



ELSEVIER

Contents lists available at ScienceDirect

Journal of International Money and Finance

journal homepage: www.elsevier.com/locate/jimf



Testing conditional asset pricing models: An emerging market perspective

Javed Iqbal^a, Robert Brooks^{b,*}, Don U.A. Galagedera^b

^a Monash University and Department of Statistics, Karachi University, Pakistan

^b Department of Econometrics and Business Statistics, Monash University, P.O. Box 1071, Narre Warren Victoria 3805, Australia

A B S T R A C T

Jel codes:

C51

G12

Keywords:

Stochastic discount factor

Conditioning information

Kurtosis

Emerging markets

The CAPM as the benchmark asset pricing model generally performs poorly in both developed and emerging markets. We investigate whether allowing the model parameters to vary improves the performance of the CAPM and the Fama–French model. Conditional asset pricing models scaled by conditioning variables such as Trading Volume and Dividend Yield generally result in small pricing errors. However, a graphical analysis reveals that the predictions of conditional models are generally upward biased. We demonstrate that the bias in prediction may be the consequence of ignoring frequent large variation in asset returns caused by volatile institutional, political and macroeconomic conditions. This is characterised by excess kurtosis. An unconditional Fama–French model augmented with a cubic market factor performs the best among some competing models when local risk factors are employed. Moreover, the conditional models with global risk factors scaled by global conditioning variables perform better than the unconditional models with global risk factors.

© 2009 Elsevier Ltd. All rights reserved.

1. Introduction

Modelling risky asset prices has always been a daunting task as the prices are influenced by a variety of factors which are related to both microeconomic developments related to the firm and micro-structure of the market. Emerging markets have the added complexity that the institutional, political

* Corresponding author. Tel.: +61 3 99047224; fax: +61 3 99047225.

E-mail address: Robert.brooks@buseco.monash.edu.au (R. Brooks).

and macroeconomic conditions are generally volatile. This high volatility can have many implications for the tests of asset pricing models. In this paper we address two of these issues. (i) We compare asset pricing models where the model parameters are fixed with those where the parameters are allowed to vary with the business cycle and future expectations. (ii) Due to relatively high frequency of extreme observations related to institutional and political instability the asset returns may have thick tails and therefore when modelling emerging market returns we consider excess kurtosis as well.

We evaluate the performance of unconditional and conditional CAPM and the Fama–French models for an emerging market in a discount factor framework and use GMM for estimation and inference. It is well known that the GMM does not require strong distributional assumptions. Moreover, the discount factor methodology requires minimal assumptions regarding the individual investor's preferences. The expected return and parameters of the stochastic discount factor are allowed to vary with investors' information set through a scaled factor methodology developed by [Cochrane \(1996\)](#). The information set consists of variables that could either predict future returns or summarize business cycle variation. To account for the fact that emerging market returns may be driven by non-information trading based on speculative motives we also include trading volume as a conditioning variable. This variable has been shown in the literature as an indicator of the extent of speculative trading as well as an indicator of non-trading of relatively illiquid securities of emerging markets. To investigate whether scaled or unscaled factors earn any risk premia, the paper adopts the Fama–MacBeth and the sequential GMM approach recently investigated by [Shanken and Zhou \(2007\)](#).

The discount factor model is augmented with a cubic market factor to account for thick tails and excess kurtosis. The higher order co-moment literature provides evidence that kurtosis is more relevant than skewness for emerging markets. See for example, [Hwang and Satchell \(1999\)](#). The cubic market return is consistent with co-kurtosis as a pricing factor.

Using 16 Size \times book-to-market portfolios as test assets from Pakistan's stock market¹ we find that unconditional CAPM is rejected in favour of the Fama–French model. The Fama–French model performs better in terms of Hansen–Jagannathan distance measure. The performance of conditional models depends on the conditioning variables used. It appears that conditioning variables such as Trading Volume and Dividend Yield results in small pricing errors but the best conditional model suffers from parameter instability as signalled by the Sup-LM test of [Andrews \(1993\)](#). An unconditional Fama–French model augmented with a cubic market factor performs the best among the competing models with stable parameters. This model is also more parsimonious compared to the conditional Fama–French model in terms of the number of parameters. These results are uncovered assuming that Pakistan market is completely segmented from global markets.

If an equity market is integrated or partially integrated the appropriate discount factor must be a function of global risk factors. Many studies of unconditional asset pricing, for example [Griffin \(2002\)](#) and [Rouwenhorst \(1999\)](#), conclude that emerging market returns are primarily driven by local risk factors. Our unconditional analysis corroborates this finding. We find that the US Fama–French factors may not explain the cross-sectional variation in domestic (Pakistan) asset returns. However the conditional models with global risk factors scaled by the global information variables appear to compete with the best domestic factor asset pricing model suggesting that the emerging market under consideration may not be considered as completely segmented. The pricing errors of these global factor models are, however, quite high.

In summary, a discount factor model that takes into account excess kurtosis in addition to the Fama–French factors explains the expected return of assets better than the conditional models scaled by term spread, short-term interest rate, dividend yield, trading volume, cyclical component of manufacturing production and a January dummy. Global business cycle information may also feature in asset pricing at the domestic level.

The rest of the paper is organized as follows. Section 2 reviews the literature on conditional asset pricing models. Section 3 describes the modelling and estimation framework. The data is described in

¹ The Karachi Stock Exchange is the largest of the three stock markets in Pakistan. In mid 2007 the market capitalization was US\$ 70 billion which is 49 percent of Pakistan's GDP for Fiscal Year 2006–07. (Ref: Pakistan Economic Survey, 2006–07).

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات