AN INFORMATION USEFULNESS REASON IN REPORTING EPS FIGURES

Jogiyanto Hartono
Devi Ratnaningih

FASB (Financial Accounting Standard Board), sebuah badan pengembang standar akuntansi di Amerika Serikat, mengenalkan konsep Primary Earnings Per Share (PEPS) dan menggantikan kepada Diluted Earnings Per Share (DEPS) dengan Diluted Earnings Per Share (DEPS). Alasan utamanya adalah untuk mengurangi kerumitan dalam perhitungan angka EPS dan menerapkan prinsip perbandingan internasional.

Penelitian ini dilakukan sebagai respons terhadap FASB tersebut. Tujuan dari penelitian ini adalah untuk memperoleh informasi tentang bagaimana konsep EPS terbentuk dari aset dan pasiva pada laporan keuangan. Kita berpendapat bahwa analisis EPS yang dicontohkan di laporan keuangan harus yang paling berguna bagi pemakai laporan keuangan untuk digunakan dalam pe- ngambilan keputusan. Di antara tiga macam perhitungan EPS (basic EPS, PEPS dan DEPS), ditentukan bahwa kegunaan memperoleh informasi yang berguna, mungkin yang paling berguna adalah DEPS.

Penelitian ini diharapkan memberikan kontribusi sebagai berikut: Pertama, hasil penelitian ini dapat digunakan sebagai bahan perumusan untuk penelitian tentang akuntansi EPS di Indonesia. Kedua, hasil penelitian ini memberikan tambahan terhadap penelitian akademik di Indonesia dengan memperkenalkan sebuah metodeologi penelitian sebagai respons terhadap suatu penelitian sebelumnya atau regulasi yang baru. Ketiga, penelitian ini disarankan dapat menjadi suatu contoh keterlibatan akademik dalam proses penentuan standar atau regulasi yang baru. Untuk memenuhi regulasi (regulator), suatu suatu regulasi yang baru perlu diamanatkan jauh sebelum tanggal regulasi tersebut diterapkan, sehingga peneliti akademik mempunyai waktu untuk memberikan pendapat-pendapatnya baik itu melalui atau rekomendasi yang lain argumen dari hasil penelitian yang dilakukan.

Keywords: earning per share; economy standard; information usefulness.

We are honored to have participated in the Seminar on the Faculty of Economics, Gadjah Mada University, April 1993.
The Issue

In 1994, the FASB, an accounting standard-setting body in the U.S., issued a prospectus on earnings per share. In this document, the FASB suggested eliminating the requirement for public companies to calculate primary earnings per share (PEPS) figures, and adopting the basic or diluted approach to reporting earnings per share. This suggestion won the support of the Financial Accounting Standards Board of the American Accounting Association (1995) on the grounds that it is less complex and improves international comparability in reporting earnings per share.

The exposure draft for this project was released on January 71, 1996. The Board will accept comments on its proposed standard through the end of May 1996. The Board also set the effective date for use of the final standard for the second quarter 1997. The standard takes effect on December 15, 1997. No early adoption of the standard will be permitted.

The aim of the FASB in issuing the new accounting standard is to simplify EPS calculations and enhance international comparability. The Board hopes that the financial information users will be better able to compare the performance of enterprises of various nations. Concurrent with the FASB project, the International Accounting Standards Committee (IASC) is also developing a similar project. The FASB-IASC EPS project is part of the FASB plan to become more active in international accounting matters. While both standard setters have been working on the project since early 1994 in the form of exchanging information, their efforts do not represent a joint project. The IASC exposure draft is ES2, Earnings Per Share, with a deadline for comments of June 30, 1996. As part of the agreement reached with the International Organization of Securities Commissions (IOSCO), the IASC has agreed to release an EPS standard by March 1997 (Corporate Accounting International, 1996). The objective of our paper is twofold. First, to discuss FASB’s two main reasons for adopting the reporting of EPS figures as mentioned above. Second, to propose another aspect for consideration in reporting EPS figures—information usefulness. Since the objective of financial reporting is to provide information useful to users of financial statements, it argues that not only the issues of complexity and comparability should be taken into account, but also information usefulness.

Overview of the New Proposed Standard

The FASB and IASC have agreed to advocate a fairly simple earnings per share presentation (Business Credit, 1996). Under the new proposed standard, enterprises with simple capital structures would present only basic EPS. Those with complex capital structures, which in the past were required to report primary EPS and fully diluted EPS, would now report basic EPS and diluted EPS.

Basic EPS is based on historical data, calculated by dividing income available to ordinary shareholders by the weighted average number of ordinary shares outstanding during the period. Diluted EPS is calculated by including all diluted op-
APB Opinion no. 15  FASB Proposed Standard
Scope: Public companies only. Scope: Public and nonpublic companies.

Primary EPS:
- Calculated by dividing earnings after preferred dividends by the weighted average number of ordinary shares outstanding and ordinary stock equivalents.

Fully Diluted EPS:
- The treasury stock method for options uses the highest average price for the period or closing price per ordinary share.
- The modified treasury stock is to be used when more than 20% of outstanding shares are assumed to be repurchased.
- Potential shares are omitted if the term for conversion or exercise is more than 5 years for primary EPS and 10 years for fully diluted EPS.
- Sequence of potentially dilutive not addressed.
- Options or warrants that expire or are cancelled during the period should be included in the diluted computation.
- The if-converted method should be used for convertible securities.
- In computing the weighted average number of shares, ordinary shares issued and reacquired during the period should be included in both computations for the period in which they were outstanding.

Presentation:
- A 3% materiality test is applied in order to determine whether fully diluted EPS figure needs to be disclosed.

Presentation:
- Both basic and diluted EPS should always be presented.

as APB Opinion no. 15.

as APB Opinion no. 15.

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tions, warrants, convertibles and concomitant shares issued, regardless of when they must be exercised, converted or issued. APB Opinion no. 15's treasury stock method still used to calculate the diluting effects of options and warrants. In the case of convertible securities, the diluting effect is calculated by the 'if-converted' method. This method assumes conversion of securities at the beginning of the initial period reported, or if later, at the date of issuance. To calculate diluted EPS, the average market prices of the common stock during the period is used.

Under the existing rule as prescribed by APB Opinion no. 15, options and warrants are excluded from fully diluted EPS when the conversion privilege is ineffectual within 10 years from the end of the fiscal period. Under APB Opinion no. 15, when more than 20 percent of outstanding shares are assumed to be repurchased, the modified treasury stock approach may be used. The new standard eliminates this method. Also, a 3 percent mortality test to determine whether fully diluted EPS needs to be disclosed is no longer used. A comparison between the new proposed standard and APB Opinion no. 15, as summarized by Blach et al. (1990), can be seen in page 112.

Background of EPS Development

U.S. corporations have been calculating and reporting earnings per share figures for many years. Beginning 1938, Accounting Research Bulletin No. 49 addressed the issue of providing general guidelines in computing and reporting earnings per share. APB Opinion no. 9 (1966) suggested more complex earnings per share computation. APB no 9 did not require, but strongly recommended that EPS figures be disclosed in the income statement. Recognizing the importance of the figures for investors and other user groups, APB Opinion no. 15 was issued in 1969. It required disclosure of earnings per share data. It also addressed many of the complexities of EPS computations. What's more, APB Opinion no. 15 itself is a complex and lengthy document which is not easily understood. Ball (1970) tried to provide guidelines published by the AICPA to clarify APB Opinion no. 15, but this document containing an unofficial accounting interpretation for computing earnings per share, is itself a lengthy 198-page document. To clarify disclosure of several earnings per share items, APB Opinion no. 30 was then issued in 1973. At the present time, earning per share figures are only disclosed by public companies, based on FASB Statement No. 21 (1978) which does not require that EPS figures be included in the financial statements of nonpublic companies. Guidelines were needed to clarify the determination of common stock equivalent in calculating earnings per share, and FASB Statements no. 55 of 1982 and no. 85 of 1985 address the issue.

