a nut shell, a totally different world has emerged (Money Today, 2007.8.7).

information than net method. If investors are rational, firm value and gross method may have a positive relation. However, gross method usually overstates revenue. The naive investors may believe that the revenue, which is using gross method, still has positive relation to the firm value even if the revenue recognition method has been changed by the firms. But sophisticated investors may not react to the new revenue. Therefore, it is hard to reach a concrete conclusion about the relations between sales revenue and firm value under gross method and net method.

In this study, we examine if there is any difference in reaction to sales revenue of firms in the capital market along with the changes in revenue recognition method standards from the gross method to the net method. We estimate the following regression for sample firms, 2002 and 2003 which before and after period of SKAS No. 4 adoption. To test the value relevance and whether it differs for firms that change recognition method standards, we model and run them:

Model 1: $MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t-1} + \alpha_2 DIV_{i,t} + \alpha_3 ASSET_{i,t} + \alpha_4 EARN_{i,t} + \alpha_5 GrossREV_{i,t} + \varepsilon_{i,t}$

Model 2: $MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t-1} + \alpha_2 DIV_{i,t} + \alpha_3 ASSET_{i,t} + \alpha_4 EARN_{i,t} + \alpha_6 NetREV_{i,t} + \alpha_7 ChREV_{i,t} + \varepsilon_{i,t}$

Model 3: $MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t-1} + \alpha_2 DIV_{i,t} + \alpha_3 ASSET_{i,t} + \alpha_4 EARN_{i,t} + \alpha_6 NetREV_{i,t} + \varepsilon_{i,t}$

where

$MV_{i,t}$: Market value of stock price 3 months later t fiscal year end for firm i

$BV_{i,t-1}$: Book value of stockholders' equity at the end of fiscal year t-1

$DIV_{i,t}$: Dividend of firm i in year t

$ASSET_{i,t}$: Total asset for firm i in year t

$EARN_{i,t}$: Net income for firm i in year t

$GrossREV_{i,t}$: Sale revenue of Gross method for firm i in year t

$NetREV_{i,t}$: Sale revenue of Net method for firm i in year t

$ChREV_{i,t}$: Sale revenue difference between Gross method sales revenue and Net method sales revenue for firm i in year t

Consistent with Barth and Kallapur (1996), Davis (2002) does not deflate the dependent variable and include dollars of total assets as a scale proxy.[19] Additionally, reported results

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19) Like Barth and Kallapur (1996) and Davis (2002), in this study as well, total asset amount as a proxy variable of company size, was included in the regression equation in order to control the heteroscedasticity, and the result was inferred by calculating the t-statistics by White(1980). Barth and Kallapur (1996) worked on two crucial econometric problems faced by a researcher of a cross-sectional level-based study in empirical accounting analysis—regression coefficient distortion and heteroscedasticity. They showed that inclusion of size variables as independent variables was more effective than dividing variables by size variables in mitigating the distortion of regression coefficients. Whereas dividing variables by size variables did not significantly reduce the heteroscedasticity and undermined the efficiency of estimation, White (1980)'s standard error approached a true value in a regression equation which used variables without any change.

and inferences are based on White's (1980) standard errors. As in prior studies, Book value of equity and earning variables is included to control for other omitted financial information variables.

4.2 Sample Selection

In 2003, we selected 173 KOSPI and KOSDAQ firms that had changed their revenue recognition method from the gross method to the net method, according to the "revenue recognition method standards" in SKAS No. 4. The reason why only the year 2003 was included in the verification period was that companies which changed the revenue recognition standard into the net method only in the financial year 2003 provided information on sales revenues based on the gross method and costs of sales in their disclosures for comparison. We eliminated 29 firms that had changed their revenue recognition standards,

〈Figure 1〉 Sample Selection

Type of Firm	2003		2002		N
	Net Method	Gross Method	Net Method	Gross Method	
Type A [20]	O	O	O	O	81
Type B [21]	O	O	X	O	46
Type C [22]	O	X	X	O	29
Other (Data Limitation) [23]					17

20) Lotte Shopping Co., Ltd.(2003), one of the type A companies, notes in its disclosure as follows: "In accordance with the SKAS No. 4, revenues from specified purchase and sales transactions among total revenues were accounted for based on the net method. This did not affect the company's net income but sales and cost of sales in the current year decreased by 3,726,552 million won and inventories and notes and accounts payable reduced by 643,053 million won. In addition, the previous year's financial statements were restated based on the net method, resulting in a reduction of sales and cost of sales by 3,875,627 million won and a decrease of inventories and notes and accounts payable by 609,767 million, respectively."

21) Binggrae(2003), one of the type B businesses, set out the content in its disclosure as follows: "In case the company supplied raw materials to a processing company, an external provider, in order to outsource processing, an accounting change was made so that raw materials taken out of warehouses were not recognized as sales. Due to such change in revenue recognition, sales and cost of sales decreased by 10,277 million, which has no influence on net asset amount, ordinary income of the current year, and net income of the current year."

22) Samsung C&T Corporation(2003), which belongs to the type C companies, discloses the relevant information as follows: "In accordance with the SKAS No. 4, which is applied from the first financial year after December 31, 2002, an accounting change was made from the gross method to the net method; only sales fees among revenues from export agency services and specified purchase and sales transactions were recognized as sales."

23) Other types of companies include those whose sales amountsincreased by applying the net method and those whose information on stock prices was unavailable.

but had not disclosed the change in accounting policy in the notes. We also excluded 17 firms due to data limitations. We presented descriptive statistics and results based on our final sample of 127 firms.

In addition to this analysis on the year 2003, this study examined how the 2003 analysis of the relevance between companies' revenues using the gross method and the net method and their value was different from that of 2002. For the analysis of the year 2002, amounts using the gross method and the net method had to be identified in disclosures, and the number of companies that met the condition was 81. Thus, only 81 companies were selected as the company sample for additional analysis; they disclosed revised revenue amounts using the net method in the 2002 financial statements prepared and attached for comparison with the 2003 financial statements. Yet most companies reported the year 2002 financial statements without any restatement. Their sales amounts calculated using the gross method and disclosed in the previous year were reported without any modification. As a result, their revenue amounts based on the net method and the corresponding change in the amounts were not verified (46 firms). Figure 1 summarizes the above process. In the process of selecting

a sample for this study, there were three types of companies, A, B, and C. Accordingly, only A and B type companies were included for the analysis of the year 2003, and only A type companies were included in the sample for the analysis of the year 2002 and used for verification.

Table 2 shows our sample firms by industry.[24] Types of business were classified based on the examples listed by the A34, practical guidelines and applicable cases in the SKAS No.4, and classifications by each type were made in accordance with the Korea Investors Service's intermediate industrial classification standard.

The set of sample firms consists of 9 department stores, 74 subcontracting, 32 e-commerce, and 12 general trading firms. The sample firms cover various industries. Applying the change may affect not only the department stores and general trading company but also industry as a whole. It has significantly impacted the revenue recognition practices of numerous firms and industries.

Table 3 reports the group affiliates status of firms that apply the net method. Panel A of Table 3 shows that 117 out of 127 firms are group affiliates. This means that the net method reduce the total sales revenue of the group affiliates. In case of general trade com-

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24) The types of companies which are described by A34 as those which should recognize only sales fees using the net method include rental companies, general trade companies, internet sales agents, and e-mall businesses.

⟨Table 2⟩ Sample Composition by Industry

Industry	Department stores	Subcontracting with Sales	E-commerce, etc. [*]	General trading, etc. [**]	Total Obs.
Chemicals and chemical products	0	6	2	1	9
Electronic components, radio, television & communication equipment and apparatus	0	21	4	0	25
Motor vehicles, trailers & semitrailers	0	27	0	0	27
Wholesale trade & commission trade	0	5	3	3	11
Retail trade except motor vehicles	9	0	1	4	14
Computer and related activities	0	0	6	1	7
Other	0	15	16	3	34
Total	9	74	32	12	127

[*] E-Commerce, etc. includes electronic commerce and computer software.
[**] General trading company, etc. includes general trading companies and wholesale and retail trade.

