

# Consumer discretionary sector

[Economics](#), [Financial Markets](#)



The impact of exchange rates is amazing. They reduce the significance of foreign markets on Australian stocks, while offset it by an increase in impact of the domestic market. The first major trend of the change is that t-statistics of foreign excess market returns decrease. However, the decrease does not follow any rule, sometimes it is significant e. g. t-statistic of S&P 500 on Consumer Discretionary Sector falls by more than 1; but sometimes it is slight, e. g. t-statistic of Nikkei on Technology Sector goes down only by 0.15.

There are also some exceptions where we can find an increase in t-value the new model, although these increases are normally small; e. g. t-statistic of FTSE on Consumer Staple Sector increases from 0.17 in the old model to 0.23 in the exchange rate adjusted one. Along with the fall in t-statistics, explanatory power of foreign market indices also decreases. The coefficients of the new model are substantially less than those of the old model, in absolute value. One example is that absolute value of t-stat of FTSE on Consumer Discretionary Sector in the exchange adjusted model is just about half of that in pure international model. The second trend goes opposite to the first one but well substitutes it.

In contrast with foreign market indices, both statistic significance and explanatory power of the domestic market index increase in the new international model. For example, t-stat of ord on t is more than 2 higher in the new model; and the corresponding coefficient is 2.5 in the new model compared to 1.8 in the old one. These increases can be explained by an offset of significance and explanatory power created the effects of exchange rates. In deed, as foreign indices lose their significance of impact on the

Australian stocks, the domestic index gains more explanatory power from the foreign indices' loss.

In the view of Purchasing Power Parity, the difference of the two models resulted from exchange rates proves that PPP does not hold in reality, at least in our model. By its simplest meaning<sup>20</sup>, PPP assures the same value for the same good in different countries. In the context of stock markets, values of international indices do not change if they are converted into Australian dollars. Therefore, exchange rates in theory should not change returns of foreign indices. Here, yet they do.

The reason for the failure of PPP mainly comes from relationship between interest rates and exchange rates. If this relationship is not consistent, PPP can not hold. The inconsistency in foreign indices' returns reflects the inconsistency of this relationship. Therefore, we can conclude that PPP does not hold in our CAPM model. However, this raises a question of whether this is also true in a larger scope than our model. We leave this question to further research. We just want to notice that in this model, we ignored many factors such as transaction costs, borrowing and lending positions and arbitrage rules, etc. These factors, in reality can regain the balance for PPP.

Conclusions and suggestions for further research

This paper, after going through a variety of statistic tests on several different types of the CAPM model, gives the following conclusions: Our results are consistent with Brailsford , et al (1997) that the original CAPM model works well with Australian data. The All Ordinary Index has significant explanatory

power on the stocks. Moreover, statistical tests on zero intercepts show that almost all the intercepts are close to zero, i. e. there is no serious mispricing problem in the model.

In contrast with the success of the original CAPM, our empirical tests indicate that the externality adjusted CAPM model failed to improve any significance of the model. Both seasonal effects and outside negative events did not play any important role in explaining movements of the stock returns. The international CAPM model was proved to be effective. This is consistent with Korajczyk and Viallet (1989). Although we did not find strong impact on the whole market, it is evident that international market indices do affect some particular sectors of Australia, e. g. the most severe affected sector is Financial Sector.

Finally, the incorporation of exchange rates shows some interesting results. Our empirical tests conclude two major trends of the impact. First, exchange rates "scale down" influence of international market indices on Australian stock market. Second, they, in contrast, "scale up" both explanatory power and significance of the domestic market index on the stock market. These two trends are substitute rather than conflict. Moreover, they also prove that the Purchasing Power Parity does not hold in our model.

Suggestions for further research: A part from the suggestion on PPP we have raised in section 5, many things can be done in further researches improve the results of this paper. First, longer period data should be collected, provided these are available. The length of the data can be about 5 to 10 years to make sure stability of beta estimates. Second, a variety of beta

estimation methods can be applied. Some popular beta estimations are Scholes-Williams (1977), Dimson(1979) and Fowler-Rorke(1983). Each of them has its own strengths and weaknesses; empirical tests on all of them may give an idea of which is most suitable to Australian data.

Moreover, multi factor model developed by Ross (1976) can also be used for its great reduction in number of parameters to be estimated and also for the inclusion of many other factors which may be of important to stock returns. Third, for externality adjusted model, an inclusion of other externalities such as firm characteristics, government's capital control, tax policies and etc can give a better view of external effects on stock markets. Finally, one can relax the CAPM assumptions to get closer to reality. A great example that can be applied to Australian data is Black Version with a zero-beta portfolio.

## References

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