Reasons for Introduction of the New Standard

One reason the Board has proposed a new accounting standard for EPS is to render its calculation less complex and to facilitate determination of the common stock equivalent. Under APB Opinion No. 15, companies having dilutive securities outstanding, such as warrants and options, must calculate primary earning per share figures, while those having convertible bonds or convertible stocks are required to present fully diluted earnings per share figures. Primary EPS is simple EPS adjusted to include the effects of common
stock equivalents exercisable within five years, while fully diluted EPS is simple EPS adjusted to reflect the effects of all dilutive securities within a ten year time frame. The complex nature of calculating EPS figures arises from: (1) determining whether a security is a common stock equivalent, and (2) determining whether it is dilutive.

**Determining Common Stock Equivalent**

Common stock equivalents are determined using specified guidelines. Stock options and warrants are always considered common stock equivalents, but they are included in EPS computations only if probable. For convertible securities, determination of common stock equivalent status is set at the date of issue. Once a security is considered a common stock equivalent at the date of issue, it is always considered a common stock equivalent. A convertible security is considered as a common stock equivalent if the effective yield is less than two-thirds of the average 8% corporate bond yield at the issuance date. FASB calls this test an "effective yield test". The designation 8% refers to the rating given to the quality of bonds by financial institutions and investor information services such as Moody's and Standard & Poor's. Determining common stock equivalent also involves many unreasonable and illogical assumptions. First, the use of the fraction 2/3 is arbitrary and has no direct relation to the economic value of a convertible future. Second, comparison between a convertible security and the average 8% corporate bond yield is inappropriate, since company securities are usually carried greater risk than low-risk 8% bonds (Blasch et al., 1990). Third, common stock equivalent status is determined at the date of issue and remains the same throughout the life of the security; changes in a company's financial condition after the issue date are not taken into account. Conversion of convertible security that initially satisfied the effective yield test may not be currently perceived as valuable by investors because of changes in the firm's financial condition. Also changes in market prices, interest rates, and revenue expectations all of which can affect a decision to convert are ignored (Read, 1994).

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A common stock equivalent is defined as a security that while in form is not common stock. In substance, it is equivalent to common stock because of its provisions (Bond, 1994).

Following is an example to demonstrate a common stock equivalent. A firm issued convertible bonds at a price that resulted in an effective yield of 7%. If it issued 25% of $1,000 convertible preferred stock at $1,100 per share. At the issue, the average Moody's corporate bond yield was 9%. The resulting yield rate is 6% (25% x 9%). Therefore, convertible bonds would never be considered as a common stock equivalent since the yield (7%) is greater than 2/3 of the average (Aa) yield. The effective yield on the convertible preferred stock is 5% (25% x 2% of $1,200 / $1,100). Therefore, this convertible preferred stock will always be considered as a common stock equivalent since its yield (7%) is less than 2/3 of the average Aa yield.

FASB Statement No. 85 (para. 3) and FASB Statement No. 55 (para. 7), amending APB Opinion No. 15 (para. 33). Prior to FASB Statement No. 85, a cash yield (computed by dividing the annual cash interest or dividend by the convertible security's market price at par) has computed to 2/3's of the average Aa bond yield at issue. This comparison is still in force for securities issued before March 1, 1982 (through March 31, 1987). Furthermore, prior to FASB Statement No. 55, the cash yield was compared to 2/3's of the basic price per the issue of issue. Thus, this version of the cash yield is still in effect for convertible securities issued before March 1, 1982. In either case however, retrospective application of FASB Statement No. 85 is permitted (Nicelli, L. A. and J. O. Balzey, 1991.)

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ISSN0037-7966
Determining Whether a Security is Dilutive

Stock options and warrants are always considered as common stock equivalents; however, they are included in EPS computations only if dilutive. They are considered dilutive if their exercise prices are below market prices for a consecutive three-month period ending on the reporting date. Furthermore, APB Opinion No. 12 set forth several provisions concerning dilutive securities in EPS calculation. The "treasury stock" method and the "modified treasury stock" method are used to determine the effects of options and warrants, whereas the "if converted" method is used to determine the effects of convertible securities.

The treasury stock method assumes that the proceeds from exercised options or warrants would be used to repurchase outstanding stock. If the exercise price of the options is below the market price, the method will show additional shares that would be outstanding from exercised options greater than the number of shares repurchased. This increases the EPS denominator, diluting EPS. When calculating using this method, the market price used is the average or year-end market price, whichever is higher. The higher market price will further dilute the EPS figure.