⟨Table 3⟩ Sample Description

Panel A: Group's Affiliates Status by Industry

Group[†]　　Industry	Department stores	Subcontracting with Sales	E-commerce. etc.[*]	General trading company. etc.[**]	Total
Affiliated	9	66	31	11	117
Not Affiliated	0	8	1	1	10
Total	9	74	32	12	127

Panel B: Size by Industry

Size　　Industry	Department stores	Subcontracting with Sales	E-commerce, etc.[*]	General trading company, etc.[**]	Total
Large	9	31	17	8	65
Medium and Small	0	43	15	4	62
Total	9	74	32	12	127

[†] Group's affiliates: It belongs to an enterprise group subject to limitations on cross shareholdings. restrictions on total amount of shareholdings, or main debtor groups.
[*] E-Commerce, etc. includes electronic commerce and computer software.
[**] General trading company, etc. includes general trading companies and wholesale and retail trade.

panies, the problem of their sales revenue being double counted despite their positions as sales brokers is a well known fact. However, much has not been known about companies subcontracting with sales. According to this study's estimation result, 66 companies among 74 companies, or 82% were affiliates of certain group companies. This means that there have been practices in which affiliates belonging to the same group company give and take raw materials and double count sales.

Panel B of Table 3 shows distributions of business types in accordance with company size. Among the 74 companies subcontracting with sales, 43 companies were small firms; in other words, many companies, which receive raw materials or parts from their parent company and supply the products finished by simple processing to their parents, belong to the category of small- and medium-sized firms. Therefore, we can infer that change in revenue recognition methods from the gross method to the net method in accordance with the enactment of the SKAS No. 4, influenced a large number of small- and medium-sized companies as well as large companies. In addition, we can conclude that a great number of businesses in different sectors other than the department store industry were similarly affected.

V. Results

5.1 The Effect of Sales Revenue for Firms Reporting Net method

With the application of SKAS No. 4, revenue recognition standards have changed from gross change standards to net change standards. It affected Sales revenue of the firms. Table 4 provides descriptive data by industry of the sales revenue changes for firms reporting the net method. It reports the change amount and change rate of sales revenue made in each industry.

Panel A of Table 4 shows the average sales revenue change amount in our sample is KRW 224 billion. As shown in the Panel A, the average reduced amount of sales revenue in department stores, companies subcontracting with sales, e-commerce traders, and general trade companies was 264.3 billion won, 118.5 billion won, 33.8 billion won, 1trillion 355.3 billion, respectively. In department stores, companies subcontracting with sales, e-commerce traders, and general trade companies, the maximum amount of change in sales revenues was 950.9 billion won, 2trillion 298.5 billion won, 274.9 billion won, and 12trillion 250.7 billion won, respectively. However, in order to examine the net effect of reduced sales revenues on companies, their change rates should be compared, with the

⟨Table 4⟩ Sales Revenue Changes Results from Applied Net Method (for Year 2003)

Panel A: Change Amount   (million KRW)

Industry / Net Changes	Department stores	Subcontracting with Sales	E-commerce, etc.[*]	General trading company, etc.[**]	Total
N	9	74	32	12	127
Mean	264,274	118,473	33,843	1,355,271	224,344
Std. Dev.	260,017	374,698	61,255	3,455,220	1,125,404
Max	950,899	2,298,508	274,915	12,250,672	12,250,672
Median	184,364	11,225	12,833	232,005	16,470
Min	113,114	297	183	1,115	183

Panel B: Change Rate of Sales Revenue   (%)

Industry / Net Changes	Department stores	Subcontracting with Sales	E-commerce, etc.[*]	General trading company, etc.[**]	Total
N	9	74	32	12	127
Mean[†]	53.2%	15.6%	13.2%	37.6%	19.7%
Std. Dev.	14.3%	16.1%	10.9%	33.2%	20.5%
Max	65.4%	61.7%	45.3%	85.9%	85.9%
Median	57.1%	10.0%	11.7%	39.3%	11.6%
Min	22.4%	0.4%	0.5%	0.4%	0.4%

[†] Mean: (Gross method Sales Revenue - Net method Sales Revenue)/ Gross Method Sales Revenue
[*] E-Commerce, etc. includes electronic commerce and computer software.
[**] General trading company, etc. includes general trading companies and wholesale and retail trade.

influence of company size controlled.

Panel B of Table 4 shows the change rate of sales revenue. The average decreasing rate for the sample firms is 19.7%. Specifically, the department stores reporting the net method have fallen off 53.2% compared with the gross sales revenue alike. It is almost half of the gross sales revenue. The change rate of sales revenue in companies subcontracting with sales, e-commerce companies, and general trade companies was 15.6%,

13.2%, and 37.6%, respectively.

