

## СЕКЦІЯ 4

### УДОСКОНАЛЕННЯ ЕКОНОМІЧНОЇ СИСТЕМИ КРАЇНИ ТА ПІДВИЩЕННЯ РІВНЯ ПІДГОТОВКИ ФАХІВЦІВ З ОБЛІКУ Й ОПОДАТКУВАННЯ

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#### ASSETS ALLOCATION: CASE OF CHINA

It is well-known that applying appropriate assets allocation usually could diversify the individual risks. Modern portfolio theory provided by Markowitz (1952) shows the optimal rule to decide each risky asset's weight based on returns and variances of portfolio. A lot of different or improved assets allocation approaches are proposed in vast literature, for instances, the Bayesian diffuse-prior portfolio and meanVaR model we evaluate the out-of-sample portfolio performance based on 14 models and seven empirical datasets. In terms of Sharpe ratio, certainty-equivalent return, or turnover, we presume that none is consistently better the equal-weighted portfolio model. Therefore, in our empirical studies, we will use the equal weighted rule to construct the fully-hedged and unhedged portfolios. In other words, when a portfolio consist of N risky assets, each asset's weight is fixed in  $1/N$ .

Besides the equal-weighted portfolios, we consider a rolling-sample approach to construct the optimal-weighted portfolios for measuring hedging performance. Therefore, by the rolling-sample approach, we obtain an optimal-weighted portfolio returns series.

Although the optimal-weighted approach seems to bring a better portfolio, but too frequent trading position adjustment will make the transaction cost become too high. In practice, no one will use it to adjust his portfolio. This study is mainly to explore the benefit of currency hedge, thus we ignore the effect of too frequent adjustment. Nevertheless, it should be noted that our empirical results related to optimal-weighted may be overly optimistic due to overlooking transaction cost.

In this paper, we investigate how important is to hedge RMB (Chinese currency) risk during the RMB internationalizing period. This topic is not only meaningful to Chinese investors, but also to anyone who holds assets based on RMB. We consider both CNY and CNH exchange rates and use the corresponding one-week RMB non-

deliverable forwards to manage the currency risk. The fully-hedged and unhedged portfolios are consisted of 10 datasets and assets allocation in each portfolio is decided by both equal and optimal weighted strategies. In general, using CNY or CNH has similar results in all empirical tests from 2006 to 2014, but comparing to CNH, currency hedging plays a more important role in CNY. In terms of using CNY in equal-weighted portfolio, the average differences of Sharpe ratios between fully-hedged and unhedged portfolios are 0.0081 and 0.0607 in periods 1 and 2, respectively. It indicates that the RMB hedging is important in assets allocation. However, considering optimal-weighted portfolio cases in period before internationalization, the differences are slightly positive. But, in period after internationalization (period 1), we still have significantly positive differences. These results imply that fully-hedged portfolios produce better Sharpe ratios than unhedged portfolios, especially after the September, 2010 (period 2). Besides the Sharpe ratio, the economic benefit is adopted to measure the hedging advantage, which means how much a risk-averse investor would be willing to pay to construct a fully-hedged portfolio. In the equal-weighted portfolios of CNY, the economic benefits ranges in 128.5 to 143.7 basis points in period 1 and ranges in 726.3 to 810.9 basis points in period 2. Similarly, using CNH in period 2 also produces positive economic benefits from 334.6 to 339.5 basis points. In the optimal-weighted cases, economic benefits of using CNY are inconceivably high, which may induce by over-optimization and ignoring transaction costs. Moreover, we provide further evidence of the effects of RMB hedging through the mean-variance efficient frontiers and the time varying rolling estimations. All empirical consequences support two critical conclusions. Firstly, from the perspective of China investors who hold foreign assets in US dollars, we suggest them using the fully-hedged portfolio to avoid currency risks. Secondly, during the RMB internationalizing, investors should pay more attentions in RMB hedging.

### **Bibliography**

1. Markowitz, H., 1952. Portfolio selection. *Journal of Finance* 7 (1), 77–91.