

## **Kaufmann Research's Risk-Adjusted Valuation of Shares**

Kaufmann Research's Risk-Adjusted Valuation of Swiss shares (RAV) consists of an evaluation method primarily designed to determine whether stocks or stock markets are worth purchasing, in particular when compared with alternative investments in the bond or money market areas. Secondly the analysis provides an overview of the relative value of individual industries and companies in relation to the total market. From this analysis, purchase and sales recommendations are derived. Furthermore, the assumptions for earnings estimates i.e. interest rates, company data and risks are transparent. Real economic expectations, inflation and currency forecasts are reflected in the earnings estimates of individual companies.

Even if a stock market appears to be expensively valued, large differences in assessments can occur between individual companies or industries, which despite lack of price potential of the total market may lead to a buy recommendation of individual stocks. Market valuations represent average values, which are calculated by using market capitalizations of under and overestimated shares. Recent investigations, however, indicate that over 60% of all analyst recommendations recommend to "buy", approximately a third recommend "hold" and only 1% to 2% are classified as "overvalued or sell". Obviously analysts hold back before making sell recommendations because they fear negative consequences for themselves or their employers. Frequently personal involvement or concerns about competitors/companies, which depend essentially on credibility, may interfere in the decision making. For example, sales recommendations in the preparation or completion phase of a capital transaction could prove as an expensive disadvantage for the company concerned.

### **The complexity of a thorough analysis is often underestimated**

Daily price fluctuations of shares, revisions of earnings estimates and, in addition, the occasional new estimate of risk profiles of individual companies makes monitoring of the relative valuation of shares very demanding. A professional evaluation and summary of all recommendations would have to consider all of these factors. In addition, many analysts give earnings estimates only for current and subsequent years. Thus, in traditional valuation ratios, such as the price/earnings ratio etc. very often do not account for the long-term and sustainable growth, which can lead particularly for "turn-around" situations or for companies with research-intensive, costly new products to false conclusions. There are more modern methods like discounting the future "Free Cash Flows" (FCF), or determining the "Economic Value Added" (EVA), which consider long-term prospects, but these methods are very sensitive to interest rates assumptions and are applicable usually only to a limited group of companies. In particular, in the rarest of cases do industrial companies, banks, insurances and holding companies qualify for the same evaluation models. It has also not been proven that these new methods produce better investment results, which in the long run should be the crucial criterion for the choice of evaluation methodology.

Also the selection of relevant valuation ratios and figures is not by any means clear, particularly since analysts often change the standards of evaluation. Recent studies of American brokerage houses in which comparisons were made of the aforementioned criteria for choice and analysis methods with the actual performance over several years for individual countries and time periods, show different results. On a world-wide basis the

results indicate, however, that a high ROE - a much quoted ratio - does not guarantee an above average performance. However, above average performances were achieved with attention being paid to earnings estimate revisions, return on invested capital, the price/cash flow ratio, and to the relative price strength of an individual stock in relation to the total market as well as international diversification (international blue chips). A low P/E, a high dividend yield, a low price/book value, a solid balance sheet, a good medium-term profit outlook and a high profit momentum also play positive roles, but not to the extent that many investors frequently assume. In most cases bad returns have brought companies with high levels of debt and interest charges; high price volatility at the stock exchange; so called neglected shares, which were pursued and researched only by few analysts; and, very frequently, shares with small capitalization.

In the past, the selection of Swiss shares has relied heavily on the performance of a high ROA, a high net asset value, a low P/E Ratio, revisions of earnings estimates and a solid balance sheet as the deciding factors for above average performance. As on the international level, Swiss stocks of companies with low P/E Ratios (banks, insurances), Small Caps (retail sales, machines, utilities, paper, steel), stocks with a high ROE, and stocks neglected by analysts have performed below average. As abroad, stocks with large know-how and/or a high value added (medical equipment, electro-technology, stock brokers) also outperformed the market average in Switzerland.