As shown above, we find the most rapid decline in sales revenue has occurred in general trading companies, but the most rapid decline in change rate of sales revenue has taken place in department stores under new revenue recognition standards. The largest amount of average revenue change in our sample is KRW 1,355 billion in the general trading industry, while the largest change rate, 53.2% of average revenue, is in the

department store industry. The standard deviation is also small in department stores.[25] This means that most of them suffered huge decline in sales revenue.[26] Therefore it made them stand together against the adoption of the net method. On this sensitive issue, the department stores industries have disagreed on the net sales revenue recognition method standards. The top three department stores in Korea are Lotte, Shinsegae, and Hyundai department stores. In 2003, each of them recorded KRW 7,268 billion, KRW 6,837 billion and KRW 1,721 billion sales revenue with gross measures, but net measure reduce the amount of sales revenue to KRW 3,542 billion, KRW 5,804 billion and KRW 770 billion. The decrease of net sales revenue reached 51.3%, 15.1%, and 55.2%. However, the standard deviation of the subcontracting firms is bigger than that of any other industry. This means that each firm has a different environment. So, they did not appeal against the decision of the regulator.

5.2 Firm Value and Sales Revenue Reporting Gross and Net method

We estimate that net sales revenue that is more highly associated with firm value is more value relevant. To provide evidence on our value relevance hypothesis, we examine Models 1, 2 and 3 in 2002 and 2003, before and after SKAS No. 4 became effective.

We conducted analyses on the coefficient on GrossREV in Model 1 to evaluate whether the gross sales revenue affects firm value. To test for a significant difference between two sample years in sales revenue informativeness, we investigated on the differences between the coefficients for the firms on gross sales revenue in 2002 and 2003. In the same manner, we also conducted tests on NetREV in Model 3 to evaluate whether the net sales revenue is value relevant. Finally, we conducted a test of the coefficients on NetREV and ChREV in Model 2 to determine whether the net sales revenue and the change in sales revenue (gross sale revenue minus net sale revenue) affected firm value.

Prior to the regression analysis, a descriptive statistical analysis was performed on the sample companies. Panel A of Table 5 contains a summary of 2003 year descriptive statistics of the firm value and its determinants for the 127 sample firms. The average asset (ASSET) is 1,108 billon, the average net revenue(NetREV) is nearly 1,329 billon and the average gross revenue(GrossREV) is 1,555

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25) As shown earlier in Table 2, the department store industry (business type) uniformly belongs to the category of retail business and therefore the effect of the change in the accounting standard probably was similar.

26) This analysis result well explains why the department store industry was eager to make criticism about and countermeasure against the net method by mobilizing a diversity of methods such holding open hearings and utilizing conference services, whereas other types of businesses accepted the new standard without much resistance.

billion. The difference between the average gross revenue and the average net revenue is 224 billion.

Panel B of Table 5 shows the descriptive statistics of the 81 companies that disclosed in 2002 sales revenue using the net method together with sales revenue using the gross method, among those 127 sample companies that recognized sales revenue using the net method in 2003. The median amounts of

<Table 5> Descriptive Statistics.

Panel A : for year 2003 (million KRW)

Variables	N	Mean	Std. Dev.	Min	Median	Max
MV	127	1,087,941	7,351,888	348	28,392	81,341,063
BV	127	467,064	2,428,340	-4,336,246	52,935	24,310,290
DIV	127	113,924	64,289	–	550	652,542
ASSET	127	1,107,681	4,312,293	9,555	109,790	39,203,381
EARN	127	107,674	579,152	-219,118	3,036	5,958,998
NetREV	127	1,329,263	5,030,169	2,031	110,270	43,582,016
ChREV	127	224,344	1,125,404	183	16,470	12,250,672
GrossREV	127	1,553,607	5,426,156	2,710	145,210	44,249,242

Panel B : for year 2002 (million KRW)

Variables	N	Mean	Std. Dev.	Min	Median	Max
MV	81	721,651	4,624,852	328	20,864	41,329,790
BV	81	560,018	2,419,446	-51,726	34,943	19,473,749
DIV	81	16,198	78,893	–	648	678,290
ASSET	81	1,266,153	4,622,687	11,680	109,174	34,439,600
EARN	81	128,583	800,851	-296,730	3,955	7,051,761
NetREV	81	1,609,398	5,598,613	1,921	105,287	39,725,081
ChREV	81	711,906	3,526,680	493	20,865	28,226,730
GrossREV	81	2,321,304	7,325,394	5,022	177,439	40,511,563