The modified treasury stock approach limits reacquisition to 20 percent of common stock outstanding. Any remaining proceeds are assumed to be used first to reduce outstanding debt and then to acquire government securities. This will affect the numerator EPS figure since by decreasing interest expense by reducing debts or increasing interest income by acquiring more government securities, income is affected.

The "if converted" method assumes that convertible securities are converted in the beginning of the initial period reported or, if later, at the date of issue. If bonds were converted, interest expense would decrease, therefore net income available for common stockholders would increase. Also, if preferred stocks are converted, dividends associated with the stocks are no longer paid, thereby increasing net income available for common stockholders. Conversion of bonds or stocks would also increase the denominator number of shares in EPS calculation.

Under the current proposed standard, the modified treasury stock method will be eliminated since it creates complexity in EPS calculation. However, the other two methods (treasury stock method and if converted method) are still used. The treasury stock method has been criticized for its unrealistic assumptions. This method assumes that management will use the proceeds from exercised options and warrants to repurchase outstanding shares. In reality, management could use the proceeds for any number of purposes, such as financing operations or taking over a small company. It would be purely coincidental.

* There are 326 days of accounting interpretations in calculating EPS figures up to the current issuances.

Under these discretion, 23 of them will be removed (OpA 1988).

To clarify this statement, consider the following example. Assume that 2,000 options are outstanding to purchase shares at $11 per share. The average market price of the shares is $13 per share. The proceeds from exercising the options are $13,000 ($11,000 x 23 x 20%). Using these proceeds to repurchase stock at $23 per share would result in the purchase of 600 shares (531,000/326/12/1990) and an increase of 600 (1,000/326) shares. For example, it can be seen that if option price is higher than the average market price, they will be written in the number of shares, indicating no dilutive security. The dilutive security is not considered in EPS calculation.
if they happen to buy back their own stock (Greene, 1985).

Comparability

For the last 23 years, the FASB has been concerned only with domestic US accounting practices. However, as US capital markets attract more foreign companies, the Board is broadening its scope to an international level, and enhancing international comparability is another reason why the FASB has proposed a new EPS standard. Currently, many countries such as Australia, Canada, and Great Britain prescribe basic and fully diluted earnings per share. Only two major countries, the United States and Israel, require primary earnings per share (Chenery, 1994).

Increasing international comparability by standardizing EPS is important to make meaningful comparative analyses across national boundaries. The number of companies seeking to raise capital in other countries is growing, and in the 1990's, cross-border investment and financing intensified and the growth in global capital flows strengthened demand for more uniform standards.

Information Usefulness

We argue that the Board should base its decision to adopt basic and diluted EPS figures, not solely on reducing complexity and increasing comparability, but should also consider another important reason: the information usefulness of the figures for the users of financial statements in decision making. This reason is consistent with the FASB Statement of Financial Accounting Concepts No. 1, entitled "Objectives of Financial Reporting by Business Enterprises." The general objective of financial reporting is to provide information useful in making rational investment, credit, and other decisions.

Earnings per share as a bottom line figure considered by some users to be the single most important item in the financial statement (Hogan and Muszt, 1991). However, there is no clear evidence whether users prefer to rely on EPS as opposed to some other EPS measures in decision making (Accounting Horizon, 1994, p. 112).

Our study was conducted to provide empirical evidence of the information usefulness of Basic EPS, Primary EPS (PEPS) and Fully Diluted EPS (FDEPS) figures. Accounting information is useful if it is relevant and used by investors in the market place (Lev, 1989). If the information is relevant, which is interpreted to mean that it contains something new, then one should be able to observe a reaction in market, in terms of, as the market incorporates the new information (Kosman et al., 1993). In line with the above arguments, our study uses stock price as a proxy for the usefulness of accounting information. Therefore, EPS information is considered useful if it can explain stock price variations.