### **Problematic discounting models**

Modern assessments of company values, such as the discounting of future free cash flow etc., are not able to solve the main problems of individual share analysis. Independently of the chosen analysis method, the investor must correctly foresee the future for an individual company and the economic and political environment, including inflation, interest rates and forex forecasts. Based on these prognoses earnings and dividends of individual companies as well as other critical factors must be determined. The estimated enterprise value must be related to the risks, whereby the stock price volatility of the past 3-5 years hardly serves as a fair yardstick for the future risk. The RAV method uses five risk categories (liquidity and/or marketability, financial and operational leverage, management quality and other factors such as spin offs, patent discharge, processes etc.), whereby these risk factors although partly based on past experience do reflect the future expectations.

Most analytic methods consider only partial aspects of share evaluation. In practice, valuations of companies often look attractive but lack of marketability they do not qualify for an investment for institutional investors. Or shares merit a discount despite a favorable valuation result, because the management investor's relation and information on which the valuation is based seems inadequate. Frequently, alternative investments are not considered for cost reasons. However, the share evaluation depends not only on the future profits of the analyzed corporation, but also on the profit development of alternative companies, the future probable interest rates and the risk estimate for alternative investments. In sum, the share analysis is therefore a very complex process, one that is finally based on several subjective estimates. Analyses of identical shares by different analysts can result in very different outcomes, depending upon the assumptions. Therefore the simple summary of recommendations of several analysts can be very problematic. For example, problems often result when similar factors are judged differently. If analyst A uses an exchange rate of one dollar to CHF 1.25 for his profit estimates, whereas his colleague B works with an exchange rate of CHF 1.50, confusion and wrong decisions can ensue if the investor does not know the underlying factors of the analysis.

## Risk-Adjusted Valuation of shares - A practical approach

Considering all the aforementioned concerns, we as a company are also faced with the problem of how to invest in the stock market. To resolve this problem Kaufmann Research has developed its own share and market evaluation method, which is called the Risk-Adjusted Valuation or RAV; it is suitable not only for new investments but also particularly for the monitoring of existing share holdings. The RAV method does not only allow supervision of valuation changes, but also determines the overall price target (fair valuation level) for the total market as well as for various industries and single stocks. It also is able to identify those stocks and shares that are perceived as outperformers and those perceived as underperformer.

Our evaluation method is based on the idea that the investor buys a share and sells it again after 5 years. The investor receives 5 annual dividends during these 5 years as well as in the 5<sup>th</sup> year the proceeds of the sale. With this medium-term investment prospect, we try to avoid short term decisions influenced by quarterly or half-yearly results. Investment prospects of five years appear appropriate, because alternatives in the bond market in Switzerland also have an average duration of approximately five years. Furthermore we assume that shares are worth buying only if they stockholder's return exceeds the yield of low risk government bonds. Therefore we use the interest prognoses for government bonds for discounting future dividends and sales proceeds. Shares are considered attractive buying opportunities only if the "fair value" exceeds the actual market price. The share should also exhibit a 10% higher price potential than the market average. If the price potential of an individual stock is around 10% smaller than the price potential of the total market, this stock is classified as an "underperformer".

In practice the RAV analysis of the stock market and the consequent share selection takes place in five distinct steps:

1. We determine the universum, i.e. we fix the number of all shares included in our valuation model. With respect to the "Blue Chip" (Swiss shares) these consist at present of about 42 shares with the largest market capitalization. We consider all SMI shares in addition, at least one representative of each of the 12 (old) -SPI industries. We use the old classification because the history for the new sector classification is very short only. The evaluation of the "Small Cap" segment is based on a selection of approximately 80 shares. While the heavily capitalized 42 shares represent a market capitalization of some CHF 1300 billion, the small caps market capitalization stood at CHF 120 billion at the end of 2006.
2. In the second step, the future profits of a company i.e. earnings per share and its future dividends are estimated.
3. The present value of the estimated dividends are calculated by discounting the future values using interest rates estimates. These interest estimates include a 0,5 percentage point of safety margin. The interest prognosis for the discounting is probably the most important step in the share analysis. In the event of a change in the interest rate, it must be considered that this affects not only the discounting and/or the alternative investments i.e. bonds, but also the company's profits, depending upon the level of debt of the relevant corporation. In addition, rising interest rates can harm investment tendencies or consumer spending and occasionally also influence foreign exchange rates.