where
$MV_{i,t}$: Market value of stock price 3 months later t fiscal year end for firm i
$BV_{i,t-1}$: Book value of stockholders' equity at the end of fiscal year $t-1$
$DIV_{i,t}$: Dividend of firm i in year t
$ASSET_{i,t}$: Total asset for firm i in year t
$EARN_{i,t}$: Net income for firm i in year t
$GrossREV_{i,t}$: Sale revenue of Gross method for firm i in year t
$NetREV_{i,t}$: Sale revenue of Net method for firm i in year t
$ChREV_{i,t}$: Sale revenue difference between Gross method sales revenue and Net method sales revenue for firm i in year t

assets, net revenues, and gross revenues for the year 2002 are at 109 billion won, 105 billion won, and 177 billion won, respectively. They are not much different from the figures for the year 2003. Nonetheless, median market values increased by 8 billion won from 20 billion won in 2002 to 28 billion won in 2003. Although the year 2002's number of sample businesses differs from the year 2003's, changes in total assets and sales revenues, which are indicators of company size, are not huge between 2002 and 2003, but company values in the year 2003 when sales revenues were recognized using the net method increased relative to the year 2002 when sales revenues were recognized using the gross method.

Table 6 contains Pearson correlations for our variables. First, the correlation between MV and the variables, BV, DIV, ASSET, EARN, GrossREV, NetREV, have positive relation respectively. But ChREV has no relation with the MV(firm value) variable.

Table 7 and Table 8 show the results of verifying how the change in revenue recognition methods from the gross method to the net method affects relevance between sales amount and company value. Table 7 presents the results of estimating Models 1, 2 and 3 in 2003, which was the very first year that SKAS No. 4 was in effect. As in prior research, we find a statistically significant positive coefficient on BV for firms in all models same as EARN. It indicates a positive association between BV or EARN and MV respectively. Specifically, we find a statistically insignificant positive coefficient on GrossREV

⟨Table 6⟩ Pearson Correlation Analysis Result (for Year 2003)

Variables	MV	BV	DIV	ASSET	EARN	GrossREV	NetREV
BV	0.944 (0.001)						
DIV	0.960 (0.001)	0.955 (0.001)					
ASSET	0.892 (0.001)	0.946 (0.001)	0.949 (0.001)				
EARN	0.949 (0.001)	0.894 (0.001)	0.943 (0.001)	0.933 (0.001)			
GrossREV	0.812 (0.001)	0.841 (0.001)	0.898 (0.001)	0.944 (0.001)	0.887 (0.001)		
NetREV	0.859 (0.001)	0.880 (0.001)	0.932 (0.001)	0.977 (0.001)	0.928 (0.001)	0.978 (0.001)	
ChREV	0.077 (0.001)	0.123 (0.001)	0.163 (0.001)	0.181 (0.041)	0.127 (0.153)	0.442 (0.001)	0.253 (0.001)

in Model 1.

While the coefficient on NetREV in Model 2 is positive and significant (t=3.31, p=0.01), the coefficient on ChREV in Model 2 is negative and significant (t=-4.71, p=0.01). This reports the value relevance of the change for the firms reporting net method. In other words, the adjustment sale revenue is useful information for investors, creditors, and other information users.

However, after SKAS No. 4 became effective, firms had not disclosed the difference between the gross sales revenue and the net sales revenue. Therefore, Model 2 is not applicable any longer.

To consider this situation, we additionally tested Model 3. Model 3 is a regression of NetREV on Market Value. The estimation results in Model 3 are different, so we focused our discussion on the net sales revenue

〈Table 7〉 Multi-Regression Analysis (for Year 2003)

Model 1: $MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t-1} + \alpha_2 DIV_{i,t} + \alpha_3 ASSET_{i,t} + \alpha_4 EARN_{i,t} + \alpha_5 GrossREV_{i,t} + \varepsilon_{i,t}$

Model 2: $MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t-1} + \alpha_2 DIV_{i,t} + \alpha_3 ASSET_{i,t} + \alpha_4 EARN_{i,t} + \alpha_6 NetREV_{i,t} + \alpha_7 ChREV_{i,t} + \varepsilon_{i,t}$

Model 3: $MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t-1} + \alpha_2 DIV_{i,t} + \alpha_3 ASSET_{i,t} + \alpha_4 EARN_{i,t} + \alpha_6 NetREV_{i,t} + \varepsilon_{i,t}$