*Actually, FASB has been involved in international issues since 1991 when it formulated its first strategic plan for international activities. Since then, FASB has conducted its work in charge with standard-setting agencies in Australia, Japan, Canada, China, Israel, Malaysia, Mexico, South Africa, Tanzania, and the UK. With the Canada, the UK and the IASC, the Board conducted a joint study on the recognition and measurement of foreign currency translation gains and losses (Corporate Accounting International, 1995).
Sample Selection

Data for this study were collected from annual COMPUSTAT tapes for 1975-1993 period. The sample was screened with the following conditions:
1. To be included in the sample, firms had to have both primary and fully diluted EPS figures reported in COMPUSTAT tapes.
2. There were no missing values for any variables used in the model.
3. Outliers for all variables were excluded. Outliers are defined as values greater than two standard deviations around the mean value for each variable.

Empirical Model

A regression model based onLintner and Raouf (1971) valuation model was used. Aitken and Tai (1986) present a summary of prior research using this model. This model states that stock price is a function of earnings (EPS), firm size, expected growth in earnings and risk. We use total assets (TASSETS), market.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>COMPUSTAT Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRICE</td>
<td>Closing Stock Prices</td>
<td>24</td>
</tr>
<tr>
<td>MKTBEQ</td>
<td>Market-value-to-book-value of equity (Growth)</td>
<td>(24*25)/60</td>
</tr>
<tr>
<td>LEV</td>
<td>Leverage (Total Debt/Total Assets)</td>
<td>9 / 6</td>
</tr>
<tr>
<td>TASSSET</td>
<td>Total Assets</td>
<td>6</td>
</tr>
<tr>
<td>BEPS_EE</td>
<td>Basic EPS excluding extraordinary items</td>
<td>(18 - 19) / 25</td>
</tr>
<tr>
<td>BEPS_IB</td>
<td>Basic EPS including extraordinary items</td>
<td>(18 + 192 - 19) / 25</td>
</tr>
<tr>
<td>PEPS_EE</td>
<td>Primary EPS excluding extraordinary items</td>
<td>58</td>
</tr>
<tr>
<td>PEPS_IB</td>
<td>Primary EPS including extraordinary items</td>
<td>53</td>
</tr>
<tr>
<td>FDEPS_EE</td>
<td>Fully diluted EPS excluding extraordinary items</td>
<td>57</td>
</tr>
<tr>
<td>FDEPS_IB</td>
<td>Fully diluted EPS including extraordinary items</td>
<td>169</td>
</tr>
</tbody>
</table>

a) Market-value-to-book-value of equity ratio is calculated as:
   (Price * Share Outstanding) / Total Equity
b) Basic EPS excluding extraordinary items is calculated as follows:
   (Net Income Before Extraordinary Items - Preferred Dividends) / Share Outstanding
2) Basic EPS including extraordinary items is calculated as follows:
   (Net Income Before Extraordinary Items + Extraordinary Items - Preferred Dividends) / Share Outstanding

Note: Shares outstanding used to calculate basic EPS in the weighted average of beginning and ending year.

*Three COMPUSTAT tapes were used. The first tape is Primary-Supplementary-Tertiary (PST) Industrial Tape. It contains companies traded in NYSE and major exchanges. The second tape is the Full Coverage tape. It contains companies listed in NASDAQ, regional exchanges and several small/medium trading performed stocks. The second tape is included in the sample to avoid large firms. The third tape is Industrial Research tape. It contains companies that once were in PST and Full Coverage tapes but have been deleted due to bankruptcy, acquisitions or merger, leverage buyout, or were perhaps the third tape is included in the sample to avoid survivorship bias.
A regression model as inzenberger and Raic’s (1975) model was used. Alashe and Yen present a summary of prior research on the model. This model states that price is a function of earnings per share, expected growth in earnings, and use total assets (TASSETS). The empirical model is as follows:

\[ P = \beta_0 + \beta_1 E + \beta_2 G + \beta_3 A + \epsilon \]

where:
- \( P \) = price
- \( E \) = earnings per share
- \( G \) = expected growth in earnings
- \( A \) = use total assets
- \( \epsilon \) = error term

The numbers in the first line are Pearson’s correlation coefficients. The numbers in the second line are the p-values.