4. Finally we estimate the selling price of shares after five years. The resale value at that time will depend, on the one hand, on the interest levels and, on the other hand, on the profit obtained by the corporation. The shareholder will not be able to sell the share on the net yield basis of government bonds because the buyer requires a risk premium for the entrepreneurial risks. We estimate this risk premium by using five components: marketability (free float) and/or ownership structure, financial leverage (interest bearing debt and interest burden), qualification of management, dependency on economic cycle and currencies; and capital intensity (operational leverage) as well as special factors, such as patents about to expire, mergers and acquisitions, restructuring programs, new management etc. The risk premium is set to conform to individual cases and depends to a large extent on subjective bias. If the buyer of a share requires, for example, a profit net yield of 8% (net yield of the government loan of 4.5% + risk premium of 3.5%), then this is equivalent to a P/E multiple of 12.5x (100 divided by 8). The estimated profit of the 5<sup>th</sup> year is thus multiplied by the P/E of 12.5. The result is the expected resale price for the share concerned. The resale value in the fifth year must be likewise rediscounted to obtain the present value.
5. If the discounted dividends and the present value of the resale value are added, we obtain the so called "fair value". A comparison with current market prices shows whether the share is under or overvalued. We apply our methodology systematically to all companies and calculate the price potential of the total market as well as of the major industries. The individual companies are weighted in accordance with their stock market capitalization. Individual industries are recommended for purchase, if their price appreciation potential exceeds the market average around 5%. The price potential of the total market is of importance, because it forms the basis for the determination of a relative under or overestimation. Index-weighty stocks (Novartis, Roche, Nestlé, UBS, Credit Suisse Group) will rarely be classified in the group of outperformers due to this method. They will appear mostly in the neutral range, since they determine the index average to a large extent. In order for such an index-weighty stock to be taken up regardless in our portfolios, it must exhibit at least a positive absolute and relative price potential. The same gradation can also be made with respect to the industry weighting. However, since in even the most conscientious analysis, false estimates cannot be excluded, we therefore never go to extremes when defining investment policies and strategies. Instead of selling out completely or double holdings, we recommend in the case of index-weighty companies, rather an under weighting or a moderate over weighting.

The RAV method permits a comparison of financial with industrial companies in contrast to many other methods. Our conclusions are generally consistent. The method permits the rapid measurement of changes of interest rate assumptions with respect to individual shares and to the total market. Thus, it is possible to compute, for example, that due to an interest rate rise of around 1%, shares will theoretically lose approximately 10% of their value. Approximately 7% is allotted to the smaller present value due to the higher discount rate, a further 3% are attributed to the lower company's profits due to higher interest charges. For a single share this interest change may be more pronounced and explain the loss of attractiveness of the share. If the earnings estimation for an index-weighty corporation is revised, this can have an effect on the total potential of the market and thus again on the relative price potential of other shares.

### **Points of criticism exist but not better solutions**

Like all models, this method too is vulnerable to criticism, but past experience shows that many initial concerns have been met and, more importantly, good investment successes have been obtained. Weak points at the onset are the subjective selection, estimate and weighting of the risk premium, as well as the definition of the investment horizon and interest rate forecasts. A regular examination of the performance of the most important 42 Swiss shares, which represent over 90% of the entire market capitalization, with the forecasts a year ago, shows an above average performance and a correct allocation of approximately 55% of shares in the categories of "buying" or "selling." The experience of the last ten years shows also that so-called "false evaluations" have been corrected within 9-12 months, probably because within this period at least a half yearly or a yearly result is published, thereby causing many investors to make a new estimate of each corporation. Therefore we use the stock market and the individual stock performance of one year to measure the quality of the valuation method.

Kaufmann Research's Risk-Adjusted Valuation of Shares has proven to be a very successful, because it was used to manage two large Swiss stock portfolios for more than a decade. While managed by Hans Kaufmann, both portfolios have substantially outperformed the market.