	α_0	α_1	α_2	α_3	α_4	α_5	α_6	α_7
Model 1 (N=127)	1,466,670 t=0.02 p=0.98	2.11 t=4.84 p=0.01	40.96 t=1.98 p=0.04	-1.30 t=-4.84 p=0.01	8.70 t=6.18 p=0.01	0.02 t=0.21 p=0.83		
Model 2 (N=127)	91,127,454 t=1.75 p=0.08	3.30 t=7.44 p=0.01	13.51 t=0.98 p=0.32	-2.58 t=-5.60 p=0.01	8.30 t=12.56 p=0.01		0.99 t=3.31 p=0.01	-0.37 t=-4.71 p=0.01
Model 3 (N=127)	33,203,262 t=0.55 p=0.58	2.98 t=6.10 p=0.01	19.92 t=1.31 p=0.19	-2.20 t=-4.14 p=0.01	8.69 t=9.10 p=0.01		0.66 t=1.79 p=0.07	

Reported *p-values* are two-tailed. Reported are t-*statistics* are adjusted using White's (1980) standard errors.

where

$MV_{i,t}$: Market value of stock price 3 months later t fiscal year end for firm i

$BV_{i,t-1}$: Book value of stockholders' equity at the end of fiscal year $t-1$

$DIV_{i,t}$: Dividend of firm i in year t

$ASSET_{i,t}$: Total asset for firm i in year t

$EARN_{i,t}$: Net income for firm i in year t

$GrossREV_{i,t}$: Sale revenue of Gross method for firm i in year t

$NetREV_{i,t}$: Sale revenue of Net method for firm i in year t

$ChREV_{i,t}$: Sale revenue difference between Gross method sales revenue and Net method sales revenue for firm i in year t

effective market value. The sign and the significance of the coefficient estimate α_3 indicates that NetREV is useful information in the capital market.

Table 8 presents the results of similar analyses using Net sales revenue, Gross sales revenue and revenue change for 2002. There is also a positive correlation between GrossREV and MV in the pre-adoption period.

We find insignificant association between gross sales revenue and value relevance in

the post-adoption period. Net sales revenue, however, is associated with firm value positively and significantly in 2003. Model 2 in Table 7 indicates that there is a negative association between revenue changes (gross sales revenue minus net sales revenue) and firm value in the post-adoption period. According to such results and upon verification, the market does not exhibit adhering phenomena on simple sales revenue information, but it reacts to real information. The market,

⟨Table 8⟩ Multi-Regression Analysis (for Year 2002)

Model 1: $MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t-1} + \alpha_2 DIV_{i,t} + \alpha_3 ASSET_{i,t} + \alpha_4 EARN_{i,t} + \alpha_5 GrossREV_{i,t} + \varepsilon_{i,t}$

Model 2: $MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t-1} + \alpha_2 DIV_{i,t} + \alpha_3 ASSET_{i,t} + \alpha_4 EARN_{i,t} + \alpha_6 NetREV_{i,t} + \alpha_7 ChREV_{i,t} + \varepsilon_{i,t}$

Model 3: $MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t-1} + \alpha_2 DIV_{i,t} + \alpha_3 ASSET_{i,t} + \alpha_4 EARN_{i,t} + \alpha_6 NetREV_{i,t} + \varepsilon_{i,t}$

	α_0	α_1	α_2	α_3	α_4	α_5	α_6	α_7
Model 1 (N=81)	40,228,145 t=0.79 p=0.42	1.10 t=1.69 p=0.09	21.49 t=3.96 p=0.01	-0.70 t=-2.82 p=0.01	3.88 t=3.61 p=0.01	0.05 t=1.86 p=0.06		
Model 2 (N=81)	37,285,668 t=2.94 p=0.01	0.91 t=1.77 p=0.08	19.01 t=5.35 p=0.01	-0.74 t=-3.11 p=0.01	4.32 t=5.81 p=0.01		0.14 t=1.48 p=0.14	0.04 t=1.31 p=0.19
Model 3 (N=81)	46,998,821 t=2.59 p=0.01	1.02 t=1.89 p=0.06	19.93 t=4.39 p=0.01	-0.76 t=-3.14 p=0.01	3.99 t=4.55 p=0.01		0.14 t=1.57 p=0.11	

Reported p-values are two-tailed. Reported t-statistics are adjusted using White's (1980) standard errors.