<table>
<thead>
<tr>
<th>Variable</th>
<th>LEV</th>
<th>TSAT</th>
<th>BEPS, BE</th>
<th>BEPS, JE</th>
<th>BPS, EE</th>
<th>BPS, JE</th>
<th>FDPEPS-BE</th>
<th>FEPS-BE</th>
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<tbody>
<tr>
<td>MCTIQX</td>
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<td>0.0083</td>
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<tr>
<td>ROA</td>
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<td>0.0723</td>
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<td>0.0001</td>
<td>0.0001</td>
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<td>0.0001</td>
</tr>
</tbody>
</table>

**Note:** The numbers in the first line are Pearson’s correlation coefficients. The numbers in the second line are the p-values.
Table 2. Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>MKTEQ</th>
<th>MKTEQ</th>
<th>LEV</th>
<th>TASSET</th>
<th>BEPS_EE</th>
<th>BEPS_IE</th>
<th>BEPS_EE</th>
<th>BEPS_IE</th>
<th>FDEPS_EE</th>
<th>FDEPS_IE</th>
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<td>0.3166</td>
<td>0.15429</td>
<td>0.0001</td>
<td>0.43525</td>
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<td>0.43525</td>
<td>0.0001</td>
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</tr>
<tr>
<td>LEV</td>
<td>0.3166</td>
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<td>-0.16182</td>
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<tr>
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<td>FDEPS_EE</td>
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<tr>
<td>FDEPS_IE</td>
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<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Note: The numbers in the first lines are Pearson’s correlation coefficients. The numbers in the second lines are the p-values.
The price-to-book value of equity (MTKBEQ) and financial leverage (LEV) as proxies for firm size, growth and risk, respectively,

\[
\text{PRICE} = \beta_0 + \beta_1 \text{EPS} + \beta_2 \text{TASSETS} + \beta_3 \text{MKTEQ} + \beta_4 \text{LEV} + \epsilon.
\]

Where,

- \( \text{PRICE} \) = stock price at the fiscal date,
- \( \text{EPS} \) = earnings per share, either it is Basic, PEPS or FDEPS,
- \( \text{TASSETS} \) = firm size as measured by the book value of total assets,
- \( \text{MKTEQ} \) = expected growth of earnings proxied by market-value-to-book-value of equity,
- \( \text{LEV} \) = firm risk as proxied by its financial leverage.

The definition and measurement of the variables are presented in Table 1. The regression was run for seven models (see Table 4). First, without EPS variables (model 1); Second, with basic EPS variables, with and without extraordinary items (models 2 and 3, respectively). Third, it was run with PEPS variables, with and without extraordinary items (models 4 and 5, respectively) and fourth, with FDEPS variables, with or without extraordinary items (model 6 and 7, respectively).

### Diagnostics

The Pearson correlation coefficients are shown in Table 2. The correlations among independent variables are low. The lowest correlation is 0.07353 between growth (MKTEQ) and financial leverage (LEV). The highest correlation is 0.33675 between fully diluted EPS excluding extraordinary items (FDEPS) and total assets (TASSETS). The largest condition figure is 3.79594 (see Table 4) which is far below the critical value of 20 as suggested in Greece (1993). This indicates that multicollinearity is not a serious problem in this study.

### Table 3. Descriptive Statistics (1975-1993)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
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<td>PRICE</td>
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<td>16.0094</td>
<td>0.0100</td>
<td>254.8000</td>
</tr>
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<td>MTKBEQ</td>
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<td>2.5711</td>
<td>0.6076</td>
<td>32.0812</td>
</tr>
<tr>
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<td>0.1798</td>
<td>0.0000</td>
<td>0.9828</td>
</tr>
<tr>
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<td>3770.0</td>
<td>0.1090</td>
<td>30049.8</td>
</tr>
<tr>
<td>BEPS_EE</td>
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<tr>
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<td>54.9136</td>
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<td>PEPS_EE</td>
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<tr>
<td>PEPS_EE</td>
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<td>21.4300</td>
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<td>17.9900</td>
</tr>
<tr>
<td>FDEPS_EE</td>
<td>1.4526</td>
<td>2.3900</td>
<td>-18.0000</td>
<td>21.4300</td>
</tr>
</tbody>
</table>

Notes:
- Number of observations is 18,777 firm-year.
- See the definition of variables in Table 1.
Diagnostics were also conducted to test the problem of heteroskedasticity. White's (1980) correction for the adjusted t-statistics does not change the significant levels for the parameter estimates. Therefore, we do not report the White's adjusted t-statistics.

