ABSTRACT

Cost of equity refers to the expected minimum return as compensation for the capital invested by the common stockholders of a firm. Accurate estimation of the cost of equity is vital for making many financial decisions, for example, capital structure choice, capital budgeting analysis, performance assessment, and firm valuation. Survey evidence (see for example, Bruner *et al.*, 1998 and McLaney *et al.*, 2004) indicated that although investors use a wide variety of asset pricing model for estimating cost of equity, they tend to favour the capital asset pricing model (CAPM). However, there is no consensus in the literature as to which variant of the CAPM is the best model for estimating the cost of equity of a firm.

In the quest to search for asset pricing models appropriate for estimating the cost of equity of firms listed in the stock exchange of Malaysia, this study compares six variants of the CAPM, the local CAPM, global CAPM, downside CAPM, downside global CAPM, two-factor CAPM, and two-factor downside CAPM. This study also examines two non-CAPM-based downside risk measures namely, semi-deviation and standard deviation. In the view that Malaysia is an emerging market, this study proposes a model which considers both the local and global factors. Annual estimates of cost of equity were obtained for 354 firms categorized into seven sectors in the stock exchange for the period 2001-2008. Based on the goodness-of-fit criteria of R^2 and adjusted R^2, the semi-deviation emerged as the method with the best fit. This method produced an average estimate of 24.0 percent for all firms, 25.4 percent for Construction, 21.4 percent for Consumer Products, 25.3 percent for Industrial Products, 20.3 percent for Plantations, 26.7 percent for Properties, 23.9 percent for Technology and 23.2 percent for Trading/Services.

The semi-deviation estimates were employed to investigate determinants of cost of equity, which is the second focus of this study. Pooled, fixed-effect, random-effect, and dynamic difference- and system-GMM panel models were considered. Results for the full sample showed that the cost of equity is determined by debt-to-equity ratio (DE), earnings per share (EPS), total asset turnover ratio (TAT), firm size (SIZE) and stock liquidity (SL). Consistent with the literature, a significant positive relationship with cost of equity was found for DE and EPS, while a negative relationship with TAT and SIZE was exhibited. For the individual sectors, SIZE is significant for most of the sectors and is consistently negatively related to cost of equity. For the other variables, the results showed that the determinants of cost of equity are not necessary the same across different sectors, thereby highlighting the importance of sectoral analysis.

Overall, the study has highlighted a few important points. First, measures of cost of equity could be improved when taking downside risk into consideration. Second, the costs of equity of Malaysian firms are significantly affected by DE, EPS, TAT, SIZE and SL. Third, the significance of DE, EPS and TAT suggests that accounting-based attributes are important determinants of cost of equity. Several firm-based and government-based implications were derived from the results of the study.

ABSTRAK

Kos ekuiti merujuk kepada pulangan minima yang diharapkan sebagai pampasan bagi modal yang dilaburkan oleh pemegang saham biasa firma. Anggaran kos ekuiti yang tepat adalah penting dalam banyak keputusan berkaitan kewangan firma, sebagai contoh, pilihan struktur modal, analisis belanjawan modal, penilaian prestasi, serta penilaian firma. Bukti kaji selidik (sebagai contoh, Bruner *et al.*, 1998 dan McLaney *et al.*, 2004) menunjukkan bahawa walaupun pelabur menggunakan pelbagai jenis model penentuan harga aset untuk menganggarkan kos ekuiti, mereka cenderung untuk memihak kepada model penentuan harga aset CAPM. Walau bagaimanapun, tidak terdapat muafakat dalam bebanyak ulasan karya tentang variasi CAPM yang paling sesuai untuk menganggarkan kos ekuiti firma.

Dalam usaha mencari model penentuan harga aset yang sesuai untuk menganggarkan kos ekuiti firma yang disenaraikan di Bursa Saham Malaysia, kajian ini membuat perbandingan terhadap enam variasi CAPM iaitu, CAPM domestik, CAPM global, CAPM risiko penurunan, CAPM risiko penurunan global, dwi-faktor CAPM dan dwi-faktor risiko penurunan CAPM. Kajian ini juga meneliti dua model bukan CAPM yang berpandukan risiko penurunan iaitu, sisihan piawai separa dan sisihan piawai. Memandangkan Malaysia adalah sebuah pasaran sedang membangun, kajian ini mencadangkan satu model yang mempertimbangkan kedua-dua faktor tempatan dan global. Anggaran tahunan kos ekuiti diperoleh untuk 354 firma yang tergolong dalam tujuh sektor di Bursa Malaysia untuk tempoh 2001-2008. Berdasarkan kriteria R^2 dan R^2 yang dilaraskan, sisihan piawai separa muncul sebagai kaedah yang paling sesuai untuk penganggaran kos ekuiti. Kaedah ini menghasilkan anggaran purata sebanyak 24.0 peratus untuk semua firma, manakala untuk sector individu, ia adalah 25.4 peratus

untuk Pembinaan, 21.4 peratus untuk Produk Pengguna, 25.3 peratus untuk Produk Perindustrian, 20.3 peratus untuk Perladangan, 26.7 peratus untuk Hartanah, 23.9 peratus untuk Teknologi dan 23.2 peratus untuk Dagangan/Perkhidmatan.

Anggaran kos ekuiti berdasarkan sisihan piawai separa telah digunakan untuk menyiasat penentu kos ekuiti. Ia merupakan tumpuan kedua kajian ini. Model pemusatan, tetap, rawak, dan perbezaan dinamik serta model panel system-GMM telah dipertimbangkan. Keputusan untuk sampel penuh menunjukkan bahawa kos ekuiti ditentukan oleh nisbah hutang atas ekuiti (DE), perolehan sesaham (EPS), pusing ganti jumlah asset (TAT), saiz firma (SIZE) dan kecairan saham (SL). Selaras dengan keputusan kajian ilmiah, hubungan yang positif dengan kos ekuiti telah diperoleh untuk DE dan EPS, manakala hubungan adalah negatif untuk TAT dan SAIZ. Bagi sektor individu, SAIZ adalah penting bagi kebanyakan sektor dan ia sering mempamerkan hubungan negatif dengan kos ekuiti. Bagi pembolehubah yang lain, keputusan menunjukkan bahawa penentu kos ekuiti tidak semestinya sama bagi sektor yang berlainan. Ini mengukuhkan lagi kepentingan analisis di peringkat sektor.

Secara keseluruhannya, kajian ini telah memberi penekanan pada beberapa perkara penting. Pertama, anggaran kos ekuiti boleh diperbaiki apabila risiko penurunan diambil kira. Kedua, kos ekuiti firma di Malaysia dipengaruhi oleh DE, EPS, TAT, SAIZ dan SL. Ketiga, kepentingan DE, EPS dan TAT menunjukkan data berasaskan maklumat perakaunan adalah penentu penting kos ekuiti. Beberapa implikasi untuk firma dan kerajaan telah digariskan berdasarkan hasil kajian ini.

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