where

$MV_{i,t}$	: Market value of stock price 3 months later t fiscal year end for firm i
$BV_{i,t-1}$	: Book value of stockholders' equity at the end of fiscal year $t-1$
$DIV_{i,t}$	: Dividend of firm i in year t
$ASSET_{i,t}$	: Total asset for firm i in year t
$EARN_{i,t}$	: Net income for firm i in year t
$GrossREV_{i,t}$	: Sale revenue of Gross method for firm i in year t
$NetREV_{i,t}$	: Sale revenue of Net method for firm i in year t
$ChREV_{i,t}$	: Sale revenue difference between Gross method sales revenue and Net method sales revenue for firm i in year t

nevertheless, does not react to the sales revenue by dividing it into the net change sales revenue and simple total change sales revenue on its own before information on the net change sales revenue is released in the market.

VI. Conclusion

In this study, we use the reporting requirement imposed by SKAS No. 4 to examine how accounting methods for that revenue recognition affect financial reporting. Specifically, we investigate firms that changed the revenue recognition standards from the gross method to the net method. We identify 127 sample firms that disclosed adjusted effect of applying net method in the notes.

The average decreases of sales revenue for department stores and general trading firms reached 53% and 38% respectively. Decline in sales revenue was significant due to application of the net method. As a result of positive analysis, sales revenue, according to the gross method prior to 2002 and before applying the net method, exhibited positively (+) comparable relationship with firm value. However, such sales revenue has not displayed any relevant relationship with firm value since the application of net method in 2003. Sales revenue based on the net methods in the fiscal year of 2003, the first year for which the net method applied, showed positively (+) comparable relationship with value of firms, although the change in sales revenue (the total gross sales revenue minus net change sales revenue) exhibited an inversely proportional relationship to the value of firms. However, the sales revenue based on the net method and the change in sales revenue in the fiscal year of 2002 did not show any significant relationship with the value of firms.

According to such results upon verification, the market does not exhibit adhering phenomena on simple sales revenue information while it reacts to real information.[27] The market, nevertheless, does not react to the

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27) With regard to this study's result, the definition of revenue by the International Accounting Standard is as follows: "Revenue includes only the gross inflows of economic benefits received and receivable by the entity on its own account. Amounts collected on behalf of third parties such as sales taxes, goods and services taxes and value added taxes are not economic benefits which flow to the entity and do not result in increases in equity. Therefore, they are excluded from revenue. Similarly, in an agency relationship, the gross inflows of economic benefits include amounts collected on behalf of the principal and which do not result in increases in equity for the entity. The amounts collected on behalf of the principal are not revenue. Instead, revenue is the amount of commission"(The International Accounting Standard 18 [Revenue] 8). In other words, the International Accounting Standard, which all listed Korean companies are scheduled to mandatorily adopt from the year 2011, provides that the total inflow of sales amount received by agent companies does not constitute revenue and they should recognize only fees as revenue, that is, it reconfirms that agents should recognize only fees as revenue under the IFRS. Therefore, I consider this study result will have the same meaning under the IFRS, whose introduction from the year 2011 is mandatory to companies.

sales revenue by dividing it into the net change sales revenue and simple total change sales revenue on its own before information on the net change sales revenue is released in the market.

Based on the results of this study, we suggest a few problems while we set the standards. Critics of this revenue recognition standard change state that it decreases the usefulness of sales revenue information. The KASB made partial revision of the transitional provisions of the SKAS No. 4 in order to facilitate initial understanding and application in practice. Paragraph 39 had been revised to minimize possible misunderstanding by entities whose reporting years do not end on 31 December. The revised version of the rules is as follows: Financial statement items related to transactions that occurred prior to the fiscal year in which this Statement is being applied for the first time shall be accounted for in accordance with the Korea Financial Accounting Standards effective during that period. Nevertheless, retroactive application of the standards of this Statement is permitted, and any effect in the financial statements arising from the change in revenue recognition standards shall be accounted for in accordance with SKAS No. 1: Accounting Changes and Corrections of Errors.

Yet, 29 out of 173 firms that changed their revenue recognition standards did not disclose the change in accounting policy in the notes,

which reduced the usefulness of the information in the financial statements. On the other hand, 46 firms reported comparison formats of the financial statements in 2003, but without disclosing in notes that they had changed revenue recognition standards. So, the net method is applicable in 2003, but not in 2002. It means that it is impossible to compare two years of sale revenue. Even though it avoids inconvenience to firms, the revision is inconsistent with the object of financial accounting which is to provide users with useful and sufficient accounting information.