**Descriptive Statistics**

Means and standard deviations for the variables by year and the pooled years for 1975 to 1993 are presented in Table 3. This table shows that for the pooled sample, the average closing stock price is $15.8288. On average, firms in the sample are growth firms (mean MKTEQ is 1.886, which is greater than 1), low leverage firms (mean LEV is 0.179) and relatively large firms (average total assets of $1,686.6 million).

The mean basic EPS, primary EPS and fully-diluted EPS excluding extraordinary items for the pooled sample are 0.8816, 1.3217 and 1.3045, respectively. When extraordinary items are included, the means basic EPS, primary EPS and fully-diluted EPS for the pooled sample are 1.0254, 1.4497 and 1.4256, respectively. Primary EPS and fully-diluted EPS figures are greater than basic EPS figures, supporting Coughlin's (1991) argument that primary EPS and fully-diluted EPS are overstate figures.

**Empirical Results**

Table 4 shows the regression results. Column 1 of Table 4 shows the result of regression run without EPS number. Columns 2 and 3 show results when basic EPS variables (excluding and including extraordinary items, respectively) are included in the regression. Columns 4 and 5 show results when primary EPS variables (excluding and including extraordinary items, respectively) are included in the regression. The expected signs for EPS, MKTEQ and TASSET variables are positive, indicating that stock prices are positively related to these variables. Leverage (LEV) as a measure of financial risk is expected to have a negative sign. All variables in the regression models are statistically significant and have the appropriate expected signs. This suggests that the level model we use is the appropriate for this study.

The main focus of the analysis in Table 4 is the significant levels of EPS variables and the R² of the models. All regressions, EPS variables are significant at the 1 percent level. These results show that all EPS figures convey information to the investors that affects stock prices. In the other words, basic EPS, primary EPS and fully-diluted EPS are all useful.

Inclusion of any of the EPS figures increases the R² of the model. Basic EPS models have the lowest R², 0.2689 and 0.2263 for BEPS_BE and BEPS_IE models, respectively. The highest R² are 0.4900 and 0.4123 for FDEPS_BE and FDEPS_IE, respectively. Based on the R² figures, fully diluted EPS excluding extraordinary items explains the variation of stock prices more than other EPS figures do. This suggests that BEPS_BE is the most useful EPS figure. The EPS regression coefficients also confirm the above results. The smaller EPS coefficient is for
<table>
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<tr>
<th>Parameter Estimates (t-statistics)</th>
<th>DUR</th>
<th>DUR*ERR</th>
<th>EPS</th>
<th>EPS*ERR</th>
<th>EPS*TTA</th>
<th>LEV</th>
<th>LEV*ERR</th>
<th>LEV*TTA</th>
<th>MTEGQ</th>
<th>MTEGQ*ERR</th>
<th>MTEGQ*TTA</th>
<th>TASSET</th>
<th>TASSET*ERR</th>
<th>TASSET*TTA</th>
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</thead>
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<td>EPS</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
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</tr>
<tr>
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<td>0.02665</td>
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<td>0.02665</td>
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<td>0.090185</td>
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<td>0.090185</td>
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<td>0.013841</td>
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<td>0.013841</td>
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<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
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<td>0.02665</td>
<td>0.193065</td>
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<td>0.02665</td>
</tr>
<tr>
<td>TASSET</td>
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<td>0.078571</td>
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<td>0.525465</td>
<td>0.078571</td>
<td>0.525465</td>
<td>0.078571</td>
<td>0.525465</td>
<td>0.078571</td>
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</tr>
<tr>
<td>TASSET</td>
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<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
<td>0.193065</td>
<td>0.02665</td>
</tr>
</tbody>
</table>

**Notes:**
- All parameter estimates are significant at the 5% level.
- All condition indices are below critical value at 0.20, indicating noncollinearity problem is mild.

