PRIVATE FIRM VALUATION: MAXIMIZING THE ACCURACY OF SYNTHETIC MULTIPLES BY SELECTING THE OPTIMAL PEER POOL

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Abstract: *In valuing private firms using transaction multiples, peer transactions must be identified to generate the synthetic multiple forecast for the firm being valued. Among others, questions arise concerning the definition of the pool of which the peer transactions must be selected from. Generally, based on a regional categorization, the peer pool could be either defined in a broad way consisting of all countries taken into consideration or it could be defined narrowly consisting of countries with certain comparable transaction-related impact factors. Finding the "best" peer pool follows the basic assumption that the selection of the "best" peers leads to a higher accuracy of the synthetic multiple and lowers the valuation error of the forecast.*

Until date, to my best knowledge, minor related research only exists concerning public firm valuation. As it is widely accepted that the market for private firms differs from the public stock market and therefore valuation procedures applicable to the public stock market cannot be used directly and unchanged in valuing private firms, in line with redefining stock market peer selection rules, also the rules on peer pooling have to be adapted.

This paper investigates the procedure to optimally define the peer pool in valuing European private firms. The time period taken into consideration is January 1, 2007 as to December 31, 2016. The transaction data and the related firm data is extracted from ZEPHYR database and ORBIS database. First, I investigate which regionally defined peer pool the peers of firms in different countries should optimally be selected from and if the use of a more accurate peer pool significantly increases the accuracy of the synthetic multiple forecast. Second, I investigate if a closer definition of the peer pool (according to the country GDP, the country specific GDP per capita as well as simply the size of the market measured by the number of transactions recorded) significantly increases the accuracy of the synthetic multiple forecast. Finally, I investigate the existence of statistically significant differences between major industries.

All computations are based on the roll-out procedure to define the peer group, minimizing several accepted homogeneity measures (scaled prediction error, scaled absolute prediction error, scaled squared prediction error as well as the scaled natural logarithm prediction error) in combination with bias and error minimizing compression methods (arithmetic mean, harmonic mean, geometric mean, median as well as value-weighted mean). The statistical significance is measured using a nonparametric test procedure. To avoid distortions caused by the use of different multiples, all computations are based on the aggregated results of all major equity and entity multiples.

Keywords: *Peer Pooling, Peer Group, Business Valuation, Private Firm Valuation, Market Approach*

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