SKAS No. 1, paragraph 11 ruled that a newly implemented accounting policy shall be applied retroactively. However, if there are specific provisions in other Korea Accounting Standards regarding such change in accounting policy, entities shall adhere to those provisions. When prior period financial statements are prepared for comparative purposes, those financial statements shall be restated reflecting the adjustments that result from retroactive application of the new accounting policy. A change in accounting policy may be applied prospectively, beginning from the current period of adoption, when the amounts of adjustment resulting from retroactive application of the new accounting policy cannot be reasonably determined. Paragraph 12 ruled, however, that when the cumulative effect of implementing a new accounting policy, as prescribed in paragraph 11, cannot be

reasonably determined, a change in accounting policy may be applied prospectively so as to report its effects beginning from the current period of adoption. Therefore, we suggest that the regulation should implement retroactive application of the new accounting policy. The prospective application is restricted to the cumulative effect of implementing a new accounting policy and it cannot be reasonably determined since these sales revenues provide value relevant information.

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수익인식기준 변경: 총액법과 순액법

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요 약

SEC는 1999년 12월 SAB 101을 발표하여 감사인과 상장기업이 재무제표에 수익을 인식하고 표시·공시하는 지침을 제공하였다. FASB 역시 SEC의 수익인식에 관한 관심과 지침 제공에 인식을 같이하여 EITF 99-17와 EITF 99-19를 발표하였다. EITF 99-17과 99-19는 직접적으로는 인터넷회사들의 입장에서 총액매출과 상호교차 광고를 수익으로 인식하는 문제만을 다루고 있었으나, EIFT에서 언급한 내용들은 이후 거의 모든 회사들의 수익관련 회계처리에 대한 지침으로서 역할을 하고 있다. 우리나라의 경우에는 2002년 기업회계기준서 제4호를 제정하여 2003년 1월 1일 이후부터는 대리관계에 해당되는 매출형태를 가지고 있는 백화점과 종합상사 등은 수수료에 해당하는 금액만을 매출로 계상하게 하였다. 이와 같은 내용의 기준서 제4호를 적용함에 따라 산출되는 최종 당기순이익에는 차이가 없으나, 공표되는 매출금액에는 상당한 감소가 발생하는 결과가 초래되었다.

본 연구에서는 순액법 적용대상기업과 관련하여 첫째, 기업회계기준서 제4호의 적용에 따라 수익인식기준을 총액법에서 순액법으로 변경한 기업을 대상으로 재무제표에 미친 영향을 조사하고, 둘째, 총액법에서 순액법으로의 수익인식기준 변경에 따라 자본시장에서 기업의 매출액에 대한 반응에 차이가 있는지를 검증하였다. 본 연구를 위하여 2002년 12월 31일 이후 최초로 개시하는 회계연도부터 적용된 기업회계기준서 제4호 '수익인식'에 따라 총액기준에서 순액기준으로 수익인식기준을 변경한 기업을 대상으로 표본을 선정하였다. 표본선정 결과 주석에 순액법 적용효과를 공시하여 연구에 필요한 자료가 이용가능한 기업은 127개였다.

표본기업에 대한 기술통계분석 결과 평균적인 매출액 감소는 백화점의 경우 53%, 종합상사의 경우 38%에 달하는 것으로 나타나 순액법 적용으로 인한 매출액 감소효과가 상당하였음을 알 수 있었다. 매출액과 주가와의 관계에 관한 실증분석 결과 순액법이 적용되기 이전인 2002년 총액기준 매출액은 기업가치와 양(+)의 유의적인 관계를 나타내었으나, 2003년 순액법적용 이후에는 총액기준에 의한 매출액이

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기업가치와 관련성을 나타내지 못하였다. 그러나 2003년 순액기준 매출액은 기업가치와 양(+)의 유의적인 관련성을 보였으며 순액법 적용으로 인한 매출액변화액(즉, 총액매출액 - 순액매출액)은 기업가치와 음(-)의 유의적인 관계를 보였다. 이러한 검증결과는 시장이 경제적 실질을 나타내는 정보에 반응하고 있음을 의미하는 것이다. 그러나 순액매출액정보가 시장에 제공되기 이전 기간에 있어서는 시장 스스로 매출액을 순액매출액과 총액매출액으로 구분하여 반응하지는 않고 있었다.

주제어: 수익인식기준, 총액법, 순액법, 기업가치, 특정매입매출