**Table 4: Regression Results**

**Variables:**
- DUR: Duration
- ERR: Error
- EPS: Earnings Per Share
- TTA: Turnover
- LEV: Leverage
- MTEGQ: Market to Equity
- TASSET: Total Asset Turnover

**Definition:**
- Significant at the 5% level.
- **+++** = significant at the 5% level.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Parameter Estimate</th>
<th>t-statistic (Comparisons)</th>
<th>Parameter Estimate</th>
<th>t-statistic (Comparisons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDEPS_EE</td>
<td>4.418455</td>
<td>104.914</td>
<td>FDEPS_EE vs. PEPS_EE</td>
<td>2.0979</td>
</tr>
<tr>
<td>PEPS_EE</td>
<td>4.294310</td>
<td>103.315</td>
<td>PEPS_EE vs. FDEPS_EE</td>
<td>18.7356</td>
</tr>
<tr>
<td>FDEPS_IB</td>
<td>3.395644</td>
<td>84.165</td>
<td>FDEPS_EE vs. PEPS_IB</td>
<td>20.6716</td>
</tr>
<tr>
<td>PEPS_IB</td>
<td>3.235762</td>
<td>82.289</td>
<td>PEPS_IB vs. PEPS_EE</td>
<td>41.7091</td>
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<tr>
<td>BEPS_EE</td>
<td>1.850571</td>
<td>42.489</td>
<td>BEPS_EE vs. BEPS_IB</td>
<td>58.1372</td>
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<tr>
<td>BEPS_IB</td>
<td>1.064933</td>
<td>29.266</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The formula to compare coefficients across regressions derived in Harton (1990) is as follows:

\[
t = \sqrt{\frac{\text{SSE}_m + \text{SSE}_n}{\text{df}_m + \text{df}_n}} \times \frac{(\hat{\beta}_m - \hat{\beta}_n)}{\text{SSEE}_m + \text{SSEE}_n}
\]

where:
- \(\hat{\beta}_m\) = \(m\)th parameter estimate,
- \(\hat{\beta}_n\) = \(n\)th parameter estimate for the corresponding \(m\)th parameter estimate,
- SSE = sum square error of the regression,
- df = degree of freedom (N-k) for N is the number of observation and K is the number of variables in the regression model.
of overseas companies seeking capital in other countries is growing, meaningful comparative analysis across national boundaries is needed.
Our study is in response to the proposed standard from a different point of view. We evaluate the information usefulness of its alternative EPS figures and argue that the EPS figures chosen should be those that are useful for the users of financial statements in making decision making. Our results suggest that:

1. All EPS variables (basic, primary, and fully diluted) are highly significant. This means that all the EPS figures are useful. But, their levels of usefulness vary. Basic EPS variables have the smallest coefficients. Therefore, replacing primary EPS figures with basic EPS figures is not recommended.

2. Correlation analysis shows that primary EPS and fully diluted EPS are highly correlated. The correlation coefficient between PEP5_E and PEP5_EE is 0.99673. Similarly, the correlation coefficients between PEP5_EE and PEP5_E is 0.99675. These results suggest that primary EPS figures and fully diluted EPS figures are redundant figures since the primary EPS figure is already computed in fully diluted EPS figure, and vice versa. Since the fully diluted EPS figure excluding extraordinary items conveys more information than other EPS figures (see Table 5), presentation of this figure for firms with complex capital structures is recommended.

The statistical test coefficients were estimated in this paper and derived in Haynes (1999) as follows:

\[
\begin{align*}
    r_{\text{PEP5}} &= \frac{\text{PEP5}_E \cdot \text{SEEP5}_E - (\text{PEP5}_E) \cdot (\text{SEEP5}_E)}{\sqrt{\text{SEEP5}_E^2 + \text{SEEP5}_E^2}} \\
    r_{\text{PEP5}} &= \frac{(\text{PEP5}_E) \cdot (\text{SEEP5}_E)}{\sqrt{(\text{PEP5}_E)\cdot (\text{SEEP5}_E)}} \\
    r_{\text{PEP5}} &= \frac{(\text{PEP5}_E) \cdot (\text{SEEP5}_E)}{\sqrt{(\text{PEP5}_E)\cdot (\text{SEEP5}_E)}}
\end{align*}
\]

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References


CFO Alert (1994), Earnings Per Share Follows Standard, May 9, p. 5.


